

Chapter 2

Access and Benefit Sharing Mechanism under the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture

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Abstract Sustainable use of plant genetic resources for food and agriculture (PGRFA) is of critical importance for food and nutritional security. The International Treaty on Plant Genetic Resources for Food and Agriculture recognizes the efforts of farmers and local communities involved in on-farm conservation and management of PGRFA. The international exchange of PGRFA for research, breeding and conservation is the key requirement for food security and sustainable agriculture. Access to global gene pool which is a network of international and national gene banks and other institutions is a major benefit under the Treaty. Facilitated access to this vast gene pool under the Treaty is provided under the terms and conditions of the Standard Material Transfer Agreement (SMTA). India has already notified the guidelines for the implementation of the Treaty and is already using SMTA for exchange of PGRFA with Consultative Group on International Agricultural Research (CGIAR). The guidelines are notified under the provisions of national legislation that is Biodiversity Act, 2002. The chapter details the multilateral system (MLS) of Access and Benefit Sharing (ABS) under the Treaty, option for benefit sharing under SMTA, and provisions of providing facilitated access under the Treaty and access to PGRFA as per the provisions of the treaty in India.

Keywords PGRFA • Farmers' rights • ITPGRFA • Facilitated access • ABS • Multilateral system

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2.1 Introduction

Plant genetic resources are materials of plant origin which are of value for present and future generations of humankind. Often used as a synonym to plant germplasm, these include seeds, plants or plant parts including genes and DNA sequences that are held in a repository or collected from wild, useful in crop breeding, research or conservation because of genetic attributes. Plant genetic resources for food and agriculture (PGRFA) specifically cover PGR of actual or potential value for food and agriculture. Sustainable use of PGRFA is therefore of critical importance for food and nutritional security. Since most countries depend largely on PGR that have originated elsewhere, it is essential and extremely important to develop mechanisms for the access and benefit sharing of these resources amongst and within the nations. It is, more so, after the realization of owners' rights, breeders' rights (1970s) and Intellectual Property Rights (IPRs) and owing to the advances in biotechnology during the 1990s.

A paradigm shift of PGR which were regarded as common heritage of humankind to 'sovereign rights of nations' occurred under the Convention on Biological Diversity (CBD). The CBD entrusted the contracting parties, to frame national policies and regulations. The convention thus provided regulations for access to genetic resources and transfer of relevant technologies on Mutually Agreed Terms (MAT) and based on Prior Informed Consent (PIC). The convention recognized the sovereign rights of states over their natural resources and also the authority to determine access to genetic resources.

The CBD addressed all elements of biological diversity and resources, but it did not address the special nature of PGRFA which is crucial for food security and sustainable agriculture. These have moved without restrictions before CBD came into being and were collected and exchanged for crop improvement. Such improvement of PGRFA involved human intervention, and the diversity in crop plants available today is mainly selected/improved by humans. This available diversity is, in turn, the basic requirement to undertake further crop improvement.

During the period CBD was negotiated, FAO simultaneously adopted a resolution for revision of nonbinding International Undertaking on Plant Genetic Resources (IUPGR) on PGRFA in 1992, which aimed at systematic PGR management, international cooperation and PGR in public domain, and had established a Commission on Genetic Resources for Food and Agriculture (CGRFA).

The CGRFA addressed the outstanding issues of access to PGRFA and realization of farmer's rights and adopted the International Treaty for Plant Genetic Resources (ITPGR) in the 31st Conference of FAO. The revision of IUPGR continued for 7 years, and the revised text was adopted as the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) in November 2001. The ITPGRFA (hereinafter referred to as Treaty) entered into force in 2004. The basic concept for the adoption of the Treaty was the distinctive features and special nature of PGRFA (Dua et al. 2004). It is a well-established study that no country or region of the world is entirely self-sufficient in terms of the crop diversity. The extent of

dependence is over 50 % in most regions of the world (ITPGRFA Secretariat). During the negotiations of the Treaty, FAO was made to realize that not only plant breeders but also farmers should have rights over their landraces and varieties (Paroda 2013). The Treaty thus provided for facilitated access to PGRFA and established the multilateral system of ABS.

The objectives of the Treaty and CBD are identical; however, the access and benefit sharing mechanisms are being dealt differently. The Treaty has created a multilateral system of ABS, while CBD and Nagoya Protocol on ABS create mechanism for bilateral arrangements (Halewood et al. 2013). Both the Treaty and CBD are however meant to be implemented through national policies in mutually supportive manner.

2.2 International Treaty on Plant Genetic Resources for Food and Agriculture

The Treaty's objectives are conservation and sustainable use of PGRFA and the fair and equitable sharing of the benefits arising out of their use for sustainable agriculture and food security. The Treaty also recognizes the efforts of farmers and local communities involved in on-farm conservation and management of PGRFA. The Treaty urges that country parties need to promote the collection of PGRFA which are under threat and collect information about them. These efforts shall be however compliant with national legislation. Further to promote and develop an efficient system for conservation of ex situ material and to monitor the maintenance of variability of PGRFA all efforts to cooperate with local communities shall be required to be considered.

The core mechanism of the Treaty is the multilateral system (MLS) of ABS. The mechanism thus ensures that the objectives of the Treaty are fulfilled through MLS. The Treaty is broadly divided into six parts, and Part IV of the Treaty is entirely dedicated to this ABS mechanism through Articles 10–13.

The introduction to the Treaty, its objectives, use of terms and scope are covered in Part I through Articles 1–3. General provisions of the Treaty are taken care in Part II (Articles 4–8) such as obligations, conservation, exploration, collection, characterization, evaluation and documentation of PGRFA and sustainable use. Part III describes farmers' rights (Article 9). Part V of the Treaty covers supporting components (Articles 14–17) including Global Plan of Action (GPA), ex situ collections of PGRFA held by the International Agricultural Research Centres (IARCs) of the Consultative Group on International Agricultural Research (CGIAR) institutions, International Plant Genetic Resources Networks and the Global Information System on Plant Genetic Resources for Food and Agriculture. Financial provisions are provided in Part VI in Article 18. Institutional provisions for setting up of governing body, secretary, compliance, settlement of disputes, amendments of the Treaty, annexes, signatures, ratification, acceptance or approval, accession, entry into force,

member organizations of FAO, reservations, non-parties, withdrawals, termination, depositary and authentic texts are in Part VII (Articles 19–35).

The important provisions, obligations and components of the Treaty related to access and benefit sharing under various articles are that each contracting party shall ensure the conformity of its laws, regulations and procedures with the obligations of the agreement.

The ABS mechanism under the Treaty is described through Article 10 to Article 13, and each article is summarized hereunder in brief.

2.2.1 Multilateral System of Access and Benefit Sharing (Article 10)

In harmony with the CBD, the MLS of the Treaty recognizes the sovereign rights of the nations on their PGRFA and thus lays provisions for facilitated access to PGRFA through the MLS which is efficient, effective and transparent and to share the benefits arising from the utilization of PGRFA accessed from the Treaty in a fair and equitable way. With respect to access, the authority to regulate rests with the national governments and is in compliance with national legislation.

2.2.2 Coverage of the MLS (Article 11)

The MLS of the Treaty includes PGRFA which were identified according to basic criteria of food security and interdependence. The inclusion of PGRFA is to achieve the major objective of the Treaty, that is, conservation and sustainable use and equitable sharing benefits arising from their use. For this purpose ex situ collections of the International Agricultural Research Centres of the Consultative Group on International Agricultural Research (CGIAR), collected before 1993, were designated as FAO material or ‘in-trust’ material and became part of the MLS through signing of an agreement between the FAO and consortium. This provision is described under Article 15 of the Treaty.

To include maximum crops in MLS, the Treaty urges to include all PGRFA which are in public domain and under the control of the contracting parties and to notify/designate accessions in the MLS. It also refers that the governing body of the Treaty shall assess whether the countries which have not included any PGRFA in the MLS continue to be provided facilitated access.

The MLS applies to 64 major crops and forages (35 food crops and 29 forages) which are listed at Annex I to the Treaty text and includes related species as mentioned in the parenthesis and named below.

2.2.2.1 Food Crops

Breadfruit, *Asparagus*, oat, beet and *Brassica* complex (genera included are *Brassica*, *Armoracia*, *Barbarea*, *Camelina*, *Crambe*, *Diplotaxis*, *Eruca*, *Isatis*, *Lepidium*, *Raphanobrassica*, *Raphanus*, *Rorippa* and *Sinapis*); oilseed and vegetable crops such as cabbage, rapeseed, mustard, cress, radish and turnip (the species *Lepidium meyenii* (maca) is excluded); pigeon pea, chickpea and *Citrus* (genera *Poncirus* and *Fortunella* are included as rootstock); coconut and major aroids (include taro, cocoyam, dasheen and tannia); carrot, yams, finger millet, strawberry, sunflower, barley, sweet potato, grass pea, lentil, apple and cassava (*Manihot esculenta* only); banana/plantain (except *Musa textilis*); rice, pearl millet and beans (except *Phaseolus polyanthus*); pea, rye and potato (section *tuberosa* included, except *Solanum phureja*); eggplant (section *melongena* included); *Sorghum*, *Triticale* and wheat (including *Agropyron*, *Elymus* and *Secale*); and faba bean/vetch, cowpea and maize (excluding *Zea perennis*, *Zea diploperennis* and *Zea luxurians*).

2.2.2.2 Forage Crops

The legume forages include *Astragalus* (*chinensis*, *cicer*, *arenarius*), *Canavalia* (*ensiformis*), *Coronilla* (*varia*), *Hedysarum* (*coronarium*), *Lathyrus* (*cicera*, *ciliolatus*, *hirsutus*, *ochrus*, *odoratus*, *sativus*), *Lespedeza* (*cuneata*, *striata*, *stipulacea*), *Lotus* (*corniculatus*, *subbiflorus*, *uliginosus*), *Lupinus* (*albus*, *angustifolius*, *luteus*), *Medicago* (*arborea*, *falcata*, *sativa*, *scutellata*, *rigidula*, *truncatula*), *Melilotus* (*albus*, *officinalis*), *Onobrychis* (*viciifolia*), *Ornithopus* (*sativus*), *Prosopis* (*affinis*, *alba*, *chilensis*, *nigra*, *pallida*), *Pueraria* (*phaseoloides*) and *Trifolium* (*alexandrinum*, *alpestre*, *ambiguum*, *angustifolium*, *arvense*, *agrocicerum*, *hybridum*, *incarnatum*, *pratense*, *repens*, *resupinatum*, *rueppellianum*, *semipilosum*, *subterraneum*, *vesiculosum*).

Grass forages include *Andropogon* (*gayanus*), *Agropyron* (*cristatum*, *desertorum*), *Agrostis* (*stolonifera*, *tenuis*), *Alopecurus* (*pratensis*), *Arrhenatherum* (*elatius*), *Dactylis* (*glomerata*), *Festuca* (*arundinacea*, *gigantea*, *heterophylla*, *ovina*, *pratensis*, *rubra*), *Lolium* (*hybridum*, *multiflorum*, *perenne*, *rigidum*, *temulentum*), *Phalaris* (*aquatica*, *arundinacea*), *Phleum* (*pratense*), *Poa* (*alpina*, *annua*, *pratensis*) and *Tripsacum* (*laxum*). The other forages include *Atriplex* (*halimus*, *nummularia*) and *Salsola* (*vermiculata*).

Under the MLS and the crops covered under the MLS, facilitated access is applicable to 64 crops of Annex I and also to the ex situ collections of the IARCs of their mandate crops collected before 1993. This MLS created by the Treaty has been operational since year 2007. At present, 600–800 samples are being exchanged on a daily basis. All transactions are documented in confidential database that can be accessed by FAO which is the third-party beneficiary of the Treaty, and its role is explained later in the paper.

2.2.3 Facilitated Access to PGRFA within the MLS (Article 12)

The article describes the purpose of providing facilitated access under the Treaty and states that facilitated access to PGRFA shall be in accordance with the provisions as mentioned below. All access is governed however under Standard Material Transfer Agreement (SMTA):

- The purpose for access is utilization and conservation in research, breeding and training for food and agriculture.
- The purpose shall exclude chemical, pharmaceutical or other nonfood/feed industrial uses.
- The access shall be accorded expeditiously.
- Tracking of individual accessions is not needed.
- Access to be provided free of charge.
- Access to be provided with available passport data.
- Intellectual property or other rights that limit the facilitated access to the PGRFA, or their genetic parts or components, in the form received from the MLS not to be claimed.
- For PGRFA under development, access shall be at the discretion of the developer.
- Access shall be consistent with international agreements and national laws for PGRFA protected by IPR.
- Accessed PGRFA shall remain available to the MLS.
- PGRFA found in in situ conditions shall be accessed according to national legislation or, in the absence of such legislation, in accordance with standards set by the governing body of the Treaty.
- The condition of SMTA shall apply to subsequent transfer of PGRFA to another entity.

It is also referred that in the case of any dispute, the contracting parties lay down the provision of recourse which shall be legally binding for providing facilitated access to PGRFA in case the purpose is re-establishment of agricultural systems in emergency disaster situations.

2.2.4 Benefit Sharing in the MLS (Article 13)

The contracting parties to the Treaty have agreed that benefits which arise from the use of PGRFA accessed from MLS that includes commercial use shall be shared fairly and equitably. The mechanisms for sharing the benefits shall be the exchange of information, access to and transfer of technology and capacity building. The sharing of the benefits arising from commercialization shall also take into account the priority activity areas in the Global Plan of Action.

2.2.4.1 Nonmonetary Benefits

Exchange of Information

In accordance to national legislation, the following information may be made for the PGRFA accessed from the MLS. The information shall be shared on these aspects where it is non-confidential. The information shall be shared through the information network made available to the Treaty as:

- Catalogues and inventories
- Information on technologies
- Results of technical, scientific and socio-economic research, including characterization, evaluation and utilization

For facilitating the exchange of the information, it is desired that a global information system shall be developed and strengthened. This information system shall be based on the PGRFA information system already existing with the contracting parties on scientific, technical and environmental matters. The Treaty expects that such exchange of information will contribute to the sharing of benefits by making information available to all contracting parties.

Further, in developing the global information system, early warnings about hazards which may threaten PGRFA shall be provided to safeguard PGRFA. Periodic reassessment through state of the world's PGRFA in collaboration with CGRFA is also done, and for this there is a need that GPA should be effectively implemented through national policies and international cooperation.

Access to and Transfer of Technology

The Treaty recognizes that some technologies can only be transferred through genetic material. Therefore, the Treaty provides for facilitated access to such technologies and genetic material under the MLS and access to improved varieties and genetic material developed through the use of PGRFA under the MLS for the purpose of conservation, characterization and evaluation.

However, applicable property rights and national legislations shall be applicable especially for developing countries and countries with economies in transition. These include a set of measures, such as the establishment and maintenance of crop-based thematic groups, partnership in research and development, partnership in commercial joint ventures and effective access to research facilities.

Capacity Building

As per the needs and priorities expressed by the developing countries and countries with economies in transition in relation to PGRFA plans and programmes, it is agreed that priority is to be given for capacity building in:

- Establishing and/or strengthening programmes for scientific and technical education
- Training in conservation
- Training in sustainable use of PGRFA
- Development and strengthening of facilities for conservation and sustainable use of PGRFA
- Carrying out scientific research in cooperation with institutions
- Developing capacity for such research in fields, where needed

2.2.4.2 Monetary Benefits

Through partnerships and collaboration of the private and public sectors, the Treaty agrees to take measures to achieve commercial benefit sharing. The provision of payment is already included in SMTA and requires payment to the MLS if the recipient commercializes a product that is PGRFA accessed from the MLS or incorporates material accessed from the MLS. The payment shall be equitable sharing of benefits that arises from the commercialization of that product.

The governing body (GB) however may decide form and manner of the payment and shall establish different levels of payment for various categories. Farmers in developing countries and in countries with economies in transition may be exempted from such payments. Further assessment will be done whether mandatory payment shall apply to those cases where commercialized products are available without restriction to others for research and breeding.

The ultimate beneficiaries under the MLS should primarily, directly or indirectly be farmers in developing countries and with economies in transition, as the farmers are the ones who conserve and sustainably utilize PGRFA. The Treaty also looks for the modalities of a strategy for voluntary benefit sharing contributions by food processing industries that benefit from PGRFA.

2.2.5 Access and Benefit Sharing Mechanism

The most immediate advantage of the Treaty is that vast resources are available for access through global gene pool which is designated accessions of the Annex I crops of the Treaty of the MLS for the purpose of agricultural research. The flow of material and benefits within the multilateral system is depicted in Fig. 2.1. Presently, 1.4 million samples of PGRFA are part of this MLS, and more and more number of samples is being added to the MLS through contracting parties as major obligation of the Treaty. Through MLS a simple procedure of agreeing to Standard Material Transfer Agreement (SMTA) online or through signatures is all that is required to access PGRFA involving minimum transaction cost. This MLS offers the first ever internationally agreed formula for sharing benefits associated with the use of PGRFA.

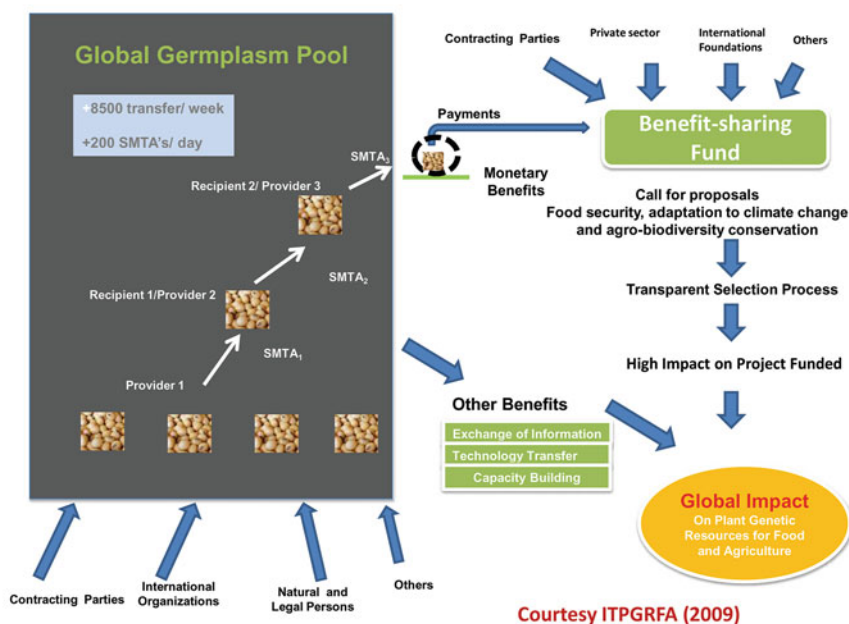


Fig. 2.1 Flow of material and benefits within the multilateral system of ITPGRFA

Access to global gene pool which is a network of international and national gene banks and other institution is a major benefit under the Treaty. Contracting parties to the Treaty thus receive a share of benefits from the use of PGRFA accessed through MLS. Once the crop samples have been included in the MLS, it becomes a part of the common gene pool of and shared for the benefit of the humankind.

Facilitated access to this vast gene pool under the Treaty is provided under the terms and conditions of the SMTA. SMTA is an instrument which has been negotiated and agreed internationally and adopted by the governing body (GB) of the Treaty for use in transfer of PGRFA amongst the contracting parties of the Treaty. It provides for transparent regulations that guarantee legal security in exchanges of PGRFA (ITPGRFA Secretariat 2009a, b). The benefit sharing in SMTA is already agreed upon, and the contacting parties are required to put in place the use of SMTA for accessing PGRFA from MLS.

2.2.6 Benefit Sharing Fund

Benefit Sharing Fund is a trust account set up to collect the financial resources arising from the monetary benefit sharing resulting from commercialization. In addition, it receives voluntary contributions from contracting parties, international

institutions, foundations, private sector and other possible sources. The fund supports initiatives that focus on the on-farm management and conservation of PGRFA and sustainable use.

Till December 2014, target was set for US\$116 million. Any government/non-government institution and farmer or farmer's organizations from the contracting parties to the Treaty are eligible to apply for financial support from the Benefit Sharing Fund.

Benefit Sharing Fund invests directly in high-impact projects such as supporting farmers in developing countries who conserve crop diversity in their fields and providing assistance to farmers and breeders who adapt crops to our changing needs and demands. Two projects from India were supported by this fund entitled 'Seeds for Life – Action with Farmers in Uttar Pradesh – IGP Region to Enhance Food Security in the Context of Climate Change' and 'Using Rice Genetic Diversity to Support Farmers' Adaptation to Climate Change for Sustainable Food Production and Improved Livelihoods in India'.

The Benefit Sharing Fund prioritizes projects that accelerate on-farm management and conservation in collaboration with farmers and local communities, especially in the developing countries. This includes projects that aim to increase food security, especially for local communities in the developing world; projects that represent innovative partnerships between research centres, farmers, civil society and public/private sector leaders at all levels; and projects which have the potential to be scaled up across agro-ecological zones and ensure maximum positive impact and the best use of current scientific data.

2.2.7 Options for Benefit Sharing under SMTA

Under the SMTA there is a provision that in case the recipient commercializes a product (product that is a PGRFA and that incorporates material accessed under SMTA) and where such product is not available without restriction to others, the recipient shall pay a fixed percentage of the sales of the commercialized product into the mechanism; specifically it is 1.1 % of net sales less 30 % or 0.77 % of gross sales.

In the case that the recipient commercializes a product where product is available without restriction to others, the recipient is encouraged to make voluntary payments into the mechanism.

After the expiry or abandonment of the protection period of an IPR on a product, the recipient is encouraged to place a sample of this product into a collection of the MLS. In case a recipient obtains IPR on any products developed from the material or its components and assigns such IPR to a third party, the benefit sharing obligations of the agreement is transferred to that third party.

2.2.7.1 Rate and Modalities of Payment under Article 6.7 of SMTA

1. 1.1 % of the sales of the product or products less 30 %, except that no payment shall be due on any product or products that:
 - (a) Are available without restriction for further research and breeding
 - (b) Have been purchased or otherwise obtained from another person or entity who either has already made payment on the product or products or is exempt from the obligation to make payment
 - (c) Are sold or traded as a commodity
2. Where a product contains a PGRFA accessed from the MLS under two or more SMTA, only one payment is required.
3. The recipient is required to submit within 60 days after each calendar year ending December 31, an annual report to GB on:
 - (a) Sales of the product or products by the recipient
 - (b) The amount of the payment due
 - (c) Information that allows for the identification of any restrictions that have given rise to the benefit sharing payment
4. All due payments shall be payable in US dollars only.

2.2.7.2 Rate and Modalities of Alternative Payment Scheme under Article 6.11 of SMTA which is an Option for Crop-Based Payment

- Discounted rate for payments 0.5 % of the sales of any products and of sales of other products.
- 0.5 % of the sales of any product derived from such PGRFA under development, whether the product is available or not without restriction.
- The recipient may notify the GB to opt out from the application of this article at least 6 months before the expiry of a period of 10 years or 6 months before the expiry of subsequent periods of 5 years.
- In the case the recipient has entered into other SMTA, the 10-year period will commence from the date of signature of the first SMTA.
- If the recipient enters in the future into other SMTA in relation to material belonging to the same crop[s], he needs to pay only sales as determined. No cumulative payments will be required.

The Food and Agriculture Organization (FAO) of the United Nations acts as the third-party beneficiary of the International Treaty. The governing body has established procedures for FAO to perform the role and functions of the third-party beneficiary and is conferred the rights to initiate dispute settlement procedures regarding rights and obligations of the parties, mediation and arbitration. If the dispute cannot be resolved by negotiation, FAO shall commence or encourage the parties to the SMTA to commence mediation proceedings.

FAO shall propose to the parties in dispute that mediation be carried out through a set of Mediation Rules approved by the governing body of the International Treaty and administered by WIPO Arbitration and Mediation Centre.

2.3 Access to PGRFA as per the Provisions of the Treaty in India

Access and benefit sharing mechanisms are properly defined under the Treaty. The procedure for facilitated access to PGRFA is recently notified by the Ministry of Environment and Forests and Climate Change (MoEF & CC), and the facilitated access is regulated as per the guidelines issued by the Department of Agriculture and Cooperation (DAC). This notification is provided under Section 40 of Biological Diversity Act (BDA), 2002, and is in compliance with national legislation as required under the international agreement. The notification is available at www.nbaindia.org. As per these guidelines, PGRFA is provided only for the purpose of utilization and conservation for research, breeding and training for food and agriculture, provided that such purpose does not include chemical, pharmaceutical and/or other nonfood/feed industrial uses as per Article 12.3a of ITPGRFA referred above. As Joint Secretary (Seeds), DAC is the national focal point (NFP) for access to PGRFA under the provisions of the ITPGRFA; all requests for access need to be addressed to NFP, either directly or through NBPGR. Access to PGRFA requests shall be granted only with the approval of NFP. Natural and legal persons from the contracting parties may submit their requests for such access. In addition, the germplasm of mandate crops available with International Agricultural Research Centres (IARCs) collected before 1993 (also known as 'FAO designated' accessions of 'in-trust' material) shall also be facilitated for access as provided under Article 15 of ITPGRFA. All such access will be strictly under the provisions of SMTA adopted by the governing body (GB) of the ITPGRFA, and specific conditions may be added in SMTA in the case of any material 'underdevelopment' as per provisions of the ITPGRFA.

2.4 Conclusion

The international exchange of PGRFA for research, breeding and conservation is the key requirement for food security and sustainable agriculture. India has already notified the guidelines for the implementation of Treaty and is already using SMTA for exchange of PGRFA with CGIAR institutes. The guidelines are notified under the provisions of national legislation, that is, Biodiversity Act, 2002. As Nagoya Protocol enters into force since October 2014, guidelines on access to biological resources and associated knowledge and benefit sharing regulations have also been notified.

Nagoya Protocol on Access and Benefit Sharing includes linkages to the Treaty, and contracting parties are required to consider the importance of GRFA and the role of GRFA in food security as described in Article 8 of the protocol. Further Article 4 also mentions that in countries where specialized access and benefit sharing instrument applies, Nagoya Protocol does not apply to the party or parties to the specialized instrument in respect of specific genetic resources covered for the purpose of special instrument.

Obligations of Nagoya Protocol are very focussed on ABS mechanism. Access shall only be with prior informed consent of the indigenous and local communities, and for benefit sharing compliance, agreement must be negotiated and systems shall be in place for compliance. Further NP states that the Treaty is one of the overarching international regimes on ABS, and the Treaty's governing body also adopted resolution and called on contracting parties to ratify NP and implement in mutually supportive manner (Arora 2013).

Secretariats of both CBD and ITPGRFA have signed Memorandum of Cooperation to share information, coordinate technical assistance, hold workshops and so on (Halewood et al. 2013).

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