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**The International Treaty
ON PLANT GENETIC RESOURCES
FOR FOOD AND AGRICULTURE**

INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE
FIFTH MEETING OF THE AD HOC TECHNICAL COMMITTEE ON CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE (ACSU-5)
4 – 7 October 2021
REGIONAL TRAINING WORKSHOPS ON CONSERVATION AND SUSTAINABLE USE OF PGRFA AND FARMERS' RIGHTS: SUMMARY OF PRESENTATIONS

Note by the Secretary

1. By Resolutions 6/2017¹ and 5/2019,² the Governing Body requested the Secretariat, in collaboration with other stakeholders, and subject to the availability of financial resources, to organize regional capacity-building workshops on topics such as participatory plant breeding, community seed bank development, sustainable biodiverse production systems and promoting the value of farmers' varieties, and produce documentation and reports thereon.
2. In 2019, the Secretariat organized three regional training workshops on conservation and sustainable use of PGRFA and Farmers' Rights in the following regions:
 - (i) Asia Region held in Manila, Philippines, from 5 to 8 March 2019;
 - (ii) Africa Region held in Dakar, Senegal, from 29 July to 1 August 2019;
 - (iii) Latin America and the Caribbean, held in Montevideo, Uruguay, from 5 to 8 August 2019.
3. The training workshops were, among others, aimed to provide a platform for the sharing of experiences and lessons learned on the conservation and sustainable use of PGRFA and implementation of Farmers' Rights, and to serve as a venue for networking between and among participants for developing future collaboration on conservation and sustainable use of PGRFA.
4. The summary of presentations are made available for the information of the ACSU and to further assist its discussions, as appropriate.

¹ [Resolution 6/2017](#) – Implementation of Article 6, Sustainable Use of Plant Genetic Resources for Food and Agriculture

² [Resolution 6/2019](#), – Implementation of Article 9, Farmers' Rights

**Asia Regional Training Workshop on Conservation and Sustainable Use of PGRFA
and Farmers' Rights
Summary of Presentation**

5 - 8 March 2019,
Manila, Philippines

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SUMMARIES OF EXPERIENCES, BEST PRACTICES AND LESSONS LEARNED ON CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE IN ASIA

BANGLADESH - Plant Genetic Resources collection, conservation and utilization in Bangladesh, Mr. Md. Nazirul Islam, Bangladesh Agricultural Research Institute

Md. Nazirul Islam started his presentation by providing a summary of key agrobiodiversity and genetic resources for food and agriculture in Bangladesh. He discussed the main programmes on conservation and sustainable use of PGRFA as well as the different institutions and their involvement. He also discussed the ongoing programme on the collection and characterization of important plant genetic resources, the current *ex situ* germplasm collections, and their cooperation with the neighbouring countries on germplasm sharing. With regard to policies and laws supporting PGRFA, he cited some laws of relevance to plant varieties protection (e.g. Patents and Designs Act 1911, Trademarks Act 2009, Geographical Indication of Goods Act 2013, Seeds Ordinance 1977) and the Bangladesh Biodiversity Act, which is aimed at ensuring maximum protection for plant genetic resources. He also shared some of their lessons learned and weaknesses in managing PGRFA. According to him, conservation activities of gene bank and research institutions are mainly focused on major crop plants and there is minimal research on minor crops. There is also a general lack of awareness and understanding of the importance of traditional crops as in their formal education system, the teachings in agriculture are primarily oriented towards the promotion of modern varieties and technologies. According to him, Bangladesh has not been able to exploit its crop genetic resources to a significant extent; the potential value of indigenous crops can be immense. He concluded by highlighting some of the needs in order to address conservation and sustainable use of plant genetic resources.

BHUTAN - Conservation, Development and sustainable Use of PGRFA, Mr. Rinchen Dorji, National Biodiversity Centre

Rinchen Dorji focused his presentation on the various programs and initiatives of the National Biodiversity Center on the conservation of PGRFA (i.e., barley, buckwheat, maize, rice and upland rice). Rinchen Dorji shared their key programs that promote on-farm conservation of PGRFA which cover Participatory Varietal Selection (PVS); training of farmers on rice seeds selection; crop diversification and broadening the genetic base for enhanced resilience and increased household food and nutritional security; product development and diversification; establishment of seed banks; conduct of Biodiversity fairs; and the farmer-to-farmer seed exchange initiative. Rinchen Dorji also shared their very interesting incentive is the recognition and provisioning of rewards to a farmer who would record the highest crop diversity, rare and unique crop varieties. This reward aims to encourage farmers to continue to maintain their *on-farm* crop diversity. Despite achieving good technical results including mainstreaming of PGRFA considerations in Strategic Action Plan and policies, Rinchen Dorji acknowledged that some of the crucial challenges they are facing, e.g. scaling up of initiatives, capacity building is a continuous effort, local seeds require innovative intervention and value addition. Rinchen Dorji ended his presentation by sharing their new program on neglected and underutilized crop species (NUS). The new program is aimed to promote education and awareness of NUS economic values, but also to strengthen the informal seed system while enhancing its conservation.

CAMBODIA - Conservation and utilization of PGRFA in Cambodia, Mr. Chhourn Orn, Plant Breeding Division, CARDI

Chhourn Orn started his presentation by sharing Cambodia's diversity of plant genetic resources for food and agriculture. From there, he shared the goal, mission and activities of CARDI to increase agricultural productivity through the development and utilization of new breed of crops to meet the market needs of the country and the world. CARDI employs different conservation methods of PGRFA (e.g. gene bank for cereals, legumes and vegetables; on-field conservation for fruit trees and root crops; and *in-vitro* for ornamental plants, banana, and potatoes). They have collected and conserved some thirty-eight different crop species for research and seed distribution. Among the samples collected, rice crop has recorded accessions as high as 91% and by 2019, a total of 21 rice varieties (plus 2 watermelon varieties, three mango varieties and one glutinous maize variety), were released using local landraces derived from the gene bank. One of their successful marketed rice varieties is the Phka Rumduol, named as the World's Best Rice in years 2012 -2014 as well as in 2018. Orn shared also their work on neglected and underutilized species, which plays an important role in meeting food security and nutrition, but also in the lives of the rural poor, by way of contributing to income generation and poverty alleviation. However, due to lack of awareness, underutilized crops are disappearing and being replaced by newly introduced varieties due to lack of seed sources. With regard to the role of farmers in the conservation and sustainable use of PGRFA, Chhourn Orn described farmers keeping up their traditional practices along with a high degree of significant and diverse crops in their fields, with one issue to address – farmers are remote and have poor or no access to infrastructure and technical services. He ended his presentation by concluding that there is a need for general public awareness of the importance of PGRFA for their nutritional value and health benefits, as well as a need to develop a sustainable management plan for underutilized species.

INDIA - Protection of Plant Variety System in India, Mr. M. Gunasekaran, Asst Commissioner, Ministry of Agriculture and Farmers' Welfare

M. Gunasekaran introduced the protection of plant variety system in India through a number of legal instruments, such as the Biological Diversity Act of 2002; Seeds Act of 1966; Plant Quarantine Order of 2003; Environment Act of 1986; and the Protection of Plant varieties & Farmers' Rights Act of 2001. In particular, M. Gunasekaran explained the PPV&FR is an Act to recognize farmers in respect of their contribution made in conserving, improving and making available the plant genetic resources from the development of new varieties. M. Gunasekaran further explained the different rights of farmers, among the rights stipulated in the Act are, as follows: (i) to save, use, exchange or sell seed in the same manner as they were entitled to before the Act; (ii) right to register varieties; (iii) right to recognition and reward; (iv) right to Benefit Sharing; (v) right to compensation in case of crop failure; (vi) right to compensation for Undisclosed Use of Traditional Varieties; (vii) community rights; (viii) protection from legal infringement; (ix) exemption from fees; and (x) right to reasonable seed price. Concluding his presentation, Gunasekaran discussed the statutory mandate of PPV&FR Authority to document and prepare a catalogue of farmers' varieties and the various institutions playing an important role to support farmers in the registration of their varieties.

INDONESIA - Status of conservation and sustainable use of PGRFA and FR implementation, Indonesia, Andari Risliawati and Mastur, ICABIOGRAD, IAARD

Andari Risliawati introduced her presentation by providing short narratives of their obligation to the International Treaty as a Contracting Party and the activities they are implementing to promote conservation and sustainable use of PGRFA. For Andari Risliawati discussed the improvement of their national gene bank both in terms of meeting the international standard but also its functional support services. She also discussed their work on a consortium of genetic resources, which promotes collaboration with the local government institution. One of the achievements of this initiative is the inventory of around 34,000 new local varieties where some of which are already characterized, evaluated and registered. She also discussed a number of existing national policies and ministerial regulations related to PGRFA. Andari Risliawati particularly mentioned the law on Plant Cultivation System where it facilitates the right of farmers for the conservation and development of plant genetic resources, as well as providing more rights to the farmers to save, use, exchange and sell farm-saved seed and other propagating material. She discussed the government's program of 1000 Villages Self-Sufficiency on Seed, which promotes the protection and empowerment of farmers, in particular, it protects farmers' traditional knowledge, and guarantees them the use of derivatives of protected seeds for propagation purposes and to exchange seeds and distribution. She described the important role and participation of farmers' organization in Indonesia as a government partner contributing to the conservation of genetic resources. In brief, she also described their progress and achievements in the implementation of two (2) Benefit Sharing Fund projects: the application of Digital Object Identifier (DOI) to rice germplasm, and the co-development of transfer of technologies. Concluding her presentation, Andari Risliawati opined that while there are many existing laws/decrees that governs the conservation of genetic resources, however the lack of a mechanism to evaluate the implementation of the regulation, there is less integration and hence leading it to different stakeholders' perception and duplication of activities.

JAPAN - Japanese Implementation of ITPGRFA, Mr. Kunihiko Kobayashi, Researcher, Research Institute for Humanities and Nature (RIHN), Kyoto

Kunihiko Kobayashi briefly narrated the case of Hiroshima local seed bank, which is promoting the conservation of local varieties, indigenous to the village, as well as working to maintain traditional knowledge. Hiroshima gene bank provides seeds to farmer organization. The farmer receives the seeds with a condition to learn how to propagate the crop and then after harvest, to deposit the same number of seeds to the same gene bank including the report of crop performance. In this way, the local gene bank provides farmers with access and sharing of seeds.

LAO PEOPLE'S DEMOCRATIC REPUBLIC - National Seed Policy and Communities Seed Bank Development in the Lao PDR, Ms. Chay Bounphamousay, National Agriculture and Forestry Research Institute

Chay Bounphamousay provided a brief of Lao PDR's agricultural production and their challenges coping with climate change as well as economic growth. Recognizing the importance of quality seed production and distribution, and acknowledging the limitation of the formal seed sector to

supply seeds to farmers, the informal seed sector has become an important seed source to farmers. The government had invested significantly in the seed sector including research, production and distribution services, and this is becoming more apparent in this time of increasing economic and climate change challenges. Realizing the importance of a national seed policy, the Ministry of Agriculture and Forestry mandated the National Agriculture and Forestry Research Institute (NAFRI) to facilitate such work. The seed policy is one of the 13 policies important for ensuring food security and building food production on a commercial scale. NAFRI took the lead in preparing a draft National Seed Policy taking into account a constructive structure what a Seed Policy would need to consider e.g. Plant Variety Protection, Seed Legislation and Regulations, Access to Plant Genetic Resources and Phytosanitary Issues and Development Projects in the Seed Sector). The draft Seed Policy which recognizes both formal and informal seed systems as main sources of seeds to farmers, and particularly recognizing the role of informal seed systems, is now for approval of the ministry. Chay Bounphamousay also provided their experiences in conserving and developing PGRFA through establishing Community Seed Banks and Farmers' Field Schools, which caters to participatory plant breeding (PPB), participatory varietal selection (PVS). Through these initiatives, indigenous and farming communities are able to access and sustainably use and conserve PGRFA in times of climate adversaries and natural disasters. Recently released PPB varieties (TDK8 and TDK11) are selected by the farmer and now covering over 30% of rice production in Lao PDR. Chay Bounphamousay concluded that the policymakers and other stakeholders support an enabling policy and institutional environment allowing farmers' seed systems to contribute to the seed sector and that her country is making some progress in implementing Farmers' Rights.

MALAYSIA - Conservation and Sustainable Utilization of the underutilized Taro to Increase Food Security and Improve Livelihood of Marginalized Communities Faced with Climate Change (BSF4), Ms. Rozliza

Rozliza devoted her presentation to a Benefit Sharing Fund (BSF4) on conservation and sustainable utilization of underutilized Taro to increase food security and to improve livelihoods of marginalized communities in Asia and the Pacific region. Rozliza discussed the importance of Taro (*Colocasia esculenta*) being a staple food in some countries in the Asia and the Pacific region, in addition to it as the centre of origin of taro diversity. The project covers four countries (Indonesia, Philippines and Fiji), each of them has been actively involved in the conservation and utilization of taro and have made remarkable advancement in Taro crop research and development of taro. According to her, the project, which will span a period of 36 months across two major geographical regions (Southeast Asia and the South Pacific), will focus on strengthening and sustaining on-farm and community-level conservation, utilization and management of taro genetic resources. The potential of taro to contribute towards food and nutrition security has not fully exploited, as it was regarded a minor crop. The project will support the conservation of locally adapted varieties by involving farmers especially in areas vulnerable to climate change with on-farm evaluations and characterization of genetic materials. Testing of potential varieties will be conducted through the establishing model farms, using the Farmers' Field Schools (FFS) participatory approach and to be supported with Knowledge Centres (KCs) or communication/visibility plan. Sustainable management of taro farming using Good Agricultural Practices (GAP) and best practices in taro, and will be shared and disseminated during the project implementation. According to her, the farmers will benefit from the project by accessing the promising taro local varieties with higher yields and better resilience to climatic factors that will enable them to improve taro production.

MALAYSIA - Policy and Regulation of Plant Genetic Resources in Malaysia, Mr. Mohd Shukri bin Mat Ali, MARDI

From Malaysia, Mohd Shukri bin Mat Ali shared information on the richness of his country's abundant genetic resources i.e. plants, animals, insects, microbes and fisheries. To preserve and conserve these genetic resources, he described several domestic policies and regulations that currently exist in Malaysia. For example, the existing national law on Protection of New Plant Variety Act (2004) and Biosafety Act (2007) and the National Strategies and Action Plans on Agrobiodiversity Conservation and Sustainable Utilization (2012) covers the conservation and management of plant genetic resources (PGR) for food and agriculture. At the states level, Sabah and Sarawak states have established their own domestic laws to protect conservation and utilisation PGRFA through the Sarawak Biodiversity Centre Ordinance (amended in 2014), Sarawak Biodiversity Regulations 2016, and Sabah Biodiversity Enactment 2000. Research institutions and universities in Malaysia have the capacity to conduct research and development (R&D) to explore PGRFA for potential use and commercialization while the government could provide financial support through the national funding such as Science Fund, Fundamental Research Grant Scheme (FRGS) and Niche Research Grant Scheme (NRGS).

MONGOLIA - Status of Conservation and Sustainable Use of PGRFA in Mongolia, Mr. Bayarsukh Noov, Institute of Plant and Agricultural Sciences

Bayarsukh Noov briefly introduced his country's profile and provided an overview of the agriculture sector. Despite the fact that Mongolia is a new Contracting Party to the International Treaty, Bayarsukh Noov shared their efforts on conservation and utilization of plant genetic resources. He also introduced the Institute of Plant and Agricultural Sciences (IPAS), which is a designated national base for PGRFA collection and preservation. Bayarsukh Noov shared information on their existing *ex-situ* germplasm/seeds collection and field collections at IPAS including their efforts of duplicating PGRFA at international centers/seed banks (e.g. CIMMYT, ICARDA, Svalbard, etc.). With regard to national programmes, policies and legislation, Bayarsukh Noov enumerated some plans of relevance to PGRFA. As a new Contracting Party to International Treaty, he acknowledged the limited awareness on the value of PGRFA both in public and at the government level, and there is no specific legal framework or government structure responsible for the regulation of the access and benefits sharing of PGRFA. However, expressed his appreciation for the available training materials and information in the International Treaty. He concluded his presentation by sharing their future strategies to implement the provisions of the International Treaty, such as developing a strong and clear national program and legal frameworks on conservation and sustainable use of PGRFA, upgrading of PGRFA conservation and research development areas, and capacity building and training of different stakeholders (farmers, researchers, seed growers, government officials).

NEPAL - Grassroots Breeding Approach to Promoting Conservation and Use of PGRFA in Nepal, Mr. Pitambar Shrestha, LI-BIRD

Pitambar Shrestha discussed the practices and policies in promoting conservation and sustainable utilization of PGRFA. He also discussed the pathway of national legislations, which starts to

mainstream PGRFA conservation. He highlighted some common but very practical ways to promote conservation and sustainable use of PGRFA. In particular, he shared their historical experience implementing three practical approaches: (i) participatory plant breeding (PPB), (ii) grassroots breeding or landrace enhancement, and the (iii) community seed banks. All these practices contributed to strengthening farmers' seed systems in Nepal. He explained the framework of PPB, grassroots breeding and the community seedbanks which involves farmers and scientists working together to develop new varieties and/or improve landraces. These practices contributed to the regeneration of seeds of rare local varieties and to the work of the National Gene Bank by sharing the crop species and varieties. Nepal is a highly diverse country, in terms of geography and climatic condition and one variety cannot grow in many places, and the rampant loss of agricultural biodiversity is due to several reasons including lack of awareness and farmers' ignorance on the value of crops, lack of public support. Pitambar Shrestha explained that the practical approaches such as PPB, grassroots breeding and community seed banks empower farmers, not only to develop new varieties, gave them varietal options, but also to produce and disseminate quality seeds between and among the farmers. Pitambar Shrestha concluded that employing the practical PPB and grassroots breeding, and community seed banks can strongly support the local seed systems, and adds value to sustainable use of local genetic resources.

PHILIPPINES - Initiatives on Sustainable Use of PGRFA at UPLB, Ms. Teresita Borromeo, UPLB Rice Varietal Improvement Team

Teresita Borromeo presented the University of the Philippines Los Baños (UPLB)'s initiatives on "broadening the rice genetic base and increasing the range of genetic diversity available to farmers, and promotion of underutilized crops". For example, projects on: (i) utilization of traditional varieties in crop varietal improvement in rice and other high-value crops in the Philippines; (ii) sustainable use of crop genetic resources, i.e. the rice roots legacy; (iii) documentation of indigenous crops, (iv) corn germplasm utilization through advanced research and development, (v) increasing the productivity of selected indigenous vegetables through crop improvement, and (vi) the use of diverse germplasm in hybridization (abaca, eggplant, mango, banana and cassava). Teresita Borromeo also discussed the highlights of their work, which resulted in developing good and promising lines derived from wild and traditional rice cultivars that are sources for developing early maturity, high tillering and lodging resistance of rice. On promoting the expanded use of local and locally adapted crops, varieties and underutilized species, she described some of their significant outputs resulted in empowering and enabling farmers to manage and conserve local agrobiodiversity. She added that developing incentives and value addition (niche markets and marketing; significance of crop to local culture and overall well-being) have provided opportunities to conserve and sustainably use local crop cultivars. Based on their experience, some of the reasons of the low utilization of indigenous vegetables was due to the lack of available germplasm, lack of information on use and importance, lack of information on how they can fit into existing production systems, preferential emphasis on the production, marketing and consumption of high-value crops and low regard on indigenous crops by the consumers. While indigenous vegetables are still being consumed, grown, conserved in many remote areas, most of them had been replaced by commercial modern varieties. According to her, there is public awareness on the nutritional or health benefits of indigenous/traditional varieties, however, the need to push for general public action and support to conserve and sustain these local genetic resources still remains. Other highlights of Teresita Borromeo's presentation are the joint efforts with other local institutions on research, development and promotion of crop development along with training and capacity development of farmers and

rural communities. She ended her presentation by sharing their support on the ongoing process to amend the national Seed Development Act (Republic Act 7308).

PHILIPPINES - Philippine Measures and Best Practices in the Implementation of ITPGRFA within the context of the ITPGRFA, Ms. Amparo Ampil, DA-Philippines

Amparo Ampil started her presentation by sharing the inter-agency technical working group for the implementation of the country's commitments under the International Treaty. The technical working group is multi-stakeholder and multi-sectoral. The technical working group had worked to facilitate consultation and drafting of House Bill 8339, which aims to support the implementation of the International Treaty, particularly Articles 5, 6 and 9. The draft House Bill is now in Congress, submitted in October 2018. She talked about the Plant Variety Protection Act of 2002, within which the law includes a provision to maintain the traditional rights of small-scale farmers to save, use, exchange, sell, share farm produce of the protected variety; and to have an inventory of locally-bred varieties with corresponding varietal characteristics to protect from misappropriation and unfair competition. She also talked about the Indigenous Peoples Rights Act, and the proposed amendment to Seed Industry Act. Furthermore, she discussed some administrative measures and programs currently implemented i.e. protocol for in situ conservation and support to local gene banks, national projects with external and internal government funding to support in situ and on-farm conservation of traditional and local crop varieties, and other similar initiatives.

PHILIPPINES - Rice Conservation and Development: MASIPAG Experience, Mr. Chito P. Medina, MASIPAG

Chito P. Medina of the MASIPAG farmers' organization (Magsasaka at Siyentipiko para sa Pag unlad ng Agricultura (or Farmer-Scientist Partnership for Development) discussed the humble beginnings of the organization with a simple goal to empower resource-poor farmers through access and control of production resources (such as seeds, technology, land). Chito P. Medina explained in detail, their work on (i) farmer-led approaches, biodiversity conservation, sustainable agriculture and farming, organic production and marketing, food security and rural development, and farmers' resilience to climate change. Following MASIPAG goal and their work to promote agricultural development, Chito P. Medina quoted MASIPAG's slogan of *Not Green or Gene revolution but Farmer revolution*". He discussed MASIPAG empowerment program of farmers through farmer-led activities in the, for example on MASIPAG Rice Seed Conservation, he emphasized the essential principles of the organization, such as effective coordination, mutual support, ensuring diffusion of benefits and sustainability of activities among others. With regard to seed conservation and diffusion, Chito P. Medina discussed the MASIPAG framework which is a chronology of activity path, starting from farmers' collecting rice varieties (involving CIMME which is: collection, identification, multiplication, maintenance, evaluation); organization of farmers, trial farm, farmers' training, breeding and further selection, and the diffusion of seeds and knowledge among farmers. Chito P. Medina also discussed and cited examples of their rice breeding support from the national to the local level. As an example of their work, he presented the work and accomplishments of some of the trained farmers as rice breeders (i.e., 48 farmer rice breeders; 9 corn breeders) as well as some hundred volunteer farmer-trainers. In concluding his presentation, Chito P. Medina gave a summary statistic of the MASIPAG achievements over the last 32 years

that includes the development of rice diversity (total of 1,288), collection of traditional rice varieties (more than 900), MASIPAG Farmer-bred rice (506); and working actively in more than 61 provinces in the Philippines with 635 Peoples Organizations with a membership of more than 35,000 farmers.

PHILIPPINES - Dynamic Conservation and Sustainable Use of Agro-Biodiversity in Traditional Agro-Ecosystems of the Philippines, Ms. Virginia Agcopra

Virginia Agcopra presented the FAO-GEF funded “Dynamic conservation and sustainable use of agrobiodiversity in traditional agroecosystems of the Philippines” presented the capacity development activities in support of Articles 5, 6 and 9 of the International Treaty. The project aims to enhance, expand and sustain the dynamic conservation practices that sustain globally significant agricultural biodiversity in the traditional agroecosystems of the Philippines. Virginia Agcopra described how the project is working with national and local communities to promote conservation and sustainable use of traditional crop cultivars (i.e. rice, roots crops, and vegetables) by way of empowering and building capacities of farmers, particularly the indigenous communities and women farmers. In less than 3 years of implementation on the ground, Virginia Agcopra passionately shared some of its accomplishments. Some of the accomplishments include (i) adding market value to local crops (e.g. helping the households to develop their entrepreneurial skills and to market their food crops or products); (ii) organize the Rice Biodiversity Fairs to promote seed exchange among farmers; (iii) Farmers’ Fairs and participation of farmers to different Food Exhibits; (iv) establishment of 17 community seed banks to store and make seeds available to farmers; (v) awareness-raising on the conservation and sustainable use of agricultural biodiversity; and (vi) a series of workshop for Ifugao Public School Teachers on the integration of Indigenous Knowledge Systems and Practices (IKSP) and Agrobiodiversity in-classroom lesson plans and workbooks.

SRI LANKA - Conservation and Sustainable use of plant genetic resources for food and agriculture in Sri Lanka, Ms. W.M. Ranjala Kumari, Field Crops Research and Development, Department of Agriculture

W.M. Ranjala Kumari discussed the Department of Agriculture’s technical program and legislative work for the efficient and effective conservation and sustainable use of PGRFA in Sri Lanka. She discussed the national programmes on various commodities (i.e. rice, maize and millets, vegetables, fruits, grain legumes, oil crops, condiments) with the objective to improve yields taking into the nutrition quality, biotic and abiotic stress resiliency. She outlined some existing projects dealing with the conservation and sustainable management of biodiversity and mainstreaming agrobiodiversity conservation to enhance rural livelihoods and adaptation to climate change. She continued her presentation on sharing the results and findings of their project on neglected and underutilized cereal crop - local finger millet. Through this project, they uncovered the richness and diversity of finger millet that exist in the country; proven as a climate-smart crop; and can be popularized to resource-poor farmers to improve food security in rural areas. Summing up, W.M. Ranjala Kumari stated the final assessment of the study, which showed the diversity finger millet could be useful in further varietal development programs.

EAST WEST SEED COMPANY - Efforts and partnerships for the Conservation and Sustainable Use of PGRFA: the East West Seed experience, Ms. Mary Ann Sayoc, East West Seed Company

Mary Ann Sayoc introduced the East-West Seed experiences, as a multinational seed company supporting the International Treaty in the conservation and sustainable use of PGRFA. Primarily the East West Seed Company provides support to smallholder farmers including women farmers to increase their incomes as well as promoting effective public-private partnership in crop germplasm conservation, research and capacity development. She discussed their work in several countries such as Cambodia, Guatemala, India, Indonesia, Myanmar, and the Philippines. Mary Ann Sayoc presented their collaboration and engagement with local gene banks and research institutions in providing monetary and/or in-kind support. The support aims to spearhead the conservation of PGRFA and to open opportunities for the wider use of diversity either intended for research or to diversify crops available to farmers. As an example of support to the conservation of PGRFA, Mary Ann Sayoc cited their work on helping national gene banks in the Philippines and Indonesia, the importance of partnership between the national gene bank and private seed organization and the need to sustain it through mutually beneficial projects. She also cited their work on addressing the neglected local crops or 'orphan crops' by launching several indigenous vegetable varieties to prevent the disappearance of heritage crops and to help local smallholders continue growing culturally important indigenous crops for which there are no available high-quality commercial seeds. She also presented their achievements in providing access to PGRFA, serving as a channel to share germplasm to research partners through SMTA, and instituting the trace system/SMTA tagging of its genetic resources. Mary Ann Sayoc concluded her presentation by summarizing their lessons learned in implementing conservation and sustainable use of PGRFA. According to her, instituting policies and creating an enabling environment for the sustainable use of PGRFA is important, and equally important is the use of innovative research and development technologies to produce improved varieties with the active participation of smallholder farmers.

SEARICE - Experiences in Southeast Asia, Ms. Normita Ignacio, Southeast Asia Regional Initiatives for Community Empowerment (SEARICE)

Normita Ignacio first described the nature and geographical scope of SEARICE and then presented the key program activities. She described the practices including how each practice supports farmers and their local seed system, these are farmer breeding and participatory plant breeding; experiential learning, farmers' field day, conservation and sustainable use of PGRFA where seeds produced are adapted to local conditions and shared normally among farmers within and among communities. According to her, their immediate objective is to secure the local seed system and to develop the resilience of the community. Normita Ignacio outlined the salient points of the local seed system that significantly contribute to increasing on-farm crop genetic diversity and developing locally adapted varieties, enhancing access to diverse crop varieties, and empowering farmers to adapt to climate change challenges. She lamented the fact that despite the valuable contribution of the local seed system (or farmer seed system), it remains to be recognized and continued to be weakened due to inappropriate policies, laws and regulations. She wrapped up her presentation by narrating the needs and required the support of the dynamic farmers' innovation and seed system. The seed system requires developing a new approach to spur innovation and protect farmers' seed from misappropriation. Finally, Normita Ignacio concluded that if a conducive policy environment is established, farmers could be more effective in playing their role as managers of agricultural biodiversity.

**Africa Regional Training Workshop on Conservation and Sustainable Use of
PGRFA and Farmers' Rights**

Summary of Presentations

**29 July - 1 August 2019,
Dakar, Sénégal**

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SUMMARIES OF EXPERIENCES, BEST PRACTICES AND LESSONS LEARNED ON CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE IN AFRICA

BENIN - Contribution de la Société Civile à la Mise en Œuvre du TIRPAA au Bénin et en Afrique Francophone, Mme Jeanne G. Zoundjhekon, JINUKUN

En 2003 le réseau national « JINUKUN » a été créé au Bénin, son objectif primaire est la gestion durable des ressources génétiques du pays. En 2004, JINUKUN devint le point focal pour la Coalition pour la Protection du Patrimoine Génétique Africain (COPAGEN). Les activités au coeur de ce réseau concernent les problématiques des semences paysannes et des ressources phytogénétiques. Jeanne G. Zoundjhekon décrit les activités du réseau concernant les Articles 5,6 et 9 du Traité International des Ressources Phytogénétiques pour l'Alimentation et l'Agriculture (TIRPAA). En particulier, de 2007 à 2012, plusieurs éditions du cours régional «*Les fondements holistiques pour l'évaluation et la régulation du génie génétique et des organismes génétiquement modifiés (OGM) en Afrique*» ont été réalisées à Cotonou (BENIN) avec le soutien de différents organismes. En 2016 et 2018 JINUKUN a organisé un cours régional sur l'agroécologie en Afrique dans lequel a été présenté le TIRPAA.

Un projet sur les semences a été conduit dans six pays (Bénin, Burkina Faso, Mali, Niger, Sénégal et Togo), au cours duquel a été évalué la mise en œuvre du TIRPAA. Les résultats indiquent que le TIRPAA et le Protocole de Nagoya « plombent » par l'influence importante des industries et le bien vouloir des gouvernements. Un rapport synthèse de ce projet a été publié sous le nom « Étude de référence sur les mécanismes de gestion des semences paysannes ».

Unofficial translation:

BENIN - Contribution of Civil Society to the Implementation of ITPGRFA in Benin and Francophone Africa, Ms. Jeanne G. Zoundjhekon, JINUKUN

JINUKUN is a national network that was created in 2003 and focuses on sustainable management of the genetic resources in Benin. Peasant's seeds (plant genetic resources) are at the heart of the activities of this network. In 2004, JINUKUN became the focal point for the organization known as Coalition for the Protection of African Genetic Heritage (COPAGEN). Jeanne G. Zoundjhekon described some of their activities that contribute towards the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). For instance, between 2007 to 2012, they organized regional courses about "The holistic foundations for the evaluation and regulation of genetic engineering and genetically modified organisms (GMOs) in Africa" in Cotonou, Benin, in collaboration or supported by a number of organizations: Third World Network (Malaysia), AREA (Algeria), GRAIN (Barcelona), SWISSAID, SWEDBIO, Pain pour le Prochain, Global Green Grant Funds for Africa and New Field Foundation. Likewise, in 2016 and 2018, JINUKUN organized a regional course on agroecology in Africa in which Articles 5, 6, and 9 of ITPGRFA were covered.

JINUKUN also engaged in conducting studies, i.e. grassroots seed management mechanisms entitled "Étude de référence sur les mécanismes de gestion des semences paysannes". This study was conducted in six countries: Benin, Burkina Faso, Mali, Niger, Senegal, and Togo, and led to the assessment of the implementation of the ITPGRFA.

CAMEROUN - Reconstitution du matériel végétal à partir des semences souches provenant de l'IITA-Ibadan, Nigeria, Mme Gertrude Ngo Bahoya Mbom, Ministère de l'Agriculture et du Développement Rural

Gertrude Ngo Bahoya Mbom commença sa présentation en introduisant le contexte de la conservation ex-situ au Cameroun. Ce pays, par sa situation géographique, comporte une grande diversité de sols et de climats qui permettent de subdiviser le pays en 5 grandes zones agro-écologiques, créant ainsi une grande diversité biologique. De nombreuses missions de prospection et de collecte avaient permis de déposer plusieurs centaines d'accessions dans les banques de gènes nationales et dans les structures de conservation des organismes internationaux de recherche (duplicués). Cependant, la quasi-totalité des doubles de ces accessions laissées sur place ont été perdues. Effectivement, les chambres froides et autres équipements de conservation avaient été abandonnés provoquant ainsi la perte du matériel génétique. Le Ministère de l'Agriculture et du Développement Rural (MINADER) poursuit sa présentation en décrivant les activités mises en place pour reconstituer le matériel génétique - l'objectif principal étant celui de vouloir renouveler les semences de prébase et de base mises à la disposition des multiplicateurs semenciers. En Février 2012, l'acquisition par le MINADER de certaines semences souches de maïs (7 variétés, 2 kg par variété), soja (une variété, 0,25 kg) et niébé (une variété, 0,25 kg) de IITA d'Ibadan a aidé à reconstituer le matériel génétique. Plusieurs activités complémentaires ont été mises en place afin d'assurer la maintenance des variétés de maïs, soja et niébé et de former et renforcer les capacités des acteurs de la filière semence:

- la multiplication des semences souches dans les zones agroécologiques appropriées;
- la sélection conservatrice;
- la supervision et les contrôles réguliers effectués par les services compétents du MINADER;
- l'organisation des ateliers de formations.

Grâce à l'ensemble de ces activités, le matériel génétique a été reconstitué et les variétés ont augmenté leur rendement. En outre, les mécanismes de multiplication et de distribution des semences, et les capacités des agriculteurs multiplicateurs semenciers et du personnel du Ministère de l'Agriculture ont été renforcés. Le matériel génétique obtenu a été diffusé auprès des agriculteurs et préservé dans des chambres froides pour maintenir sa viabilité. Gertrude Ngo Bahoya Mbom conclua sa présentation par les leçons tirées de cette expérience: il est important que chaque acteur joue son rôle dans un système semencier; et il est important de se rendre compte que la durabilité disparaît quand le marché de semences est dominé par la vente aux pouvoirs publics et aux projets de développement.

Unofficial translation:

CAMEROON - Reconstitution of Plant Material from Seed Seeds from IITA-Ibadan, Nigeria, Ms. Gertrude Ngo Bahoya Mbom, Ministry of Agriculture and Rural Development

Gertrude Ngo Bahoya Mbom introduced the context of ex-situ conservation in Cameroon. The country, by its geographical location, has a great diversity of soils and climates, and so subdivided into 5 large agroecological zones, making a great biological diversity. Numerous prospecting and collection missions had made it possible to deposit several hundred accessions in national gene banks and in the conservation structures of international research organizations (duplicated). However, according to her, almost all of the duplicates of these accessions have been lost due to abandonment of conservation or facilities' problem.

Gertrude Ngo Bahoya Mbom then presented their project on reconstitution of plant material from the seeds coming from IITA-Ibadan. The project activities included: (1) multiplication of stem

seeds in appropriate agroecological zones; (2) conservative selection; (3) supervision and regular checks by the competent services of MINADER, and (4) conduct of training workshops. This project positive results such as, reconstruction of genetic material, strengthening of seed multiplication and distribution mechanisms, increase in yield of reconstituted varieties, training / capacity building of seed multiplier farmers and Ministry of Agriculture staff, with a few kilograms of stem seeds at the start, after three years and several multiplication cycles, the quantities of seeds made available to the multipliers were evaluated in tonnes, dissemination of high-performance genetic material to farmers, and ex-situ conservation of genetic material in the cold room. Lastly, Gertrude Ngo Bahoya Mbom highlighted two lessons learned that is, (1) each actor must play their role in a seed system, and (2) there is no sustainability when the seed market is dominated by sales to public authorities and development projects.

EGYPT - Ex-situ Conservation of National Gene Bank in Egypt, Mr. Ahmed El-Homosany, In vitro storage and cryopreservation Lab, National Gene Bank, Agricultural Research Center

Ahmed El-Homosany began his presentation by describing their ex-situ conservation activities and underlining its importance. He then presented the following ex-situ conservation facilities that are at the National Gene Bank: seed storage, botanic garden, greenhouses, field gene bank and *in vitro* storage and cryopreservation. Seed storage, which is the preservation of true seeds, is sub-divided into the following three categories: temporary preservation, that occurs at + 5 °C; medium-term preservation at - 5 °C, and lastly, the long-term preservation at - 20 °C. Ahmed El-Homosany noted that more than 12 thousand genetic resources accessions have been evaluated and stored at medium-term (active collection) and long-term (base collection) storage. Next, he highlighted the botanic garden that was established in June 2007, and its collection comprises of 52 families, 134 genera, and 155 species. He further mentioned that the greenhouses at the National Gene Bank is used to preserve and propagate some horticultural crops and plants that require special conditions. The field gene bank was established in December 2016 and its collection comprises of *Citrus* sp., pomegranate, grape, and common fig. The last facility that Ahmed El-Homosany presented on was *in vitro* storage and cryopreservation, which is used for micro-propagation. At this facility, rare and endangered genetic resources of plants that have been vegetatively reproduced are propagated and preserved through either medium-term preservation (+ 5 to + 15 °C) or long-term preservation in liquid nitrogen (- 196 °C).

Ahmed El-Homosany then presented seven projects related to the conservation and utilization of plant genetic resources. The first project (2009 - 2011) was seeking the on-farm conservation and *in vitro* preservation of citrus local varieties and sustainable utilization in Egypt. It was funded by the Food and Agriculture Organization of the United Nations (FAO). The second project (2010 – 2013) was aiming at the isolation and conservation of genetic resources for Rhizobia Faba bean. It was funded by the Standards and Trade Development Facility (STDF). The third project (2010 – 2013) was focused on characterization, preservation, and studying photochemistry and antibacterial activity of pomegranate germplasm, and was funded by STDF. The fourth project (2011 – 2014) was aiming the sustainable utilization of agriculture biodiversity to develop the local communities in the western desert. It was funded by the Anglican Relief and Development Fund (ARDF). The fifth project (2012 – 2014) was seeking the development of ultra-cold conservation strategies to save the genetic diversity of the grapes in gene banks, and was funded by a US joint, STDF. The sixth project (2014 – 2016) was focused on the sustainable use of landraces and genetic resources to improve wheat tolerance to heat stress for food security, and was funded by the FAO. The

seventh project (2018 – 2021) is focused on developing strategies to conserve cultivars and seeds of *Prunus* species (apricot, cherry, plum, almond, and peach) in gene banks, and was funded by a US joint, STDF.

Ahmed El-Homosany shared some of the lessons learned through their experience. He mentioned that dealing with rural and remote areas has great importance in maintaining the genetic resources of the country. Additionally, there is the need to accelerate the collection of their genetic resources because of the PGRFA large loss due to many factors, including climate change. Some of the challenges encountered are lack of funding and trying to apply for projects to assist in the gene bank's activities. Lastly, Ahmed El-Homosany talked about their future work which is collecting more genetic resources especially vegetable crops and medicinal and aromatic plants, in addition to assisting small farmers in rural and remote areas by distributing seedlings for free.

ETHIOPIA - Conserving and Using Diversity Through Community Seed Bank and Ex-Situ Conservation: Experiences from Ethiopia, Mr. Yohannes Tamene, Ethiopian Biodiversity Institute

Yohannes Tamene briefly introduced Ethiopia's diversity and seed system. The country is one of the centers of diversity and origin of agricultural crop genetic resources, with a high cultural and ethnobiological diversity (84 ethnic groups), and 85% of its population derives their livelihood from small-scale agriculture contributing to about 50% of the GDP. Since the seed system is dominated by the informal seed system, farmers and their traditional knowledge play a central role in the conservation of germplasm, and hold a major portion of the existing genetic resources, therefore, the informal seed system is of great importance in the in-situ conservation in Ethiopia.

He narrated the importance of on-farm conservation and community seed banks (CSBs) that was began in the mid-1980s, in collaboration with USC Canada's Seeds of Survival (SOS), who supported the creation of local seed exchange networks, established CSBs, and promoted participatory varietal selection and farmer-scientist collaboration. Currently, around 30 CSBs have been established, Crop Conservation Associations (CCA) with a total of 6620 members/farmers have been organized, and over 34 field and horticultural crop species and more than 400 varieties have been conserved in the community. Restoration of farmers' varieties, which were lost from the locality, has been conducted for different crop species through the CSBs and CCA. Seed loans are given to CCA member farmers every year for in kind exchange. On-farm conservation are supported by the Ethiopian Biodiversity Institute (EBI), local NGOs (i.e., Ethiopian Organic seed action, EOSA), international organizations (i.e., Alliance of Biodiversity International and CIAT), the National Agricultural Research System (NARES), the Federal Ministry of Agriculture and Rural Development (MoARD), and the Regional Bureau of Agriculture and Rural Development.

Yohannes Tamene also briefly introduced the benefit-sharing fund project "*National Community Seed Bank Platform for Strengthening Informal Seed System in Ethiopia*", which has as objective to establish a national platform that will support the existing CSBs and networks of over 30 CSBs. Some of the challenges noted were lack of farmers' interest to use and conserve all the available diversity; the absence of branding and labeling for farmers' varieties in order to get premium prices; and the lack of awareness of the value of farmers' varieties in the production system as well as in food security. The lessons learned include: (1) the complementarity and integration of ex-situ and in-situ approaches is crucial and indispensable to overcome the problems of genetic erosion, risk minimization and to cup up with climate change; (2) the essential role of CSBs and farmers in managing the in-situ system; (3) the need of strong support for small-scale farmers to sustain the

on-farm conservation and available diversity; (4) the importance of awareness creation and support to the new generation of the farming community, which is more market-oriented rather than keeping the diversity; and (5) in order to be sustainable, on-farm conservation should be linked with the market with value addition, branding and other similar measures.

MADAGASCAR - Mise en œuvre de l'article 9 du TIRPAA sur les droits des agriculteurs à Madagascar, Mme Aina Randrianatoandro, Juriste/Ministère de l'Agriculture, de l'Élevage et de la Pêche

Aina Randrianatoandro présenta le contexte sur la mise en œuvre du Traité International au Madagascar – procès qui a commencé en 2006 avec la date de sa ratification. Plusieurs mesures ont été adoptées pour implémenter les Articles 5, 6 et 9 de ce dernier, l'élaboration de l'Arrêt n°11567/2017 portant sur les mesures intérimaires de demande d'accès aux Ressources Phytogénétiques pour l'Alimentation et l'Agriculture (RPGAA) et de partage des avantages dans le cadre du SML, un projet de loi sur les RPGAA, l'obtention du certificat d'excellence du Secrétariat du Traité International dans le cadre du BSF, ainsi que les réflexions et séances de travail sur les modalités de mise en œuvre de l'Article 9 dans le pays. Afin d'implémenter le Traité International, les Registres de la Biodiversité et les Protocoles Bioculturels Communautaires (PBC) ont été créés. Particulièrement, sont présentés le Registre de la Biodiversité et le PBC de la commune d'Analavory. Le PBC est un guide pour renforcer et informer sur l'organisation locale à la conservation, l'utilisation durable, l'échange et au partage des avantages de la valorisation des ressources génétiques et des connaissances traditionnelles associées; il est destiné à toutes personnes extérieures voulant accéder et utiliser toutes ressources génétiques qui sont gérés par les paysans d'Analavory et/ou les connaissances traditionnelles associées le cas échéant. Le Registre de la Biodiversité pour Analavory, établi en 2017, est un répertoire de l'ensemble des ressources phytogénétiques utilisées pour l'alimentation et l'agriculture, et toutes autres ressources génétiques qui se trouvent dans la commune rurale d'Analavory.

Unofficial translation:

MADAGASCAR - Implementation of Article 9 of the ITPGRFA on Farmers' Rights in Madagascar, Ms. Aina Randrianatoandro, Legal Officer / Ministry of Agriculture, Livestock and Fisheries

Aina Randrianatoandro began her presentation by introducing the context and generalities on the implementation of the ITPGRFA. Madagascar ratified the International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA) in March 2006. Later on, in September 2010, the Secretariat was notified on the inclusion of 7999 accessions in the Multilateral System (MLS) of ITPGRFA. On 16 May 2017, Order No. 11567/2017 - on interim measures for requesting access to PGRFA and benefit-sharing within the framework of the MLS - was drafted. Aina Randrianatoandro highlighted various activities related to the conservation and sustainable use of PGRFA. First, they have the Biodiversity Register for Analavory that was established in 2017 and updated in 2018. The members of the FAMA cooperative introduced the community seed bank. Activities accomplished included, the inventory of PGRFA and the locality where traditional and rare PGRFA exist. Future work includes the designation of the person in charge of the Register and identification of the procedures for keeping and updating the Register. Lastly, Aina Randrianatoandro introduced the Protocole Bioculturel Communautaire (PBC) Analavory, which

was validated and signed on 27 December, 2017 by the administrative authorities at the municipal level.

MALAWI - Role of smallholder farmers in on-Farm Conservation of Plant Genetic Resources for Food and Agriculture – A case of Development Fund’s Supported Agrobiodiversity Program in Malawi, Mr. Victor Katchika-Jere, Development Fund of Norway

Victor Katchika-Jere presented the Development Fund of Norway’s Agrobiodiversity program in Malawi. The program is being implemented in rural farming communities, which are vulnerable to climate variations and depend on local and traditional varieties. Farmers are mostly smallholders and produce maize and legumes on a subsistence basis. Managing plant genetic resources for food and agriculture contributes to seed and food security. The Agrobiodiversity program is aimed to: (1) improve food and nutrition security/sovereignty and livelihoods among rural smallholder farmers, and (2) build resilience to climate change and other related shocks. The program is being implemented in the Northern region of Malawi (i.e., Rumphu and Mzimba districts). The measures implemented in this program are: Participatory Plant Breeding (PPB), participatory process for seed and variety selection, recovery and rehabilitation of lost varieties, capacity building on Farmers’ Rights, participation in national level dialogue sessions, and advocacy at local, national and international levels. Additionally, the program developed and disseminated various publications related to good practices, guidelines and positive experiences regarding on-farm conservation of PGRFA; established community seed banks (seed storage, seed multiplication, diversity blocks), conducted annual local seed and food fairs, and diversity fairs, and used the Lead Farmer Extension Approach.

MALI - Communication du Mali sur Conservation, Utilisation durable des Ressources Génétiques des Plantes pour l’Alimentation et l’Agriculture et le Droit des agriculteurs, Dr. Harouna Coulibaly, Institut d’Économie Rurale

Le Mali est considéré comme un centre contenant une très grande diversité génétique peu exploitée et menacée. L’intensification des systèmes agricoles, les aléas climatiques et l’augmentation des besoins alimentaires, consécutive à l’accroissement de la population, sont entrain de provoquer la dégradation des écosystèmes, particulièrement l’érosion variétale. La sécurité alimentaire au Mali est fortement liée aux variétés locales des céréales et légumineuses, et aux capacités des paysans de les produire. Harouna Coulibaly précisa qu’au cours des vingt dernières années, beaucoup d’efforts ont été consacrés à la sécurité alimentaire par des actions de recherche, de développement et d’appuis multiformes. C’est ainsi que plusieurs projets ont été exécutés pour la promotion des échanges et l’utilisation durable des ressources phyto-génétiques (i.e la sélection participative, des foires de semences ou des visites inter paysannes).

Le projet de la sélection participative des variétés de sorgho fut approfondi au cours de la présentation. Celle-ci a pour objectifs primaires d’augmenter la création et le transfert de nouvelles variétés améliorées et d’en accélérer l’adoption par les paysans. Les autres objectifs sont de comprendre les mécanismes de sélection et les critères utilisés, d’aider les agriculteurs à identifier les meilleures variétés/lignées (celles qui sont plus appropriées pour la culture, la consommation, la commercialisation, etc.), de permettre aux producteurs de comprendre l’efficacité de leurs propres méthodes de comparaison et d’acquérir de nouvelles compétences à employer dans leur programme de sélection, et de permettre aux agriculteurs de se sentir impliqués et responsables du

processus de sélection afin d'augmenter les chances d'appropriation des résultats et des méthodes utilisées. Harouna Coulibaly décrit ensuite les résultats attendus, le matériel utilisé et la méthodologie de ce projet.

Unofficial translation:

MALI - Communication from Mali on Conservation, Sustainable Use of Plant Genetic Resources for Food and Agriculture and Farmers' Rights, Ms. Harouna Coulibaly, Institute of Rural Economy

Harouna Coulibaly began his presentation by highlighting some of the challenges encountered in Mali in the conservation and sustainable use of PGRFA. Mali abounds in important plant genetic and animal resources and is considered as a center of species diversity, which is largely under exploited and threatened with loss. Another problem is the observation of varietal erosion linked to varietal change for the intensification of farmers/peasant systems and climatic hazards. Harouna Coulibaly noted that food security in Mali is strongly linked to local varieties of cereals and legumes and to the capacities of farmers to produce them. She noted that over the past twenty years, a great deal of effort has been devoted to food security through research and development and multifaceted support. Harouna Coulibaly also presented some projects in rural areas aimed to promote the sustainable use of plant genetic resources. This includes, the participatory selection of sorghum varieties. This practice had the following objectives: (1) to understand the selection mechanisms and criteria used; (2) help farmers identify the best varieties / lines (those that are most suitable for cultivation, consumption, marketing, etc.); (3) to enable producers to understand the effectiveness of their own comparison methods and to learn new skills to use in their breeding program; and (4) to empower farmers.

MALI - SNP: Processus Semences Normes et Paysans – Pour la reconnaissance des systèmes semenciers paysans dans le cadre juridique du Mali, Mme Alimata Traoré, Comité Ouest Africain des Semences Paysannes (COASP-Mali)

Alimata Traoré commença sa présentation en décrivant le contexte semencier au Mali. Dans le pays, la majorité des semences cultivées sont des semences paysannes, elles sont librement reproductibles et sont sélectionnées par les agriculteurs; selon les règles collectives propres aux coutumes du pays. Les effets du changement climatiques rendent ces semences encore plus essentielles pour les pratiques en agroécologie paysanne et les systèmes alimentaires.

La réalisation des droits des agriculteurs est essentielle pour la conservation de la biodiversité, l'agroécologie paysanne, l'adaptation au changement climatique et la souveraineté alimentaire.

Un large processus de concertation et de dialogue initié au Mali par les organisations paysannes a abouti à la création d'un cadre de concertation multi-acteurs pour la reconnaissance des systèmes semenciers paysans au Mali. Les propositions de ce cadre de concertation sont de définir clairement ce que sont les variétés paysannes, la reconnaissance des règles spécifiques qui garantissent la qualité des systèmes semenciers paysans, ainsi que la nécessité de mettre en place des cadres juridiques nationaux pour mettre en œuvre efficacement les droits des paysans. Toutefois il est aussi important qu'il y est un soutien et renforcement des systèmes semenciers paysans, des cases vivantes de semences, et des fêtes et foires de semences paysannes; ainsi que le soutien aux programmes de recherche collaborative en agroécologie paysannes.

En conclusion, pour les communautés paysannes, la semence est une question fondamentale. Les systèmes semenciers paysans produisent le 80% des denrées alimentaires mondiale, et sont les

gardiens de la biodiversité. En vertu de leurs obligations, les États sont tenus de mettre en place des cadres juridiques qui garantissent les droits des agriculteurs dans leur législation nationale. L'organe directeur du Traité devrait mettre en place un processus avec la participation adéquate et effective des organisations paysannes pour l'élaboration de lignes directrices sur l'application des droits des agriculteurs.

Unofficial translation:

MALI - SNP: Standard and Farmer Seed Process - For the recognition of farmers seed systems within the legal framework of Mali, Ms. Alimata Traoré, West African Committee of Peasant Seeds (COASP-Mali)

Alimata Traoré began her presentation by giving an introduction to the farmers seed systems in Mali. The majority of seeds grown in Mali are farmer seeds, which are freely reproducible and selected by reseeded them every year in the fields. Due to their diversity, they evolve and adapt to the farmers' needs, fields and techniques. The farmer seed systems manage their diversity according to collective rules specific to the farmers' habits and customs. Today, with the effects of climate change, this seed system is even more important for farmers in ensuring crop diversification for a healthy and nourishing food systems.

Alimata Traoré shared the characteristics of a farmer/peasant seeds: (1) the seeds correspond to the Malian agricultural systems and diversified food, (2) the seeds are adapted to the environmental conditions and respond to the current social, cultural, economic realities, (3) the seeds are reproducible by farmers and peasants in farmer/peasant following the principles of agroecology, (4) the farmers' knowledge is used to select seeds that are diverse, disease-free, with good vigor and maturity, (5) the seeds are easy to store for a long time using peasant's techniques, and (6) the seeds germinate well (i.e. 80 to 100% germination).

Alimata Traoré also shared the following proposals they presented to the State regarding farmers seed systems, with the following views: (1) have a clear definition of peasant varieties (including traditional and local); (2) the recognition of the specific rules which guarantee the quality of the farmer seed systems, and ensure the protection of farmers knowledge through the collective rights defined by the community according to its habits and customs, and possibly voluntary initiatives, such as a code of conduct and / or a participatory guarantee system; (3) the right of peasants to sell their peasant seeds without obligation to register in the official catalogue; and lastly, (4) the right of peasants and their organizations to participate in decision-making with mechanisms guaranteeing transparency. According to her, there should be a mechanism for free, prior informed consent given for any access to farmer/peasant seeds, peasant knowledge and innovations and to associated genetic information. A contract given to the farmers/peasants must guarantee that no property rights - intellectual or other right - can ever restrict their right to save, use, exchange and sell their seeds.

In conclusion, Alimata Traoré highlighted the proposal for a seed plan that focuses on: (1) supporting and strengthening farmer/peasant seed systems, seedlots of farmer seeds and farmer seed festivals and fairs, and (2) supporting collaborative research programs in farmer/peasant agroecology, co-constructed and co-managed with farmers and peasants.

NAMIBIA - Farmers' Crops Conservation Practices in Namibia, Mr. Thomas T. Neema, The National Plant Genetic Resource Centre

Thomas T. Neema presented the National Plant Genetic Resource Centre (NPGRC)'s facilities and programs contributing to the conservation and sustainable use of plant genetic resources. The National Herbarium of Namibia houses a collection of ± 96 000 dried plant specimens and provides plant identification service, institutional tours upon request (by tertiary institutions, etc.), information service, and a resource center. There are currently two projects at the herbarium: (1) the Flora of Namibia, which is a taxonomic revision of plant taxa, and (2) the BRAHMS - a database system aimed at becoming a National Botanical research Institute's (NBRI) *one-stop-shop*.

Thomas T. Neema also presented the work of the National Botanic Garden of Namibia (NBGN), which promotes activities, such as: rescuing and relocation of plants, providing environmental education, advisory on horticultural services, guided walks, and maintains and develops gardens. He also presented the work of the NBGN on sustainable agricultural production including support to production of indigenous plants to benefit the rural poor. Thomas T. Neema then highlighted the M.A.N. Müller Reference Library, which provides information on the Namibian flora and related subjects, and serves as a repository of information gathered through projects.

Likewise, Thomas T. Neema presented the 'Threatened Plants Programme', which aims to conserve threatened plant species. Under this, there are currently two relevant projects in that programme that is, the Red List project, which assess the conservation status, threats, implementation of conservation measures, and the monitoring of conservation activities. Also, the National Plant Genetic Resources Centre (NPGRC), has its own measures and activities, such as: (1) stores genetic material in the form of seed, which include landraces of crops (especially Pearl Millet and various melons), wild crop relatives & wild species, (2) multiplies and characterizes genetic material (Sandveld & Mahanene Research Stations), and (3) conducts germinations tests.

Other efforts promoting on-farm conservation included the following activities: traditional/indigenous ways of farming, seasonal/yearly cultivation, thinning of plant/tillers and weeding, selection of good quality seeds, various means of seed preservation (calabash, ash, seed smoking), exchange of seeds. These efforts have provided sufficient good quality seeds for the next season. He then presented the results of a 2010 - 2018 survey, which showed that institutional linkages were created (farmers, DAPEES, DART, and NPGRC), community sensitization was conducted (i.e., village workshop, field visit, meetings), and germplasm hot spots were identified. Furthermore, an assessment of the on-farm conservation of PGRFA in Namibia's northern cropping regions was conducted to identify the following: (1) the strategies used by small-scale farmers in Namibia to conserve their PGRFA, and (2) the strategies that have been employed by small-scale farmers in Namibia to cope with an unpredictable climate.

On-farm conservation is also anchored in many action plans, programs and policies e.g. the Namibia National Strategic and Action Plan on Plant Genetic Resources For Food and Agriculture 2016-2026, the Youth Environmental Summit, Seed and Seed varieties Act 2018, ABS Act 2017, Research, Science and Technology Act 2004, Article 100 Sovereign Ownership of Natural Resources, Article 95 P(I), Plant Breeders' and Farmers' Rights Act (which provides for the establishment of an effective system for the protection of plant varieties, the development of new plant varieties, the rights of plant breeders and farmers and setting up a Community Gene Fund) and lastly, PGRFA Policy formulation.

SÉNÉGAL - Cas de la valorisation des variétés traditionnelles de riz pour un meilleur accès des femmes aux marchés en Afrique de l'Ouest, Mme Famara Diédhiou, Alliance for Food Sovereignty in Africa

Le riz, une des céréales les plus consommées en Afrique de l'Ouest, est essentielle pour assurer la souveraineté alimentaire de cette région. Afin de satisfaire ces besoins alimentaires, des importations de riz, souvent de qualité médiocre, sont effectuées. La promotion des variétés hybrides est favorisée et les variétés traditionnelles sont négligées. Les femmes, quant à elles, ont un faible accès aux semences industrielles et à leur paquet « technologique ». Le projet de valorisation des variétés traditionnelles de riz, effectué à Casamance (Sénégal) et à Bobo Dioulasso (Burkina Faso), vise à faire face à cette situation. Les principaux objectifs de ce projet consistent à contribuer à la construction de l'argumentaire pour l'agro-écologie (AE), à générer des chiffres et témoignages pour étayer les pratiques en Agro-écologie, à contribuer au plaidoyer pour la reconnaissance de la semence paysanne par les lois, à fournir aux consommateurs des produits sains et nutritifs, et à renforcer le réseau de l'agro-écologie. Créer des inventaires, faire la caractérisation des variétés locales de riz et l'identification qualités organoleptiques des variétés retenues, et organiser des visites d'échange entre les organisations paysannes, sont quelques-unes des activités qui vont permettre d'atteindre les objectifs posés.

Les résultats obtenus jusqu'alors démontrent les nombreux bénéfices du riz africain *Oryza glaberrima steud* : c'est un riche réservoir de gènes de résistance, son goût est bon et aromatique et il s'adapte aux sols acides, est résistant à la submersion (Futakuchi et al., 2001) et à la sécheresse et au sel. Au total, 170 variétés traditionnelles ont été identifiées dans 3 régions de la Casamance Naturelle et 14 variétés au Burkina Faso. Famara Diédhiou partagea quelques leçons tirées de cette expérience. Tout d'abord, les OP ont négocié les sujets de recherche et n'ont pas été objet de recherche. De plus, les recherches ont été réalisées sur les champs des paysans (conditions réelles), d'où appropriation et motivation des paysans. Le goût et l'usage (culturel, santé) sont des critères de choix quelques fois plus valides que le rendement, et l'accès au marché a causé l'abandon des variétés traditionnelles (rouge, noire, beige/marron). Les faiblesses identifiées concernent particulièrement la faible réceptivité des chercheurs sur les questions paysannes, la lenteur du processus et l'insuffisance de fonds pour exécuter les activités économiques comme la réalisation des unités et marketing des variétés traditionnelles. Il est important de renforcer la diversité semencière car elle correspond à renforcer le contrôle des semences par les paysans et les systèmes alimentaires locaux. De plus, les semences ne sont pas seulement une source alimentaire, ce sont aussi des sources de médicament et d'expression culturelle.

Unofficial translation:

SENEGAL - Case of the Valuation of Traditional Varieties of Rice for Better Access for Women to Markets in West Africa, Ms. Famara Diédhiou, Alliance for Food Sovereignty in Africa

Rice is one of the most consumed cereals in West Africa hence, essential to ensure food sovereignty in this region. In order to meet these food needs, rice imports, often of poor quality, are carried out. The promotion of hybrid varieties is favored and traditional varieties are neglected. Women, for their part, have poor access to industrial seeds and their “technological” package. The project to promote traditional varieties of rice, carried out in Casamance, Senegal and Bobo Dioulasso, Burkina Faso, aims to address this situation. The main objectives of this project are to contribute to the construction of the argument for agroecology (AE), to generate figures and testimonies to support the practices in AE, to contribute to the advocacy for the recognition of peasant seeds by law, to provide consumers with healthy and nutritious products, and to strengthen the agroecology network. Creating inventories, characterizing local rice varieties and identifying the organoleptic

qualities of the varieties selected, and organizing exchange visits between farmer organizations, are some of the activities that will help achieve the objectives set.

The results obtained so far demonstrate the following benefits of the African rice, *Oryza glaberrima* steud: (1) it is a rich reservoir of resistance genes, (2) its taste is good and aromatic, (3) it adapts to acidic soils, and (4) is resistant to logging, drought and salt. A total of 170 traditional varieties have been identified in 3 regions of Casamance Naturelle and 14 varieties in Burkina Faso. Famara Diédhiou shared some lessons learned from this experience, which include: (1) different cultivation routes according to the varieties and the zones: a single family can own several varieties and various small portions of isolated land. This makes it possible to deal with hazards; (2) the farmers/peasants know which variety is better for which soil (lowlands, mangrove, plateau, valley); (3) taste and use (cultural, health, etc.) are selection criteria that are often more valuable than performance; (4) market access caused the abandonment of traditional varieties (red, black, beige / brown); (5) there is no communication of traditional varieties in the markets; (6) it takes time to develop this type of project (minimum 3 years). Famara Diédhiou then highlighted the following challenges that were encountered: (1) low receptivity of researchers to farmers' requests / questions; (2) there was a slow start in 2018 and some research results are not yet available; (3) insufficient funds to carry out economic activities (achievements of units and marketing of traditional varieties); (4) limited funding.

In conclusion, Famara Diédhiou noted that it is important to strengthen seed diversity because it corresponds to strengthening seed control by farmers and local food systems. Moreover, seeds are not only a source of food, they are also a source of medicine and cultural expression.

TANZANIA - Community Gene Bank and Food Security in Tanzania, William Chrispo Hamisy, Tropical Pesticides research Institute, National Plant Genetic Resources Centre

William Chrispo Hamisy began his presentation by giving a background on seeds - which are an important input in agricultural production. In many developing countries, the demand for informal / on-farm saved seeds is between 60 – 70%. In Tanzania, about 80 % of the seeds come from informal seed / farmer-saved seeds. Hamisy noted that experience has shown that apart from the availability of high yielding varieties, farmers still maintain their traditional crop varieties. He then presented a study that assessed farmer's cultivation of different crop landraces and introduced varieties in Konde, Langali and Mkindo villages in Mvomero district. The study grouped these farmers into three categories, i.e. those who cultivated (1) landraces only, (2) landraces and improved varieties, and (3) improved varieties only. The results showed that in Mkundi and Mpengere villages, 90 – 100% of the farmers cultivated only landraces, while in Konde, Langali and Mkindo villages, 75 – 100 % of the farmers cultivated both landraces and improved varieties. William Chrispo Hamisy proceeded to highlight the reasons why farmers prefer traditional varieties: (1) requires low input, (2) have several values lacking in improved varieties, which are high nutritive values including medicinal; resistant to drought, insect pests and diseases; better adapted to marginal areas, and special local uses; (3) ritual/ traditional ceremonies, (4) good market and price, (5) in some rural/remote areas, improved seeds are not available, (6) limited capacity of the formal sector, (7) farmers limited capacity to purchase improved seeds, (8) a number of the local crops do not have improved varieties.

The informal seed supply system is increasingly becoming under pressure due to agricultural modernization, the increased emphasis on the use of improved/ introduced crops/ varieties, and the lack of political will on traditional crops. In order to cope with this situation, William Chrispo

Hamisy presented the benefits of an alternative strategy: community seed banks (CSBs). Community-based stores are used for the storage and distribution (maintain, safeguard and exchange) of seed among the local communities. CSBs represent a strategy for a collective approach to the maintenance of genetic diversity in crops/ plant species which also serves as a backup for local self-sufficiency in planting materials by stabilizing the seed supply system in case of crop failure. In some cases, they are designed as income-generating operations where high external input seeds with chemicals packages are distributed to the community. CSBs are of great importance because they use low-cost seed storage facilities, establish platforms for community development, and training on record management and on seed collection, handling, conservation, selection, and production.

William Chrispo Hamisy concluded by presenting two study cases of conservation and sustainable use of PGRFA in Tanzania: an on-farm conservation of Finger millet, Yams, and Cucurbits in Southern Tanzania, and an open Seed Source program in Dodoma and Singid. He recommended the establishment of CSBs in Central, Northern and Southern Tanzania.

TUNISIA - Genetic Resources Conserved in the National Gene Bank of Tunisia, Mr. Maher Medini, National Gene Bank of Tunisia

Maher Medini introduced the history and the main objectives of the National Gene Bank of Tunisia (NGBT). Created in 2003 as a public institution, NGBT's mission is to collect, conserve, and evaluate the national collection of genetic resources (GR), especially those which are threatened with extinction; to carry back the genetic resources from the other national institutions and from foreign banks (repatriation); and to valorise them in a sustainable manner. He described the different facilities of the National Gene Bank of Tunisia (NGBT), including cold rooms with a capacity of 200,000 samples, 6 rooms for short and medium-term conservation, 4 rooms for long term conservation, a glasshouse, a cryo-bank to preserve mainly the animal genetic resources in liquid nitrogen and five laboratories well-appointed with scientific equipment and specialized in the characterization of genetic resources.

Also, Maher Medini introduced the six NGBT's programs implementing the conservation and sustainable use of Plant Genetic Resources for Food and Agriculture (PGRFA). The first program includes collection missions, phytosanitary tests, germination rate tests, morphological and molecular characterization, seed multiplication, and seed conservation in cold rooms. The second program includes on-farm conservation activities: cereals distributed to farmers for on-farm conservation, local varieties distributed and used by farmers, participatory selection of wheat local varieties, and a benefit-sharing fund project "On-farm conservation and mining of local durum wheat and barley landraces of Tunisia for biotic and abiotic stresses, enhanced food security and adaptation to climate change". The third program is a 27 hectares field bank, which complements the accessions conserved at the cooling rooms. The fourth program is cryopreservation. The fifth program is the repatriation of their local varieties from foreign gene banks. In 2018, there was a total of 5351 samples of local genetic resources repatriated (from ICARDA, the USA, Czech Republic gene bank, and the CIMMYT). The sixth program is the detection and quantification of GMOs. NGBT is managing the identification of GMOs in seeds and agri-food products, actually, their laboratory is the first one among 3 other Tunisian laboratories with the same mission. Maher Medini ended his presentation with a description of their workshops and capacity building activities.

UGANDA - The undertakings in implementing the ITPGRFA in Uganda, Ms. Joyce Adokorach, National Agricultural Research Organization (NARO)

Joyce Adokorach started the presentation by giving an overview of Uganda's efforts to sustainably manage and use its genetic/biological resources. It began when its Government signed and ratified the Convention on Biological Diversity (CBD) in 1992. In 2003, they endorsed the International Treaty on Plant Genetic Resources (ITPGRFA), which entered force in 2004. Several efforts by Uganda government to domesticate the Treaty through policy and legislation exist e.g., the National Seed Policy (2016), National Policy on Plant Genetic Resources for Food and Agriculture (2016) and the NARO Strategic Plan 2018/2028.

Next, Joyce Adokorach then highlighted various activities such as germplasm collection for ex-situ conservation, the establishment of four community seed banks (CSBs) between 2010 – 2018, and the organization of seed fairs where farmers save and exchange seeds.

In conclusion, Joyce Adokorach presented on the Open Source Seed Systems for climate change adaptation in East Africa: (Millet, Sorghum & beans). This network has the following objectives: (1) to facilitate climate change adaptation through the use of crop diversity; (2) put the Multilateral System to work for climate change adaptation purposes; (3) participatory evaluation and selection of promising lines (for breeding), and (4) to put materials in the "open access". Furthermore, there exists partnerships that link CSBs with national gene banks and research. Some of the lessons learnt include: (1) there is a need to have policies in place to provide a friendly environment for operation, (2) network with organizations delivering related message, and (3) improved seed systems through CSBs.

Latin America and Caribbean Regional Training Workshop on Conservation and Sustainable Use of PGRFA and Farmers' Rights

Summary of Presentation

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SUMMARIES OF EXPERIENCES, BEST PRACTICES AND LESSONS LEARNED ON CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE IN LATIN AMERICA AND THE CARIBBEAN: EXTRACTED FROM THE REGIONAL TRAINING WORKSHOP

ARGENTINA - Red de recursos genéticos del instituto nacional de tecnología agropecuaria (inta) y su contribución a la conservación de la agrobiodiversidad, Sra. Mariana Ferreyra, Instituto Nacional de Tecnología Agropecuaria Argentina (INTA)

Hacia fines de la década de los años 50, se comenzó a vislumbrar en Argentina el problema de la erosión genética y la pérdida de variabilidad en vegetales y animales. En respuesta a esto, el Instituto Nacional de Tecnología Agropecuaria (INTA) comienza sus colecciones de germoplasma. En 1988, el INTA a través de la cooperación con el Gobierno de Italia, crea el Sistema Institucional de Conservación ex situ, a través de una Red de Germoplasma. Posteriormente se establece el Programa Nacional de Recursos Genéticos, que crea la actual Red de Bancos de Germoplasma (RBG). El INTA cuenta actualmente con una Red de Recursos Genéticos (RedGen), estructurada en tres sub-redes que conservan recursos fitogenéticos, zoogenéticos y microbiológicos, en bancos y colecciones de germoplasma distribuidos en todo el país. Además de la colecta e introducción de germoplasma para ampliar la base genética de las colecciones y rescatar especies de importancia actual o potencial en riesgo de erosión genética o extinción, se multiplica el germoplasma a fin de asegurar la disponibilidad para su intercambio y restitución, la caracterización y evaluación de germoplasma y la conservación en condiciones adecuadas que garanticen su viabilidad en el mediano y largo plazo. Toda la información generada se incorpora a una base de datos (DBGERMO). Adicionalmente, se realizan capacitaciones en metodologías y procedimientos, como también para transferir la importancia de la conservación y el uso sostenible de la agrobiodiversidad. Se han iniciado actividades de conservación in situ de variedades locales y de especies silvestres emparentadas con los cultivos. El funcionamiento de esta red ha sido financiado fundamentalmente a través de Proyectos Nacionales. De acuerdo con el segundo Informe Nacional sobre la Situación de los Recursos Fitogenéticos en Argentina (2008), la Red de Bancos de Germoplasma del INTA conserva más del 90% del germoplasma presente en instituciones oficiales.

Mariana Ferreyra, prosiguió con dos ejemplos concretos de acciones que se han articulado a través de programas tendientes a contribuir a la conservación de los RFAA. El primero es la restitución del germoplasma de cultivos locales a comunidades de los Valles Calchaquíes, y el segundo es la promoción por ProHuerta de los cultivos de huertas familiares en todo el país proveyendo semillas para la autoproducción de alimentos, facilitando espacios de intercambio de plantas, semillas, conocimientos y prácticas en ferias.

Mariana Ferreyra terminó su presentación con el proyecto “Conservación y uso sostenible de los recursos fitogenéticos locales para la alimentación y la agricultura (RFAA) para contribuir a la seguridad alimentaria de los pequeños agricultores de Argentina”, en el cual se realizaron una gran diversidad de actividades. Por ejemplo, se hicieron jornadas de intercambio de saberes, difusión de variedades locales, elaboración de protocolos comunitarios y producción agroecológica en fincas.

Unofficial translation:

ARGENTINA - Genetic Resources Genetic Resources Network of the National Institute of Agricultural Technology (INTA) and its Contribution to the Conservation of Agrobiodiversity, Ms. Mariana Ferreyra, Argentine National Agricultural Technology Institute (INTA)

Towards the end of the 1950s, the problem of genetic erosion and the loss of plant and animal diversity had begun to be seen in Argentina. In response to this, the National Institute of Agricultural Technology (INTA) began collecting its germplasm. Then, in 1988, through cooperation with the Government of Italy, INTA created the Institutional System of ex-situ conservation, through a Germplasm Network. Subsequently, the National Genetic Resources Program was established, which created the current Network of Germplasm Banks (Red de Bancos de Germoplasma). INTA currently has a Genetic Resources Network (RedGen), structured in three sub-networks that promotes conservation of plants, animals and microbiological resources in banks and germplasm collections distributed throughout the country. In addition to the collection, the germplasm is multiplied to ensure its availability for exchange and restitution, characterization, and evaluation. These are conserved under adequate conditions to guarantee its medium and long-term viability. All the information generated is incorporated into a database (DBGERMO). Additionally, training and capacity building on the conservation and sustainable use of agrobiodiversity, including methodologies and procedures, as well as awareness-raising activities were carried out. In situ conservation activities have been initiated on local varieties and crop wild relatives. The operation of this network is financed mainly through national projects. As indicated in the Second National Report on the State of Plant Genetic Resources in Argentina submitted to FAO in 2008, the Network of Germplasm Banks of INTA conserves more than 90% of the germplasm available in official institutions.

Mariana Ferreyra cited two concrete examples of actions implemented through programs aimed at contributing to the conservation of PGRFA. The first is the restitution of the germplasm of local crops in the communities of Calchaquies Valleys, and the second example is the ProHuerta Program throughout the country, which promotes family gardens, providing seeds for the self-production of food, facilitating spaces for the exchange of plants, seeds, knowledge, and practices through fairs. Lastly, Mariana Ferreyra made a presentation on a project called "Conservation and sustainable use of local plant genetic resources for food and agriculture (PGRFA) that contribute to the food security of small-scale farmers in Argentina", in which a great diversity of activities were carried out. This included conducting workshops for sharing and exchanging knowledge, disseminating local crop varieties, developing community protocols, and promoting agroecological production.

BOLIVIA - Resultados alcanzados al 2019 en el reconocimiento de los Derechos de las NyIOC en Bolivia- Perspectivas, Sr. José R. Campero Marañón, Ministerio de Desarrollo Rural y Tierras, INIAF

Después de 600 años de lucha en todos los frentes, en febrero del 2009 una nueva Constitución Política del Estado fue aprobada en Bolivia y se declaró el Estado Plurinacional con un extenso catálogo de los Derechos Humanos de Naciones y Pueblos Indígenas Originarios Campesinos (NyPIOC). El derecho de la autonomía indígena originario campesina, tanto como el derecho a la identidad cultural, espiritualidad y creencia religiosa y el derecho a la propiedad intelectual, colectiva de sus saberes, conocimientos y ciencia, han sido implementados en varios marcos normativos internacionales y del Estado Plurinacional.

El José R. Campero Marañón presentó varios marcos normativos nacionales y medidas asociados con el desarrollo ambiental, agrícola y la biodiversidad. Por ejemplo, la Ley 300 prevé la generación de condiciones necesarias para el uso y aprovechamiento de los componentes de la Madre Tierra en el marco de sistemas de vida sustentables que desarrollen integralmente los aspectos sociales, ecológicos, culturales y económicos del pueblo boliviano. El artículo 382 indica que es facultad y deber del Estado la defensa, recuperación, protección y repatriación del material biológico proveniente de los recursos naturales, de los conocimientos ancestrales y otros que se originen en el territorio. El artículo 383 comunica que el Estado establecerá medidas de restricción parcial o total, temporal o permanente, sobre los usos extractivos de los recursos de la biodiversidad. Las medidas estarán orientadas a las necesidades de preservación, conservación, recuperación y restauración de la biodiversidad en riesgo de extinción. Se sancionará penalmente la tenencia, manejo y tráfico ilegal de especies de la biodiversidad. De igual forma, se promulgó el Decreto Supremo N° 2738, que implementa el Sello Social Boliviano, como mecanismo de certificación de los productos primarios y transformados provenientes de la agricultura familiar sustentable (Organizaciones Económicas Campesinas, Indígena Originarias - OECAS, Organizaciones Económicas Comunitarias - OECOM, interculturales y afrobolivianas).

Unofficial translation:

BOLIVIA - Results achieved by 2019 in the Recognition of the Rights of the NyIOC in Bolivia- Perspectives, Mr. José R. Campero Marañón, Ministry of Rural Development and Lands, INIAF

In February 2009, a new Political Constitution of the State was approved in Bolivia with an extensive catalogue of the Human Rights of Indigenous Peasant Indigenous Nations and Peoples (NyPIOC). The following rights have been implemented in several frameworks: the right of rural native indigenous autonomy, the right to cultural identity, spirituality and religious belief and the right to intellectual property, collective of their knowledge, and science. José R. Campero Marañón enumerated various national regulatory frameworks and measures associated with environmental, agricultural, and biodiversity development. For example, Law 300 provides for the generation of necessary conditions for the use and exploitation of the components of “Mother Earth” within the framework of sustainable life systems that fully develop the social, ecological, cultural, and economic aspects of the Bolivian people. Article 382 indicates that it is the power and duty of the State to defend, recover, protect, and repatriate biological material from natural resources, ancestral knowledge, and others that originate in the territory. Furthermore, Article 383 communicates that the State will establish partial or total, temporary or permanent, restriction measures on the extractive uses of biodiversity resources. These measures will be oriented to the preservation, conservation, recovery and restoration needs of biodiversity at risk of extinction. The illegal possession, management, and trafficking of biodiversity species will be penalized. Similarly, Supreme Decree No. 2738 was promulgated, which implements the Bolivian Social Seal, as a mechanism for the certification of primary and transformed products from sustainable family agriculture (Rural Economic Organizations, Indigenous People - OECAS, Community Economic Organizations - OECOM, intercultural and Afro-Bolivian).

BRASIL - Contribución de Brasil con la aplicación de los artículos 5, 6 y 9 / TIRFAA, Sr. Paulo Ramon Mocelin, Ministério da Agricultura, Pecuária e Abastecimento

Paulo Ramon Mocelin inicio su presentación con algunas acciones y mejores prácticas relacionadas con la aplicación de los artículos 5 y 6, como la Ley nº 13.123 / 2015. En efecto, la Ley nº 13.123 / 2015 tiene como objetivo simplificar los procedimientos para el acceso al patrimonio genético y conocimiento tradicional asociado, garantizando una distribución de beneficios justa y equitativa. Esta regula el acceso a la muestra de patrimonio genético del país y los conocimientos tradicionales asociados con fines de investigación y desarrollo tecnológico, así como el reparto de los beneficios derivados de la explotación económica de un producto o material de reproducción desarrollado de estos accesos. La Ley nº 13.123 / 2015 reconoce la importancia de los conocimientos tradicionales asociados con los recursos genéticos, dando protección a los titulares para ser informados. Reconoce el derecho de los titulares de conocimientos tradicionales a participar en la toma de decisiones sobre el acceso y reparto de beneficios. Hay un trato diferenciado para las adhesiones relacionadas con la agricultura, a fin de no afectar a la producción de alimentos.

La interacción entre la conservación ex situ y la conservación in situ permite grandes ganancias para ambas estrategias de conservación. Entre estas ganancias se encuentran la repatriación de las variedades criollas perdidas por los agricultores, que se conservan ex situ en los bancos de germoplasma. Asimismo, en 1994 Embrapa celebró su primera repatriación de las variedades tradicionales de los pueblos indígenas. Esta acción piloto tuvo lugar con variedades tradicionales de maíz para el pueblo indígena de Krahá. Embrapa firmó con la asociación de Pueblos Krahá, en el año 2000, el primer contrato brasileño de acceso a los recursos genéticos y conocimientos tradicionales asociados. A partir de 2004, se implementaron una serie de investigaciones sobre recursos genéticos (flora, fauna, guardianes de semillas, entre otros) y actividades para promover la seguridad alimentaria promoviendo la movilización de los agricultores indígenas Krahá y otros pueblos.

Paulo Ramon Mocelin finalizo su presentación con la política “Política de Garantia de Preços Mínimos para los Produtos de la Sociobiodiversidade” la cual tiene como objetivo promover la protección del medio ambiente. Asimismo, la política de la Compañía Nacional de Abastecimiento (CONAB), empresa del Ministerio de Agricultura, garantiza un precio mínimo para 17 productos extractivos que ayudan en la conservación de los Biomás.

Unofficial translation:

BRAZIL - Brazil's Contribution to the Implementation of Articles 5, 6 and 9 / ITPGRFA, Mr. Paulo Ramon Mocelin, Ministry of Agriculture, Livestock and Supply

In relation to the implementation of Articles 5 and 6 of the International Treaty, Paulo Ramon Mocelin presented on Law No. 13.123/2015, which aims to simplify the procedures for accessing the genetic heritage and associated traditional knowledge, guaranteeing a fair and equitable distribution of benefits. It also recognizes the importance of traditional knowledge associated with genetic resources, giving protection to the holders to be informed. This Law also recognizes the right of traditional knowledge holders to participate in decision-making on access and benefit-sharing. The interaction between ex-situ conservation, in situ conservation and Farmers' Rights, allows large gains for both conservation strategies. Among these gains is the repatriation of farmers' lost landraces, which are conserved in germplasm banks; at the same time, landraces that are maintained by farmers, but are at risk of genetic erosion, can be conserved through their deposition in ex situ banks. For instance, in 1994 Embrapa celebrated its first repatriation of traditional varieties of indigenous peoples. This pilot action took place with traditional maize varieties for the indigenous people of Krahá. Embrapa signed with the Krahá Peoples association,

in 2000, the first Brazilian contract for access to genetic resources and associated traditional knowledge. Starting in 2004, a series of investigations were implemented on genetic resources (flora, fauna, seed guardians, among others) and activities to promote food security by promoting the mobilization of indigenous Krahá farmers. Lastly, Paulo Ramon Mocelin presented on the Minimum Price Guarantee Policy for Sociobiodiversity Products, whose objective is to promote environmental protection. The policy of the National Supply Company (CONAB), which is a company of the Ministry of Agriculture, guarantees a minimum price for 17 extractive products that help in the conservation of Biomes.

CUBA - Avances en la Conservación, Manejo y Uso Sostenible de los Recursos Fitogenéticos, así como la Implementación de los Derechos del Agricultor en Cuba, Sra. Victoria Moreno y Lianne Fernández, INIFAT

Cuba está entre las cuatro islas con mayor cantidad de especies vegetales a nivel mundial, y la primera en número de taxones por kilómetro cuadrado. Su biodiversidad agrícola heterogénea es debida al aislamiento geográfico y el mosaico edáfico que constituyen sus suelos. Asimismo, la biodiversidad agrícola de Cuba constituye un recurso estratégico de gran importancia para el país.

Las presentadoras, Victoria Moreno y Lianne Fernandez, comenzaron presentando los proyectos internacionales relacionados al manejo y uso sostenible de los recursos fitogenéticos desarrollados desde 2004:

- Manejo adaptativo de los sistemas de semillas y flujo genético para una agricultura sostenible y el mejoramiento de la subsistencia en los trópicos húmedos de México, Cuba y Perú (IDRC Canadá).
- Contribución comunitaria al rescate y conservación de los RFG in situ para la sostenibilidad alimentaria en Cuba (PAN PARA EL MUNDO).
- Fortalecimiento del manejo e intercambio de la información sobre RFG en América Latina y el Caribe (FAO).
- Regeneración de los cultivares tradicionales de la colección nacional de frijol común (*Phaseolus vulgaris L.*) y frijol caballero (*P. lunatus L.*) (Global Crop Diversity Trust).
- Evaluación de los cultivares tradicionales de frijol común en condiciones de sequía y bajos insumos (Global Crop Diversity Trust).
- La Conservación de la Biodiversidad Agrícola en las Reservas de la Biosfera de Cuba: Conectando los Paisajes Naturales y los Paisajes Agrícolas para lograr los Objetivos de Desarrollo del Milenio (COBARB) IPGRI - PNUMA/ FMMA (GEF) – MAB/ UNESCO.

Victoria Moreno y Lianne Fernandez prosiguieron con tres proyectos que beneficiaron de las contribuciones del fondo de distribución de beneficios:

- Contribución de los métodos tradicionales de conservación y la gestión de la variabilidad in situ de maíz (*Zea mays L.*) y frijol (*Phaseolus vulgaris L.*), a la seguridad alimentaria de familias campesinas en Cuba. (INIFAT)
- La diversidad de recursos forrajeros en los sistemas ganaderos para atenuar el efecto del cambio climático en Cuba (FITORED)
- Fortaleciendo la resiliencia comunitaria en dos Reservas de la Biosfera de Cuba mediante el uso eficiente de los recursos fitogenéticos: maíz y frijol. (INIFAT)

El Instituto de Investigaciones Fundamentales en Agricultura Tropical «Alejandro de Humboldt» (INIFAT) ha apoyado desde 1995 en la conservación in situ sustentado en proyectos internacionales

de carácter global, regional y nacionales, vinculados a dos de las seis reservas de la Biosfera de Cuba. Además, el INIFAT ha publicado varios catálogos, registros y otras formas de documentación de los RFAA y protección de los conocimientos tradicionales; ha realizado talleres, cursos y folletos para la capacitación, fomento de la capacidad y sensibilización de la opinión pública; y ha favorecido el fortalecimiento de los bancos comunitarios de semillas que facilitan el incremento de sus RFAA (Sierra del Rosario, Cuchillas del Toa).

El mapa de identidad biocultural Sierra del Rosario (INIFAT) permitió que por primera vez que se integren estrategias de conservación de la agrobiodiversidad con estrategias de valorización (agroturismo). De esa manera, se visualiza la actividad agrícola de cada finca, así como los valores socioculturales y las tradiciones de la zona. Asimismo, se pueden diseñar recorridos agroturísticos pues estos mapas construidos aplicando la cartografía social (metodología novedosa) se conocen también como un dibujo del territorio en sus dimensiones histórica, cultural, económica y ecológica.

Finalizaron la presentación con algunas de las medidas legales para implementar los derechos del agricultor, tales como legislaciones, decretos, que han sido establecidos: Creación Dirección de Semillas, MINAG-2011; Creación Dirección de Semillas y Recursos Fitogenéticos, MINAG-2015; y Decreto Ley No. 291/2012 (Artículo 4.2).

Unofficial translation:

CUBA - Advances in the Conservation, Management and Sustainable Use of Plant Genetic Resources, as well as the Implementation of Farmer's Rights in Cuba, Ms. Victoria Moreno and Ms. Lianne Fernández, Instituto de Investigaciones Fundamentales en Agricultura Tropical “Alejandro de Humboldt” (INIFAT)

Cuba is among the four islands with the largest number of plant species worldwide, and the first in the number of taxa per square kilometer. Its heterogeneous agricultural biodiversity is due to the geographic isolation and the edaphic mosaic that make up its soils. Likewise, the agricultural biodiversity of Cuba constitutes a strategic resource of great importance for the country.

Victoria Moreno and Lianne Fernandez listed the following international projects related to the management and sustainable use of plant genetic resources undertaken since 2004 in the country:

- Adaptive management of seed systems and gene flow for sustainable agriculture and livelihood improvement in the humid tropics of Mexico, Cuba, and Peru (IDRC Canada).
- Community contribution to the rescue and conservation of GFR in situ for food sustainability in Cuba (PAN PARA EL MUNDO).
- Strengthening the management and exchange of information on RFG in Latin America and the Caribbean (FAO).
- Regeneration of the traditional cultivars of the national collection of common bean (*Phaseolus vulgaris* L.) and knight bean (*P. lunatus* L.) (Global Crop Diversity Trust).
- Evaluation of traditional cultivars of common bean under drought conditions and low inputs (Global Crop Diversity Trust).
- Conservation of Agricultural Biodiversity in Cuba's Biosphere Reserves: Connecting Natural Landscapes and Agricultural Landscapes to achieve the Millennium Development Goals (COBARB) IPGRI - UNEP / GEF (GEF) - MAB / UNESCO.

Next, Victoria Moreno and Lianne Fernandez presented on three projects that benefited from contributions from the ITPGRFA Benefit-sharing Fund:

- Contribution of traditional methods of conservation and management of in situ variability of corn (*Zea mays* L.) and beans (*Phaseolus vulgaris* L.), to the food security of peasant families in Cuba. (INIFAT)
- The diversity of forage resources in livestock systems to mitigate the effect of climate change in Cuba (FITORED)
- Strengthening community resilience in two Cuban Biosphere Reserves through the efficient use of plant genetic resources: corn and beans. (INIFAT)

The "Alejandro de Humboldt" Institute for Fundamental Research in Tropical Agriculture (INIFAT) has supported in situ conservation since 1995, through international projects of a global, regional and national nature, linked to two of the six Biosphere reserves of Cuba. Also, INIFAT has published various catalogues, registers, and other forms of documentation of PGRFA and protection of traditional knowledge; it has conducted workshops, developed courses prepared brochures for training, capacity-building, and public awareness; and has favored the strengthening of community seed banks that facilitate the increase of their PGRFA (Sierra del Rosario, Cuchillas del Toa). The Sierra del Rosario biocultural identity map (INIFAT) allowed for the first time the integration of agrobiodiversity conservation strategies with valorization strategies (agrotourism). In this way, the agricultural activity of each farm is visualized, as well as the socio-cultural values and traditions of the area. Likewise, agrotourism tours can be designed as these maps incorporate social cartography (which is a novel methodology) also known as a drawing of the territory in its historical, cultural, economic, and ecological dimensions.

ECUADOR - Instituto Nacional Autónomo de Investigaciones Agropecuarias (INIAP), Ing. Marcelo Tacán Pérez, INIAP

Marcelo Tacán Pérez presentó dos medidas relacionadas a la conservación y el uso sostenible de los RFAA en la República del Ecuador: las actividades del Instituto Nacional Autónomo de Investigaciones Agropecuarias (INIAP) y los Centros de Bioconocimiento.

En primer lugar, el Instituto Nacional Autónomo de Investigaciones Agropecuarias (INIAP) a través del Departamento Nacional de Recursos Fitogenéticos (DENAREF) ha participado a la conservación in situ y ex situ. Por un lado, conserva 28 000 accesiones provenientes de colectas, intercambio y custodia (3500 accesiones conservadas en campo, 23500 en cámara fría y 1000 in vitro), y por otro lado ha realizado la selección de variedades de varias especies de interés agronómico. En segundo lugar, los Centros de Bioconocimiento (CBDAs) fueron promovidos dentro de la Ley de Agrobiodiversidad, Semillas y Fomento de la Agricultura Sustentable como mecanismos para la conservación, restitución de material vegetativo, multiplicación de semillas, investigación participativa, capacitación, validación y transferencia de tecnología. Los CBDA promueven la soberanía alimentaria y el autoconsumo, mejorando la calidad de vida en las comunidades. Se conservan aproximadamente 200 especies cultivadas en los CBDA y se incrementaron 500 hectáreas de sistemas productivos agrobiodiversos. Igualmente se ha realizado la caracterización participativa de varios cultivos (i.e papa, maíz, frijol, cacao, café, maní yuca) y se han identificado materiales promisorios adaptados a los agroecosistemas del área de influencia del CBDA. Se han multiplicado semillas de calidad de especies nativas que han sido restituidas a 1000 chacras de los agricultores, en las cuales las familias beneficiarias incorporan el manejo y uso sostenible de la agrobiodiversidad. Con la reintroducción de especies nativas como papa, melloco, mashua, oca, chocho, quinua, ataco, maíz, entre otras, la diversidad al nivel nacional fue incrementada con 200 variedades. Más de 5000 agricultores han sido capacitados sobre la conservación y el uso sostenible de la agrobiodiversidad, y 89 profesores, 800 estudiantes de 20

centros educativos han sido capacitados en temas relacionados sobre la importancia y uso de la agrobiodiversidad local.

Marcelo Tacán Pérez prosiguió con algunas lecciones aprendidas de sus experiencias. La importancia de contar con un sistema de bancos de semillas (CBDA) para permitir que los agricultores mantengan sus sistemas de producción diversos ha sido demostrado por el proceso de restitución de materiales. De igual forma, el mantenimiento de la agrobiodiversidad, mediante técnicas de conservación *ex situ* e *in situ* llamada Conservación complementaria, ha sido una experiencia positiva ya que ha permitido dar un paso en la sostenibilidad de la conservación mediante procesos de restitución a comunidades desde el BG del INIAP. Los CBDA deben contar con un plan de manejo que permita la sostenibilidad en el tiempo y el compromiso del Estado mediante leyes que financien este tipo de medida, como es el caso de Ecuador que tiene la Ley de Agrobiodiversidad, Semillas y Agricultura Sustentable. Asimismo, la implementación de los CBDA necesitó mucha sensibilización a las instituciones que lo implementaron, sobre la importancia de estos CBDA para los agricultores.

Unofficial translation:

ECUADOR - National Autonomous Institute of Agricultural Research (INIAP), Eng. Marcelo Tacán Pérez, INIAP

Marcelo Tacán Pérez presented two measures related to the conservation and sustainable use of PGRFA carried out in the Republic of Ecuador, the activities of the National Autonomous Institute for Agricultural Research (INIAP) and the Bio-knowledge Centers.

The National Autonomous Institute for Agricultural Research (INIAP), through the National Department of Plant Genetic Resources (DENAREF) has participated in both *ex-situ* and *in situ* conservation. The institute has conserved 28,000 accessions from field collections, exchange, and custody (specifically, 3,500 accessions are conserved in the field; 23,500 in a cold chamber, and 1,000 *in vitro*), and it has made the selection of varieties of various species of agronomic interest. The Bio-knowledge Centers (CBDAs) were promoted within the Law of Agrobiodiversity, Seeds, and Promotion of Sustainable Agriculture as mechanisms for the conservation, restitution of vegetative material, multiplication of seeds, participatory research, training, validation, and transfer of technology. The CBDAs promote food sovereignty and self-consumption, improving the quality of life in communities. Approximately 200 cultivated species are conserved in the CBDAs and there has been an increase of 500 hectares of agrobiodiversity productive systems. Likewise, the participatory characterization of various crops (*i.e.*, potato, corn, beans, cocoa, coffee, peanuts, and cassava) has been carried out and promising materials adapted to the agroecosystems of the CBDA area of influence have been identified. Quality seeds of native species have been multiplied and restored to 1000 farms, in which beneficiary families incorporate the management and sustainable use of agrobiodiversity. With the reintroduction of native species such as potato, mashua, oca, chocho, quinoa, ataco, corn, etc, the diversity at the national level was increased with 200 varieties. More than 5000 farmers have been trained on the conservation and sustainable use of agrobiodiversity, and 89 teachers, 800 students - from 20 educational centers - have been trained on issues related to the importance and use of local agrobiodiversity.

Lastly, Marcelo Tacán Pérez presented the lessons learned from his experiences for instance, the importance of having a seed bank system (CBDA) to allow farmers to maintain their diverse production systems, which has been demonstrated by the material replacement process. CBDAs must have a management plan that allows sustainability over time and the commitment of the State through laws that finance this type of measure, as is the case of Ecuador, which has the Law of

Agrobiodiversity, Seeds and Sustainable Agriculture. Likewise, the institutions that implemented CBDAs require a lot of sensitization on the importance of CBDAs for farmers.

GUYANA (REPUBLIC OF) - Crop Improvement and Participatory Plant Breeding in the Guyana Rice Development Board (GRDB), Mr. Nandram Gobind, Guyana Rice Development Board (GRDB)

Nandram Gobind first introduced Guyana's agricultural production then presented on Guyana Rice Development Board (GRDB). This semi-autonomous agency, established in 1994, has the objective of developing the rice industry, including its exportation and research. GRDB is divided into four major sectors: the research sector is responsible for the development of new rice varieties, and the extension sector is dedicated to transferring technology from the research station to the farmer. In GRDB plant breeding, for rice, is done by using the conventional or traditional breeding method which involves the utilization of older tools and processes.

Guyana Rice Development Board (GRDB) has been developing high-yielding varieties (>6.5 t/ha) with tolerance to lodging, resistance to blast disease, excellent cooking qualities through the development of aromatic varieties, and varieties with different grain types and salt-tolerance. Over the last ten years, GRDB has released seven new varieties, all of which are high yield and resistant to the blast disease. In 2013, the agency has also released its first aromatic variety (GRDB 13). Through crop improvement, farmers were able to obtain higher yield per area sown (from 4.2 t/ha in 2008 to 5.80 t/ha in 2019). GRDB has implemented several other activities, some of them are the open-day at the research station for farmers, millers, students, and the general public; the fields day at farmers field; the consumer survey on quality of rice; and the collaboration with local organizations (i.e., UG, NAREI, GUYSUCO, and RPA) and with international organizations (i.e., IRRI, FLAR, CIAT, UWI, MARDI). Nandram Gobind pointed out some challenges faced by GRDB, such as insufficient resources, completing the gene bank facility, and hiring an adequate workforce. He underlined some lessons learned during this experience, one of them being the need for a good cross-sectorial approach for the implementation of the Treaty and the overall management of plant genetic resources. He finalized his presentation by highlighting the importance of rice for many Guyanese people, and that GRDB, the government of Guyana, and the International Organizations must continue to support and guide the rice farmers and stakeholders to make the industry more efficient and competitive, both locally and internationally.

HONDURAS - De la Evaluación y a la Conservación de RFAA- Un Compromiso, Dra. Elizabeth Santacreo, Unidad De Frutales /Programa De Generación De Tecnología

Después de haber presentado la producción agrícola en Honduras y algunas de las amenazas y limitaciones de los recursos RFAA en el país, Elizabeth Santacreo expuso varias medidas relacionadas a la conservación y uso sostenible de dichos recursos. La Fundación para la Investigación Participativa con Agricultores de Honduras (FIPAH) ha realizado varios proyectos relacionados al fitomejoramiento participativo (i.e variedades de maíz y de trigo seleccionadas en la zona indígena Lenca de Honduras). FIPAH completa la investigación participativa con actividades de conservación y mantenimiento recuperando las semillas. Asimismo, se han creado bancos de germoplasma locales. En el programa Fomento a la Agricultura Familiar SAG-DICTA (2018-2021) se dotarán insumos agrícolas (plantas frutales, semillas de granos básicos, raíces

comestibles, capacitación, herramientas agrícolas, especies menores) a una población meta de 1500 productores de agricultura familiar.

Elizabeth Santacreo continuó con algunas estrategias y marcos legales. Dos de los convenios legales internacionales relacionados a los recursos fitogenéticos en vigor en Honduras son el Convenio de la Diversidad Biológica, ratificado en 1996, y el Tratado TIRFAA, ratificado en 2004. De igual manera, el programa del Bono de Solidaridad Productiva, que beneficia directamente al pequeño productor con semillas de variedades mejoradas, es uno de los programas nacionales implementados. El Plan de Acción Estratégico para Fortalecer la Conservación y el Uso de los Recursos Fitogenéticos Mesoamericanos para la Adaptación de la Agricultura al Cambio Climático 2014-2024 (PAEM) y el material de capacitación sobre Los Derechos de los Agricultores y Las Agricultoras de Honduras en lo que se refiere para la alimentación y la agricultura, son algunas de las estrategias de apoyo realizadas. En el 2018, fue elaborado después de 23 años, la Estrategia Nacional de Conservación y Utilización de Recursos Fitogenéticos de Honduras 2018-2028 (documento editado como borrador en archivo), con el apoyo de la Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO), Secretaria de Agricultura y Ganadería SAG, Sistema nacional de semillas de Honduras SINSEMH, Comité de Recursos fitogenéticos de Honduras (CONAREIH). En esta estrategia se plantea la construcción de infraestructura apropiada, capacitación en el manejo de los recursos. Además, se han establecido cooperaciones de apoyo con diversos centros de investigación, algunos de ellos siendo los Centros del Grupo consultivo para la investigación agrícola internacional (CGIAR), el Centro Internacional de la Papa CIP y EMBRAPA.

Unofficial translation:

HONDURAS - From the Evaluation and Conservation of PGRFA - A Commitment, Ms. Elizabeth Santacreo, Fruit Trees Unit / Technology Generation Program

Elizabeth Santacreo started her presentation by providing an analysis of the agricultural production in Honduras and some of the threats and limitations of plant genetic resources for food and agriculture in the country. Elizabeth then presented several measures related to the conservation and sustainable use of PGRFA e.g., the Foundation for Participatory Research with Farmers of Honduras (FIPAH), which has carried out several projects related to participatory plant breeding (i.e., varieties of corn and wheat selected in the Lenca indigenous zone of Honduras). FIPAH conducts its participatory research with conservation and maintenance activities by recovering the seeds - local genebanks have been created as well. With the “Fomento a la Agricultura Familiar SAG-DICTA” (2018-2021) program, agricultural inputs (i.e., fruit plants, basic grain seeds, edible roots, training, agricultural tools, minor species) will be provided to a target population of 1,500 family farmers. Elizabeth Santacreo then presented on legal frameworks and some of the strategies that have been adopted. The international legal agreements related to plant genetic resources that are in force in Honduras include: the Convention on Biological Diversity, ratified in 1996, and the ITPGRFA, ratified in 2004. One of the national programs implemented is the Productive Solidarity Bonus program, which provides improved varieties of seeds to small-scale farmers. Some of the supporting strategies that have been implemented include: the Strategic Action Plan to Strengthen the Conservation and Use of Mesoamerican Plant Genetic Resources for the Adaptation of Agriculture to Climate Change 2014-2024 (PAEM) and the training material on The Rights of Honduran Farmers and Women Farmers that refers to food and agriculture. In 2018, after 23 years, the National Strategy for the Conservation and Use of Plant Genetic Resources of Honduras 2018-2028 was prepared, with the support of the Food and Agriculture Organization of the United Nations (FAO), Secretariat of Agriculture and Livestock SAG, National Seed System of Honduras (SINSEMH), and the Committee of Plant Genetic Resources of Honduras (CONAREIH). This

strategy proposes the construction of appropriate infrastructure and training in resource management. Furthermore, supporting cooperation has been established with various research centers (i.e., the Consultative Group Centers for International Agricultural Research, CGIAR, the International Potato Center, CIP, and Embrapa).

PERÚ - Perspectivas de los miembros del ACSU, Sr. Roger Becerra Gallardo, Instituto Nacional de Innovación Agraria (INIA)

El Roger Becerra Gallardo presentó algunos marcos legales relacionados con el Uso Sostenible de los RFAA a nivel internacional (es decir, el Convenio sobre la Diversidad Biológica (CDB) y el Tratado Internacional sobre los Recursos Fitogenéticos para la Alimentación y la Agricultura (TIRFAA)), a nivel regional (es decir, la Decisión 391 de la Comunidad Andina de Naciones - CAN) y a nivel nacional (es decir, el Decreto Supremo N° 003-2009-MINAM). Además, explicó algunas medidas relacionadas a la investigación agrícola en Perú. Estas se elaboran con fines de mejoramiento genético para obtener nuevas variedades, investigación científica básica y aplicada (comercial y no comercial) y bioprospección, entre otros. Dichas medidas se realizan en institutos de investigación (INIA, IIAP, Institutos Tecnológicos de educación), universidades, centros internacionales (CIP), empresas privadas (Camposol, Stevia One, Agrisalba), y con los agricultores. En Perú, el Instituto Nacional de Innovación Agraria (INIA) es un organismo técnico especializado del Ministerio de Agricultura y Riego y forma parte del Sistema Nacional de Innovación Agraria (SNIA). Desarrolla actividades de investigación, transferencia de tecnología, conservación y aprovechamiento de los recursos genéticos, así como la producción de semillas. Este instituto nacional posee el Banco de Germoplasma gubernamental más grande del país. Asimismo, el INIA es una autoridad en el acceso a RRG; en la protección a los Derechos de Obtentores de Variedades Vegetales (Sui Generis de DPI); en la Regulación de Semillas; en la bioseguridad; y en el Registro de la Agrobiodiversidad (Registro Nacional de la papa peruana, Registro del cacao peruano, Registro de legumbres nativas). El Roger Becerra Gallardo terminó exponiendo las perspectivas del ACSU, una de ellas siendo la identificación de actividades y posibles sinergias adicionales dentro del Programa de trabajo y entre el Programa de trabajo y otras áreas de trabajo del Tratado.

Unofficial translation:

PERU - Perspectives of ACSU members, Mr. Roger Becerra Gallardo, National Institute for Agrarian Innovation (INIA)

Roger Becerra Gallardo presented some legal frameworks related to the Sustainable Use of PGRFA at the international level (i.e. Convention on Biological Diversity (CBD) and International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)), at the regional level (i.e., Decision 391 of the Andean Community of Nations - CAN) and national level (i.e., Supreme Decree No. 003-2009-MINAM). He then explained some measures related to agricultural research in Peru. These agricultural research practices are prepared for genetic improvement to obtain new varieties, basic and applied scientific research (commercial and non-commercial), and bioprospecting, among others. These measures are carried out in research institutes (i.e., INIA and IIAP), universities, international centers (e.g., CIP), private companies (i.e., Camposol, Stevia One and Agrisalba), and with farmers.

The National Institute of Agrarian Innovation (INIA) is a specialized technical body of Peru's Ministry of Agriculture and Irrigation and is part of the National System of Agrarian Innovation

(SNIA). INIA carries out research activities, technology transfer, conservation and use of genetic resources, as well as seed production. This national institute owns the largest government germplasm bank in the country. Likewise, it is an authority on several issues such as access to genetic resources, the protection of Plant Variety Breeders' Rights, seed regulation, biosecurity and in the agrobiodiversity registry (Peruvian Potato National Registry, Peruvian Cacao Registry, Native Legume Registry).

Roger Becerra Gallardo finalized his presentation with ACSU's perspectives, one of them being the identification of additional activities and synergies within the Work Program and between the Work Program and other areas of work of the Treaty.

URUGUAY - Experiencias en Fitomejoramiento Participativo de Cultivos, Sr. Eduardo Díaz, Red de Agroecología del Uruguay, Ing. Agr. Marcello Rachetti, Comisión Nacional de Fomento Rural

En esta intervención, fueron presentadas dos iniciativas que favorecen la conservación y el uso sostenible de los RFAA en Uruguay: La red de Agroecología del Uruguay y la Comisión Nacional de Fomento Rural. La red de Agroecología del Uruguay, explicada por Eduardo Díaz, fue fundada en el año 2005. Sus principales cometidos son la promoción de la agroecología, desarrollando incidencia en las políticas públicas, capacitaciones, promoción de sistemas de producción sustentables, el desarrollo de mercados locales y circuitos cortos de comercialización. Esta red gestiona y desarrolla un sistema participativo de garantías, la cual es la única certificadora habilitada de producción orgánica en Uruguay. Está integrada por 7 regionales de los que participan 350 personas, tanto consumidores, como productores y organizaciones que impulsan la agroecología. La red de Agroecología del Uruguay desarrolla nuevas opciones de variedades mejoradas mediante evaluación y selección participativa. Por ejemplo, de 2017 a 2019, se efectuaron experiencias en fitomejoramiento participativo de la papa FAGRO en la estación experimental INIA Las Brujas y en predios de los productores ('Bebé'). También se realizaron experiencias en el fitomejoramiento participativo de la frutilla. Desde la primavera de 2016, se producen plantas de frutilla, que han permitido el acceso a 50 pequeños productores familiares a los materiales de origen nacional.

Marcello Rachetti presentó la Comisión Nacional de Fomento Rural (CNFR), una organización privada sin fines de lucro, de segundo grado, fundada en 1915. La integran 103 entidades de primer grado: sociedades de fomento rural, cooperativas agrarias y otras formas organizativas de base. El Sistema de Fomento Rural involucra a más de 17.000 productores familiares en todo el país. CNFR realiza acción gremial, y de promoción y desarrollo. La Comisión Nacional de Fomento Rural también tiene varios proyectos de fitomejoramiento participativo. El convenio CNFR – INIA (2007) facilitó la producción y comercialización de semillas del maíz INIA Alazán por entidades de CNFR especializadas en el rubro (SFR Ortiz, CALPROSE, CALSESUR). El convenio CNFR-INIA (2008) permitió la evaluación participativa en el mejoramiento para la producción de semillas hortícolas (papa, frutilla, boniato, cebolla, tomate y ajo). Desde 2012, la Sociedad de Fomento Rural Ortiz (Lavalaja), entidad especializada en el rubro semilla forrajera, está desarrollando el cultivar Festuca SFRO Don Tomás. La investigación participativa en multiplicación de *Bromus auleticus*, una gramínea nativa de alto valor forrajero, ha sido desarrollado desde 2015 por la Sociedad de Fomento Rural Ruta 109 (Rocha), en el marco del llamado "Mas Tecnologías para la Producción Familiar" (MGAP – INIA).

Unofficial translation:

URUGUAY - Experiences in Participatory Crop Breeding, Mr. Eduardo Diz, Agroecology Network of Uruguay, Ing. Agr. Marcello Rachetti, National Commission for Rural Development

Two initiatives related to conservation and sustainable use of PGRFA in Uruguay were presented: the Uruguayan Agroecology Network and the National Commission for Rural Development.

The Agroecology Network of Uruguay was founded in 2005 and its main tasks include the following: the promotion of agroecology, developing incidence in public policies, training, promotion of sustainable production systems, the development of local markets and short marketing circuits. This network manages and develops a participatory guarantee system, which is the only certified organic production certifier in Uruguay. It is made up of 7 regions, of which 350 people participate, including consumers, producers and organizations that promote agroecology. The Agroecology Network of Uruguay also develops new options for improved varieties through participatory evaluation and selection. For instance, from 2017 to 2019, participatory plant breeding of the FAGRO potato was conducted at the INIA Las Brujas experimental station ('Mother') and on the farmers' farms ('Baby'). Additionally, participatory plant breeding of strawberries was also conducted. Strawberries plants have been produced since spring 2016, which has allowed 50 small family producers to have access to materials of national origin.

Next, Eduardo Diz and Marcello Rachetti presented on the National Commission for Rural Development (CNFR), which is a private non-profit organization that was founded in 1915. This organization is made up of 103 first-degree entities that include: rural development societies, agrarian cooperatives, and other grassroots organizational forms. The Rural Development System involves more than 17,000 family producers throughout the country. CNFR carries out the union, promotion, and development action, in addition to having several participatory plant breeding projects. Two agreements reached in 2007 and 2008 between CNFR and INIA facilitated the production and commercialization of INIA Alazán corn seeds by CNFR entities specialized in the field (SFR Ortiz, CALPROSE, CALSESUR), and allowed the participatory evaluation in the improvement process of horticultural seeds (i.e., potato, strawberry, sweet potato, onion, tomato, and garlic). Since 2012, the "Sociedad de Fomento Rural Ortiz" (Lavalleja), an entity specialized in the forage seed item, has been developing the cultivar Festuca SFRO Don Tomás. Participatory research on the multiplication of *Bromus auleticus*, a native grass of high forage value, has been developed since 2015 by the Rural Development Society Route 109 (Rocha), within the framework of the so-called "More Technologies for Family Production" (MGAP – INIA).

URUGUAY - Articulación nacional para la gobernanza y gestión colectiva de la diversidad genética y sus conocimientos asociados en la Agricultura Familiar y Campesina del Uruguay, Red de agroecología en Uruguay, Comisión Nacional de Fomento Rural, Red Nacional de Semillas nativas y criollas

El "Proyecto de Articulación Nacional para la Gobernanza y Gestión Colectiva de la Diversidad Genética y sus Conocimientos Asociados en la Agricultura Familiar y Campesina del Uruguay" fue seleccionado por la cuarta convocatoria del Fondo de Distribución de Beneficios del TIRFAA y se implementará durante tres años con un presupuesto total de 400.000 dólares, del cual 248.400 serán aportados por el fondo del TIRFAA. En el marco de ese proyecto se crearán cuatro Centros Comunitarios Regionales de Respaldo de Agrobiodiversidad, gestionados por productores rurales y urbanos que darán respaldo y acceso a semillas, brindarán capacitaciones e información sobre el

uso y los valores alimentarios de las semillas seleccionadas. Se trabajará con parcelas de evaluación, multiplicación, fitomejoramiento participativo y jardines de introducción. Asimismo, se documentará el proceso para caracterizar las variedades y elaborar materiales de difusión que servirán a la divulgación de los resultados del proyecto en jornadas, encuentros regionales y nacionales, así como a la elaboración de manuales de cultivo y uso para agricultores familiares, instituciones de investigación y educativas rurales y urbanas. Por otro lado, el proyecto contribuirá en eventos de difusión de tecnologías apropiadas, foros y encuentros organizados o auspiciados por las organizaciones, además de promover tesis de grado y posgrado, pasantías y proyectos de investigación vinculados a los cometidos del proyecto.

La Red Nacional de Semillas Nativas y Criollas, la Red de Agroecología del Uruguay y la Comisión Nacional de Fomento Rural, serán las organizaciones a cargo de ejecutarlo, en articulación con la facultad de Agronomía (UDELAR), el Instituto Nacional de Investigación Agropecuaria (INIA), la Dirección General de Desarrollo Rural (MGAP), la Dirección General de Recursos Naturales (MGAP), la Intendencia de Canelones, la Intendencia de Montevideo y la Dirección Nacional de Medio Ambiente (DINAMA/MVOTMA).

Al finalizar el proyecto, agricultores familiares, técnicos, docentes de instituciones de investigación y desarrollo, estudiantes, decisores políticos y mujeres rurales serán beneficiados por las actividades implementadas.

Unofficial translation:

URUGUAY - National Articulation for the governance and Collective Management of Genetic Diversity and its Associated Knowledge in Family and Peasant Agriculture of Uruguay, Agroecology Network in Uruguay, National Commission for Rural Development, National Network of Native and Creole Seeds

The "National Articulation for the Governance and Collective Management of Genetic Diversity and its Associated Knowledge in Family and Peasant Agriculture of Uruguay" project was selected by the fourth cycle of ITPGRFA's Benefit-sharing Fund and will be implemented for three years with a total budget of US \$400,000, of which US \$248,400 will be provided by the BSF. At the end of the project, family farmers, technicians, teachers from research and development institutions, students, political decision-makers, and rural women will benefit from the activities implemented.

The National Network of Native and Creole Seeds, the Agroecology Network of Uruguay and the National Commission for Rural Development will be the organizations in charge of executing it, in conjunction with the Faculty of Agronomy (UDELAR), the National Institute of Agricultural Research (INIA), the General Directorate of Rural Development (MGAP), the General Directorate of Natural Resources (MGAP), the Municipality of Canelones, the Municipality of Montevideo and the National Environment Directorate (DINAMA / MVOTMA). The project will work with plots of evaluation, multiplication, participatory breeding, and introduction gardens. Likewise, the process to characterize the varieties and prepare dissemination materials will be documented and will serve to disseminate the results of the project in conferences, regional and national meetings, as well as the preparation of cultivation and use manuals for family farmers, institutions of rural and urban research and education. On the other hand, the project will contribute to events for the dissemination of appropriate technologies, forums and meetings organized or sponsored by the organizations, in addition to promoting undergraduate and graduate theses, internships, and research projects linked to the project's tasks. Within the framework of the project, four regional agrobiodiversity centers will be created, they will be managed by rural and urban producers that will provide support and access to seeds, training and information on the use and nutritional values of the selected seeds.

URUGUAY - Red Nacional de Semillas Nativas y Criollas 2004-2019 Movimiento Social de Conservación de la BD, Protección de los Territorios, Promoción de la Agroecología y Reivindicación del Derecho a la Soberanía Alimentaria, Marcelo Fosatti, Red Nacional de Semillas Nativas y Criollas

La Red Nacional de Semillas Nativas y Criollas está constituida por 400 familias, 33 grupos locales, 40 centros educativos y varias cooperativas uruguayas. Su objetivo es promover la soberanía alimentaria de la población uruguaya a partir de la promoción de la producción ecológica de variedades nativas y criollas para el consumo familiar y los mercados locales y nacionales. Asimismo, se busca frenar la pérdida de variedades nativas y criollas que forman parte del sistema de producción familiar; aumentar la disponibilidad y el intercambio de semillas orgánicas de poblaciones criollas y nativas de hortalizas para abastecer las necesidades de las familias productoras en el campo y en la ciudad; contribuir a la consolidación de un sistema de producción ecológica de granos mediante el rescate de variedades nativas y criollas de cultivos agrícolas; y promover un espacio de reflexión, formación y denuncia de aquellos temas vinculados a los valores genéticos y soberanía alimentaria. Para satisfacer esos objetivos, la Red Nacional de Semillas Nativas y Criollas realiza varias actividades de capacitación (charlas, jornadas, cartillas técnicas, cultivos demostrativos), intercambios de semillas y las actividades de apoyo a centros educativos, entre otros. Por ejemplo, se han organizado encuentros nacionales y regionales como la Fiesta Nacional de la Semilla Criolla y la Agricultura Familiar, y el Encuentro Regional de la Red de Semillas Nativas y Criollas. Para poner a disposición de la producción familiar semillas de cultivares y poblaciones locales valiosas, favoreciendo su difusión y conservación, así como su multiplicación en sistemas familiares, se ha realizado el fitomejoramiento participativo de varias especies (boniato, frutilla, cebolla, tomate, zanahoria, morrón y maíz). Además, se han establecido integraciones regionales con BIONATUR MST-Brasil, Fundación Pereira, la Universidad De la Plata Argentina, CONAMURI – Paraguay, Guardianes de Semillas – Rosario –Argentina y la CLOC-Via Campesina. Todas estas actividades han permitido el fortalecimiento de los vínculos entre los productores, el desempeño prometedor de las variedades criollas, y el aumento de la disponibilidad de semillas de variedades criollas.

Unofficial translation:

URUGUAY - National Network of Native and Creole Seeds 2004-2019 Social Movement for the Conservation of the BD, Protection of Territories, Promotion of Agroecology and Claim of the Right to Food Sovereignty, Mr. Marcelo Fosatti, National Network of Native and Creole Seeds

The National Network of Native and Creole Seeds is made up of 400 families, 33 local groups, 40 educational centers, and several Uruguayan cooperatives. Its primary objective is to promote the food sovereignty of the Uruguayan population by promoting the ecological production of native and creole varieties for family consumption and national markets. Additionally, it seeks to stop the loss of native and creole varieties that are part of the family production system; increase the availability and exchange of organic seeds of creole and native vegetable populations to supply the needs of producer families in the countryside and the city; contribute to the consolidation of an ecological seed production system by rescuing native and creole varieties of crops; and promote a space for reflection, training, and denunciation of those issues related to genetic values and food sovereignty. To meet these objectives, the National Network of Native and Creole Seeds carries out various training activities (i.e., talks, workshops, technical manuals and demonstration crops), seed exchanges, and support activities for educational centers, among others. For example, national and regional meetings have been organized such as the National Festival of Creole Seed and Family Agriculture, and the regional meeting of the Network of Native and Creole Seeds. Participatory

plant breeding of several species (e.g., sweet potato, strawberry, onion, tomato, carrot, bell pepper, and corn) has been carried out to make seeds of cultivars and valuable local populations available to family production, favoring their dissemination and conservation, as well as their multiplication in family systems. Additionally, regional integrations have been established with various organizations such as BIONATUR MST-Brasil, Fundación Pereira, Universidad De la Plata Argentina, CONAMURI - Paraguay, Guardianes de Semillas - Rosario -Argentina, and CLOC-Via Campesina. All these activities have allowed the strengthening of links between producers, the promising performance of landraces, and the increased availability of seeds of landraces.

VENEZUELA (REPÚBLICA BOLIVARIANA DE) - **Mejoramiento comunitario del cacao en el estado Aragua, Venezuela, Sra. Carliz Díaz, Coordinadora Nacional del TIRFAA**

Carliz Díaz inició su presentación con los antecedentes de la implementación de los artículos 5, 6 y 9 del Tratado Internacional de los Recursos Fitogenéticos para la Alimentación y la Agricultura (TIRFAA) en la República Bolivariana de Venezuela. Por ejemplo, el artículo 5 fue implementado a través de estudios, inventarios y colecciones ex situ realizados por varios institutos, uno de ellos siendo el Instituto Nacional de Investigaciones Agrícolas (INIA). En efecto, el país cuenta con la colección más grande de mango (*Mangifera indica L.*) en Latinoamérica, ubicada en el Centro Nacional de Investigaciones Agropecuarias (INIA-CENIAP). La mayor parte de las medidas para la utilización y uso sostenible de los RFAA (artículo 6) y para proteger y promover los derechos de los agricultores en el país (artículo 9) se encuentran establecidas en el marco legal del país: Ley del Plan de la Patria; Ley Orgánica de Seguridad y Soberanía Agroalimentaria, y Ley de Semillas. Los elementos incorporados en dichas leyes derivan de la consulta pública realizada a campesinos, agricultores, pueblos indígenas, comunidades locales, y demás movimientos sociales del país.

Carliz Díaz elaboró presentando 4 ejemplos de casos exitosos de utilización y uso sostenible de los RFAA en Venezuela:

- En el programa de “selección de genotipos de cacao (*Theobroma cacao L.*) con tolerancia al estrés hídrico y adaptabilidad en suelos con niveles elevados de Cadmio” se elaboraron varios talleres al nivel nacional de formación para la selección de plantas de cacao. Una de las lecciones aprendidas fue la oferta de genotipos para futuros programas de mejoramiento genético en el cultivo. Este programa duró 4 años y fue financiado por el Ministerio del Poder Popular para el Ecosocialismo (MINEC), Universidad Central de Venezuela (UCV) y la Facultad de Agronomía (FAGRO).
- El proyecto “mejoramiento comunitario del cacao en el estado Aragua Venezuela” (zona costera) permitió identificar los tipos de cacao (identificación de las unidades de producción, ubicación y marcaje), realizar la caracterización morfológica y molecular y la multiplicación clonal. El proyecto duró 1 año y fue financiado por MINEC, UCV, FAGRO y los productores locales. Ofrecer a los productores de la zona aragüeña materiales destacados de su región fue una de las lecciones aprendidas.
- El proyecto “FAO-TCP/VEN/3702/C2 Fortalecimiento de las potencialidades técnico-científica en producción de semillas de leguminosas vinculadas a la agricultura familiar y campesina” permitió realizar talleres de formación a técnicos y productores de cuatro estados. El proyecto duró 2 años y fue financiado al nivel internacional (TCP-FAO) y nacional (INIA). Ofrecer a los productores de las zonas productoras del país semillas adaptadas a sus condiciones es una de las lecciones aprendidas.
- En el programa de “Conservación de semillas campesinas de especies vegetales autóctonas, subutilizadas y silvestres, como contribución a la soberanía alimentaria en un escenario

mundial de cambio climático” se elaboró un catálogo de especies vegetales y variedades agrícolas; se establecieron y fortalecieron al menos 3 semilleros a institucionales; y se establecieron semilleros con la participación de las comunidades. Además de esas actividades, talleres de formación y ferias campesinas fueron realizados. La incorporación de la información sobre semillas campesinas en el SVIDB, de libre acceso para todos los venezolanos, fue uno de los logros. El programa duró 4 años y fue financiado por MINEC, CNCRF, pobladores de Monte Carmelo y el estado Lara.

El país cuenta con un amplio estamento legal tras la firma de distintos instrumentos nacionales e internacionales. Desde el punto de vista institucional, el país está desarrollando mecanismos formales para lograr la integración de los diferentes actores, para aglutinar las diversas instituciones y actores nacionales. Es pertinente continuar fortaleciendo las capacidades institucionales y técnicas para la correcta implementación del Tratado.

Unofficial translation:

VENEZUELA (BOLIVARIAN REPUBLIC OF) - Community Improvement of Cocoa in the State of Aragua, Venezuela, Ms. Carliz Díaz, National Coordinator of the ITPGRFA

Carliz Díaz started the presentation with an overview on the implementation of articles 5, 6, and 9 of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) in the Bolivarian Republic of Venezuela. Within the country, Article 5 was implemented through studies, inventories and ex-situ collections carried out by various institutes, one of them being the National Institute for Agricultural Research (INIA). Indeed, the country has the largest collection of mangoes (*Mangifera indica L.*) in Latin America, located at the National Center for Agricultural Research (INIA-CENIAP). Most of the measures for the Sustainable Use of PGRFA (Article 6) and to realize Farmers' Rights (Article 9) are established in the country's legal framework namely, Law of the Plan of Homeland; Organic Law on Food Security and Sovereignty and the Seed Law. These laws are derived from public consultations carried out with peasants, farmers, indigenous peoples, local communities and other social movements in the country.

Next, Carliz Díaz presented the following 4 examples of successful cases on Conservation and Sustainable Use of PGRFA in Venezuela:

- In the program "selection of cocoa genotypes (*Theobroma cacao L.*) with tolerance to water stress and adaptability in soils with high levels of Cadmium" several workshops were developed at the national level for training the selection of cocoa plants. One of the lessons learned was the offer of genotypes for future genetic improvement programs in the crop. This program lasted 4 years and was funded by the Ministry of Popular Power for Ecosocialism (MINEC), the Central University of Venezuela (UCV), and the Faculty of Agronomy (FAGRO).
- The project "Community improvement of cacao in Aragua Venezuela State" (coastal zone) allowed to identify the types of cacao (identification of production units, location, and marking), to carry out morphological and molecular characterization, and clonal multiplication. The project lasted 1 year and was financed by MINEC, UCV, FAGRO, and local producers. Offering the producers of the Aragüeña area outstanding materials from their region was one of result.
- The project "FAO-TCP / VEN / 3702 / C2 Strengthening the technical-scientific potential in the production of legume seeds linked to family and peasant agriculture" allowed training workshops to be held for technicians and producers from four states. The project

- lasted 2 years and was financed both at the international (TCP-FAO) and national (INIA) levels. Offering producers in the country's producing areas seeds adapted to their conditions is one of the result achieved.
- In the program “Conservation of peasant seeds of native, underused and wild plant species, as a contribution to food sovereignty in a world scenario of climate change”, a catalogue of plant species and agricultural varieties was developed; at least 3 institutional seedbeds were established and strengthened; seedbeds were established with the participation of the communities. In addition to these activities, training workshops and peasant fairs were held. The incorporation of information on peasant seeds in the SVIDB, freely accessible to all Venezuelans, was one of the achievements. The program lasted 4 years and was financed by MINEC, CNCRF, and residents of Monte Carmelo, and Lara state.

Bolivarian Republic of Venezuela has a broad legal establishment after the signing of different national and international instruments. From the institutional point of view, the country is developing formal mechanisms to achieve the integration of the different actors and to bring together the various national institutions and actors. It is pertinent to continue strengthening institutional and technical capacities for the correct implementation of the Treaty.