



**Food and Agriculture  
Organization of the  
United Nations**



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

**E**

<b>Item 8 of the Provisional Agenda</b>
<b>SIXTH SESSION OF THE GOVERNING BODY</b>
<b>Rome, Italy, 5 – 9 October 2015</b>
<b>Report on the Implementation of the Multilateral System</b>

### **Executive Summary**

This document provides an overview of developments during the 2014-2015 biennium regarding the implementation of the Multilateral System of Access and Benefit-sharing with a particular emphasis on the support provided to users to facilitate the generation of SMTAs, the reporting activities and the coverage of the System. It contains an update on new inclusions of material notified to the Secretary and a data analysis, at aggregated level, of the data contained in the Treaty's Data Store.

### **Guidance Sought**

The Governing Body is invited to take note of the information provided and provide any guidance to be integrated in the Resolution on the Multilateral System.

## I. INTRODUCTION

1. This document provides summary information on the major elements related to the implementation of the Multilateral System. The document provides an update on the new notifications of materials received by the Secretary and on the activities carried out to assist users of the Multilateral System by convening the existing advice and recommendations from intersessional Committees and by further facilitating the reporting process using electronic means.

2. During the biennium a statistics module has been set up to provide information, at aggregated level, of the operations being handled within the Multilateral System on a daily basis. A number of information and statistical products have been generated in support of the understanding of the Multilateral System. Some of these products have been made available on the occasion of the meetings of the Ad Hoc Open-ended Working Group on the Enhancement of the Functioning of the Multilateral System.

3. Taking into account the mandate of the Working Group and the number of issues that will be presented for the consideration of the Governing Body under Agenda Item 8 on the enhancement process, this document deals exclusively with the daily operations of the System. Nevertheless, it is suggested that guidance on the operations is incorporated in dedicated section within the Resolution on the Multilateral System.

## II. COVERAGE OF THE MULTILATERAL SYSTEM

4. The Governing Body has stressed the importance of identifying the plant genetic resources for food and agriculture that are available under the Multilateral System. Through Resolution 1/2013, the Governing Body requested all Contracting Parties that have not yet done so

*“to report on their plant genetic resources for food and agriculture that are in the Multilateral System, in accordance with Article 11.2 of the Treaty, and to take measures to make information on these resources available to potential users of the Multilateral System”<sup>1</sup>*

5. Following those decisions in December 2014 the Secretariat issued a Notification<sup>2</sup> to inform Contracting Parties about the decisions adopted at the Fifth Session and to invite them to further notify the material available. It also encouraged other holders of plant genetic resources to notify the material they had made available.

6. Since the Fifth Session of the Governing Body the Secretariat has received new notifications of inclusions and updates from Italy, Japan, France, Lebanon and Poland<sup>3</sup>. It is also to be noted that an increasing number of Contracting Parties have dedicated websites with detailed information on the material notified and that others have inserted in their existing websites search options to query and filter the accessions that are available for distribution under the terms and conditions of the Standard Material Transfer Agreement (SMTA) of the Treaty.

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<sup>1</sup> Resolution 1/2013, Paragraph 12.

<sup>2</sup> Notifications to the Secretary on Plant Genetic Resources for Food and Agriculture that are in the Multilateral System (NCP-GB6-30) of 18 December 2014.

<sup>3</sup> At the time of preparation of this document Philippines has indicated that will notify the inclusion of 811 accessions of rice. The notification will be made online by the Secretariat.

7. In *Appendix 1* to this document there is an updated table with information classified into five crops/crop groups: wheat, maize, rice, other *Annex 1* resources, and non-*Annex 1* resources, of both countries that are Contracting Parties and institutions that have signed Article 15 Agreements with the Governing Body and others.

8. The Secretariat has also updated and made available online a more detailed table providing an overview of the *ex situ* plant genetic resources for food and agriculture that are theoretically available through the Treaty, as part of the Multilateral System. It also identifies, on a country-by-country basis, the resources known to have actually been made available. It also provides information on the plant genetic resources that are not currently part of the Multilateral System, because they are not in *Annex 1*, which some Contracting Parties and international organizations are making available under the terms and conditions of the SMTA<sup>4</sup>.

9. Those figures take into account that Japan, Iraq, Marshall Islands, Papua New Guinea, Sri Lanka, Serbia, Swaziland and Tonga have become Contracting Parties since the preparation of the report presented to the Governing Body and before 1 July 2015.

10. It is to be noted that the largest notification of inclusion received from a Contracting Party during this period came from Japan, which became a Contracting Party on 28 October 2013. The notification indicated that 17,948 Annex 1 crop, grass and forages accessions maintained by the Genebank of the National Institute of Agrobiological Sciences (NIAS) could be obtained by the users of the Multilateral System under facilitated web procedures and with the SMTA.

11. Since the last Governing Body the overall figures of material available remain stable - both from Contracting Parties and Article 15 Institutions- with a modest increment in the amount of material notified as available at global level of almost 2 % for maize and wheat. For this Session the publication of a report from International Agricultural Research Centers of the CGIAR<sup>5</sup> regarding the contribution of the CGIAR to the implementation of the Treaty it is foreseen.

12. The information regarding plant genetic resources held by natural and legal persons within the jurisdiction of Contracting Parties remains very sparse and no information on new material included has been received during the present biennium, despite the reminder contained in the Notification issued and circulated in December 2014. No reports have been received either from Contracting Parties on measures taken to encourage natural and legal persons under their jurisdiction to include material in the System<sup>6</sup>.

13. In addition to the resources known to be available from Contracting Parties, International Institutions, and private and legal persons in the jurisdiction of Contracting Parties, an increasing number of resources become available under a number of other mechanisms, in particular the projects funded by the Benefit-sharing Fund. Appendix 2 to this document contains a summary of the first plans of inclusions received from executing institutions of the projects of the second Benefit-sharing Fund cycle. Executing institutions have one year at their disposal after the conclusion of the projects to notify the availability of the material in the Multilateral System.

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<sup>4</sup> The table is available online at:

[ftp://ftp.fao.org/ag/agp/planttreaty/gb6/world\\_holdings\\_PGRFA\\_MLS.pdf](ftp://ftp.fao.org/ag/agp/planttreaty/gb6/world_holdings_PGRFA_MLS.pdf)

<sup>5</sup> The document will be submitted by the Consortium Office on behalf of the 11 Centers hosting 'in trust' crop and forages collections and will be issued as IT/GB-6/15/20, *Report from Institutions that have signed Article 15 Agreements*.

<sup>6</sup> An invitation from the Governing Body for Contracting Parties to provide such reports was contained in Resolution 4/2011,

14. Out of the 19 projects that have planned to include material, 17 had been finalized and 10 of them have already provided detailed plans of inclusion with 1149 accessions of value-added material resulting from the Benefit-sharing Fund Projects to be made available. Some of the notifications are already published on the Treaty website containing detailed accession-level information and in some cases the links to the online databases where further information can be obtained.

15. Following the guidance of the Governing Body, project beneficiaries, upon request, are receiving further benefit-sharing services in the form of sequencing and phenotyping services which will result in integrated data sets linking accession-level data, genotypic and phenotypic data, which will be made available through the facility described below. The accession-level data of germplasm resulting from the projects will be integrated with associated genomic and phenomic data, in order to make access to such material and data more attractive to the beneficiaries and users.

16. The latest review of the list of FAO-Biodiversity multi-crop passport descriptors includes one new descriptor for holders to document whether or not a particular material is available at MLS conditions (i.e. with the SMTA). During the current biennium, the use of such descriptor has been extended and as a consequence querying for MLS material in online catalogues and databases is simplified.

### **III. INFORMATION TECHNOLOGY IN SUPPORT OF THE MULTILATERAL SYSTEM**

#### **New Notification Facility**

17. Following the request by the Governing Body and the Ad Hoc Open-ended Working Group on the Enhancement of the Functioning of the Multilateral System, the Secretariat is currently working on the improvement of the notification facility for availability and exchange of material and associated information.

18. The “PGRFA Notification and Discovery Facility” upgrades the current practice of notifications to the Secretariat. It assists providers through a streamlined gateway to notify material available with the SMTA, and associated information available through the Global Information System. The facility will integrate the availability of germplasm and associated information, and facilitate the connecting of accession-level description of the material to other relevant datasets, such as genotypic and phenotypic characterization data, for enhanced use by plant breeders, researchers and farmers in the context of the Multilateral System and according to the data standards to be developed in the Global Information System. The facility will also serve the Benefit-sharing Fund projects.

#### **Analysis of the Data Store**

19. The on-line information tool for the generation, use and reporting of SMTAs — Easy-SMTA — by which users of the SMTA may generate, use and report SMTAs on-line in a user-friendly way, is feeding the Data Store with valuable data since 2011 and it is expected to continue to provide a better picture on the use of the Multilateral System as more providers, particularly medium and large genebanks, become users.

20. Since the last Governing Body session the Secretariat has worked on the improvement of the module that generates statistics on germplasm distribution within the Multilateral System of Access and Benefit Sharing and has made publicly available online a large amount of aggregated data in the form of tables, charts and maps. The on-going collaboration with Contracting Parties

and the Article 15 Institutions has improved the quantity and the quality of the information available. A selection of those information products is contained in Appendix 3.

21. The analysis of the aggregated data contained in the Data Store has proved to be useful for the discussions of the Ad Hoc Open-ended Working Group on the Enhancement of the Functioning of the Multilateral System.

22. As of 5 May 2015, the Data Store has recorded 27,334 SMTAs from providers located in 27 countries, distributing material to recipients based in 171 countries. This figure represents an increment of 5,630 SMTAs since September 2014. Out of those SMTAs, 20,470 were sent to recipients in Contracting Parties, while 5,885 SMTAs were sent to recipients not located in Contracting Parties of the Treaty. The statistical module indicates an average of ten SMTAs reported per day.

23. The analysis of the data contained in the Data Store shows two important trends, on one side that the number of SMTAs steadily increased since the setup of the Multilateral System until 2011 and that since then the reporting figures are stable at around 5300 SMTAs per year as displayed in figure 2 below.

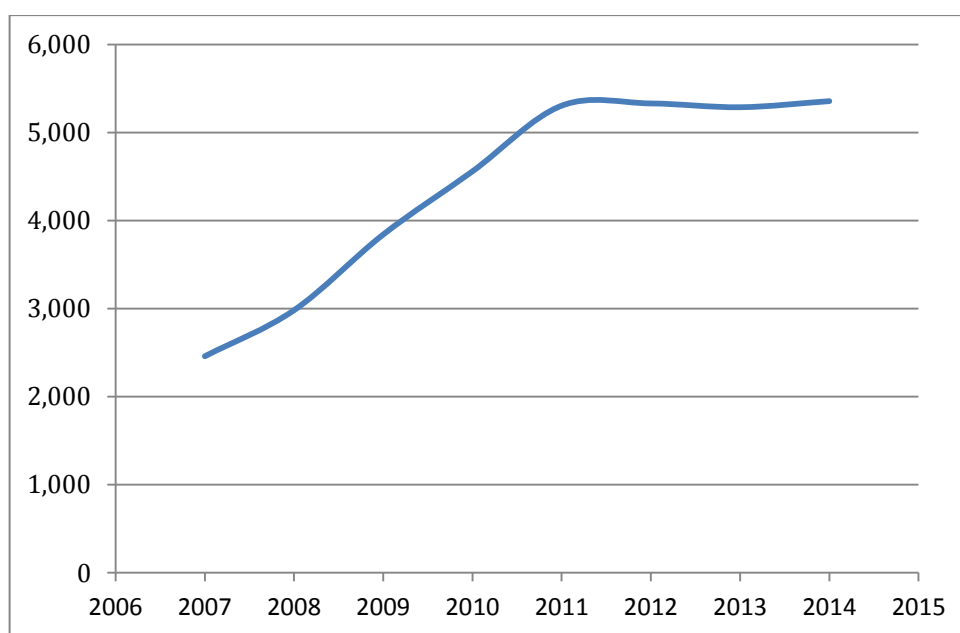


FIGURE 1. TREND IN THE REPORTING OF SMTAs SINCE THE ESTABLISHMENT OF THE MULTILATERAL SYSTEM IN 2007

24. As of May, more than 2.2 million PGRFA materials were transferred and reported. From the total amount of material transferred, 6.4% was distributed by Contracting Parties and 93.6% by Article 15 Institutions.<sup>7</sup>

25. The statistics indicate also that only 4 % of the material transferred with the SMTA belongs to non-Annex I crops. A further analysis as of May 2015 reveals that 1,191 agreements transferred non-Annex I material to recipients in developing countries and 2,727 to recipients in developed countries. The number of non-Annex I materials distributed to developing countries amounted to 27,895 accessions and to developed countries 59,513 accessions.

<sup>7</sup> It is estimated that more than 35,500 SMTAs and 2.7 million of accessions will be reported before the end of 2015.

26. March 2015 marked a milestone for the Data Store with the 2 million PGRFA materials reported. The statistics at crop level show that 51% for the material reported belong to wheat, 18% to rice, 8% to maize, 2% to barley while 21% belonged to other crops. Figure 2 below shows a graphic distribution of these percentages.

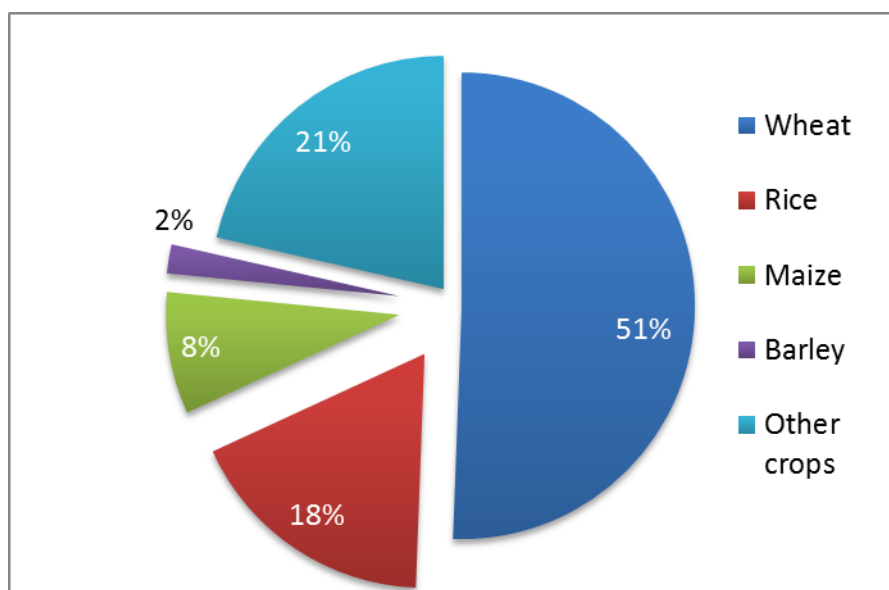


FIGURE 2. PERCENTAGES OF MATERIALS OF TOP CROPS REPORTED IN THE DATA STORE AS OF 5 MAY 2015

### *Users of the System*

27. The System has more than doubled the number of registered users from 261 at the end of June 2013 to 665 at the end of April 2015. As many as 523 users registered during 2014 and 142 more during the first four months of 2015 alone. It is to be noted that the percentage of users registered as individual users is 57% (380) while the remaining 43% of users are organizations (285).

28. As of the same date, 35 organizations and individuals that have reported as Providers, and 6,218 have been recorded as recipients with an increment of almost 780 new organizations and individuals as recipients since the last report presented to the Fifth Session of the Governing Body in 2013. It is estimated that the number of organizations and individuals will approach 1000 in early 2016.

### *PGRFA under development*

29. Only 2,938 SMTAs out of the 27,334 SMTAs reported as of 5 May 2015 transferred PGRFA under Development, which represents 10.7% of the transfers.

30. The number of plant genetic resources for food and agriculture under development reported as transferred is 265,701. Table 1 below provides information on the distribution of PGRFA under development by crop.

<b>PGRFA under Development by crop</b>		
<b>Rice</b>	257,403	
<b>Potato</b>	6,164	
<b>Sweet Potato</b>	1,507	
<b>Banana/Plantain</b>	546	
<b>Andean Root and Tubers</b>	50	
<b>Cassava</b>	28	
<b>Eggplant</b>	3	

**TABLE I. LIST OF MATERIAL UNDER DEVELOPMENT BY CROP IN THE DATA STORE AS OF 5 MAY 2015**

#### **IV. OTHER IMPLEMENTATION ACTIVITIES**

31. Following the decisions of the Governing Body at its Fifth Session, the Secretariat compiled and published online a booklet with the all Opinions and the advice of the *Ad Hoc* Technical Advisory Committee on the Multilateral System as useful guidance to Contracting Parties in implementing their obligations under the Treaty<sup>8</sup>.

32. This Committee held four sessions from January 2010 to April 2013 and discussed several important aspects of the implementation, such as the identification of Plant Genetic resources for Food and Agriculture under the control of the Contracting Parties and in the public domain and access to material in in situ conditions.

33. The publication also contains opinions related to legal and administrative measures to encourage natural and legal persons to voluntarily place material in the Multilateral System, restoration of material and transfer to farmers for direct use for cultivation. The booklet also provides the summaries of other recommendations adopted at each meeting.

#### **V. GUIDANCE SOUGHT**

34. The Governing Body is invited to take into account the information contained in this document in its deliberations under Agenda Item 8 and provide guidance on the coverage of the Multilateral System, on the modalities of assistance to the users and on any other aspects related to the operations of the System for the 2016-2017 biennium.

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<sup>8</sup> Released in July under the title “*Opinions and advice on the use of the Standard Material Transfer Agreement and on the Multilateral System*”.

*Appendix 1***WORLD CROP GENETIC RESOURCES AND MATERIAL AVAILABLE UNDER SMTAS**

This table provides a synoptic picture of the percentage of world holdings of the five crops/crop groups:

- that are held by Contracting Parties and International Institutions that have concluded agreements with the Governing Body under Article 15 of the Treaty;
- the part of these holdings that are actually available; and,
- the part of total world holdings that this represent.

A more comprehensive and detailed table, listing the information country by country and by institution, is online at:

[ftp://ftp.fao.org/ag/agp/planttreaty/gb6/world\\_holdings\\_PGRFA\\_MLS.pdf](ftp://ftp.fao.org/ag/agp/planttreaty/gb6/world_holdings_PGRFA_MLS.pdf)

Crops	World holdings:							
	Ex situ holdings (accessions)	% with Parties	% of Parties' holdings actually available	% with Institutions	% of Institutions' holdings actually available	% with Parties + Institutions	% of Parties' + Institutions' holdings actually available	% of total world holdings actually available
Wheat	911,520	54.78%	24.88%	16.84%	100.00%	71.62%	42.54%	30.47%
Rice	783,016	46.13%	4.41%	16.69%	100.00%	62.82%	29.81%	18.73%
Maize	330,911	45.91%	12.02%	8.14%	100.00%	54.05%	25.26%	13.65%
Other Annex 1	2,498,215	61.37%	23.19%	12.81%	100.00%	74.18%	36.46%	27.05%
Non-Annex 1	2,485,889	62.48%	4.20%	5.26%	82.98%	67.74%	10.32%	6.99%

**PROPORTION OF WORLD HOLDINGS OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE HELD WITH CONTRACTING PARTIES AND ARTICLE 15 INTERNATIONAL INSTITUTIONS, AND RESOURCES CURRENTLY AVAILABLE UNDER THE TERMS AND CONDITIONS OF THE SMTA**



*Appendix 2*

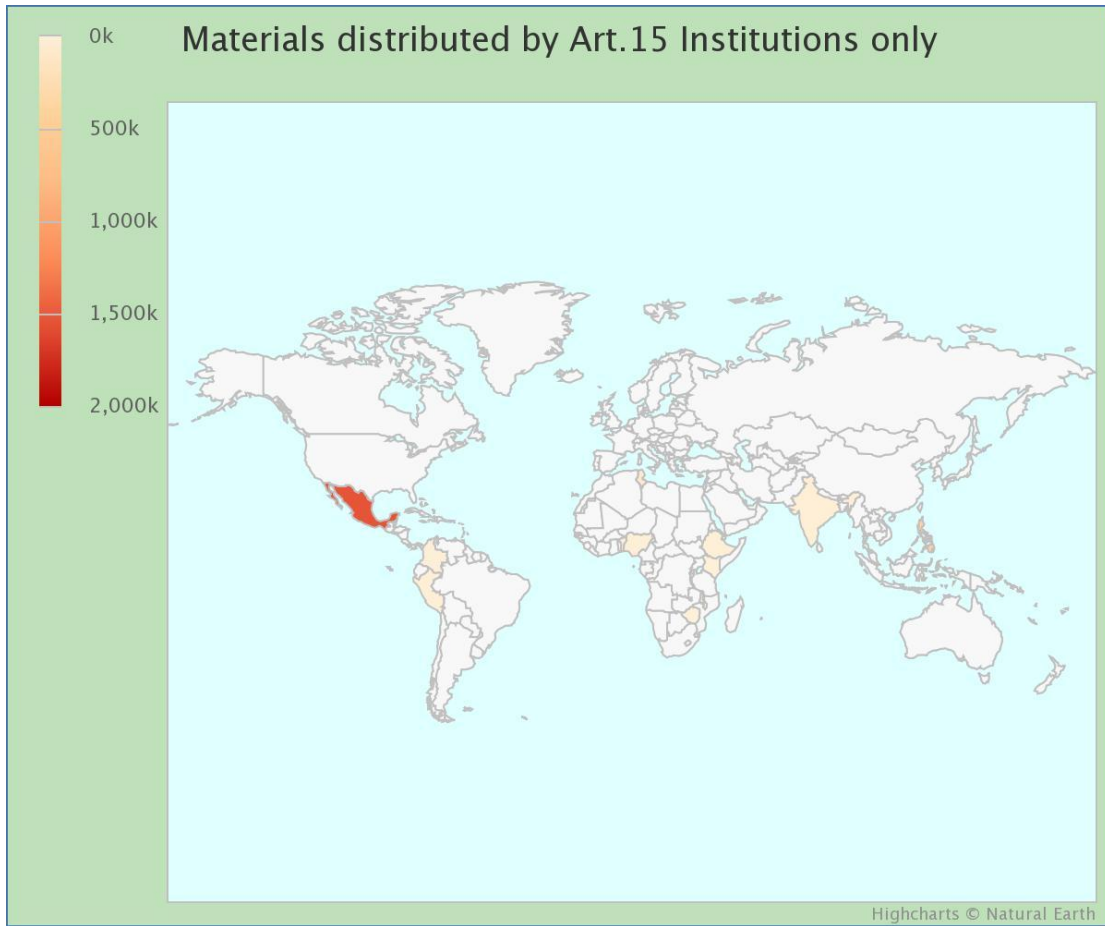
**Draft plan of inclusion of material in MLS from projects funded by the Benefit-sharing Fund under its second cycle – July 2015**

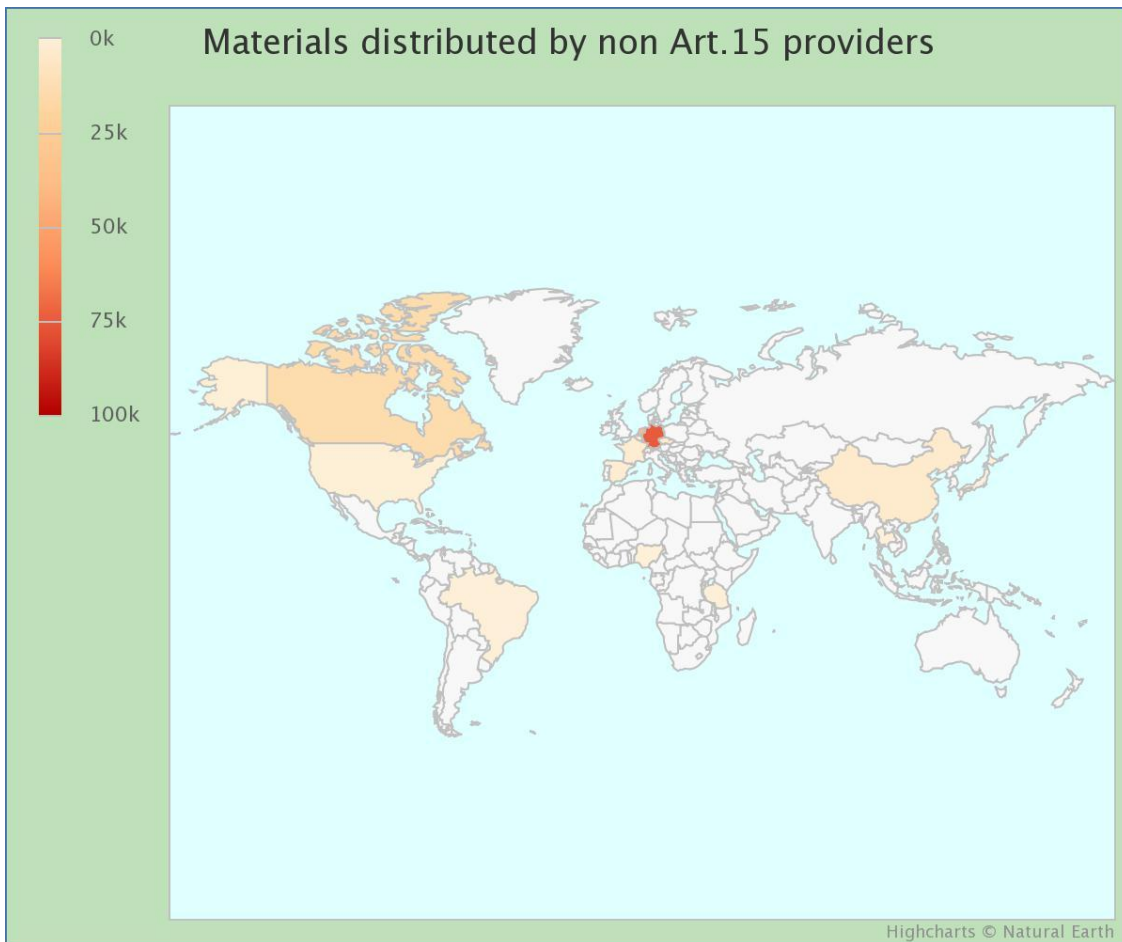
<b>Country</b>	<b>Institution</b>	<b>Project</b>	<b>Number of PGRFA</b>
Jordan	National Center for Agricultural Research and Extension (NCARE), Jordan; & Centre for Sustainable Development (CENESTA), Iran	Use of genetic resources to establish a multi country program of evolutionary-participatory plant breeding	402
Malawi	Malawi Plant Genetic Resources Centre	Improving livelihoods of local communities in semi-arid zones of Malawi through on -farm conservation and exploiting the genetic potential and seed production of yams, sorghum, pearl millet, finger millet and cowpeas germplasm in mitigating climate change	188
Tunisia	National Genebank	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	91
Morocco	INRA	On-farm Conservation and Mining of Local Faba Bean Landraces of Morocco for Biotic and Abiotic Stresses	117
India	Gene Campaign	Using rice genetic diversity to support farmers' adaptation to climate change for sustainable production and improved livelihoods in India	281
Guatemala	Instituto de Ciencia y Tecnología Agrícolas (ICTA)	Establecimiento de una red preliminar de bancos comunitarios de semillas, en regiones vulnerables del país, para disponer de semillas en caso de desastres naturales	14
India	National genebank	Seeds for life-action with farmers in Uttar Pradesh-IGP region to enhance food security in the context of climate change	56
<b>Total</b>			<b>1149</b>

*Appendix 3***DATA STORE STATISTICS**(AS OF 5 MAY 2015)<sup>9</sup>

<b>SMTA distributed</b>		
<b>Total</b>	27,334	
<b>With PGRFA under development</b>	2,938	
<b>Provider Countries</b>	27	
<b>Recipient countries</b>	171	
<b>Sent to CPs</b>	20,479	
<b>Sent to non CPs</b>	6,855	
<b>With non-Annex 1 crops to developing countries</b>	1,191	
<b>Non Art.15 Providers</b>	5,305	
<b>PGRFA material distributed</b>		
<b>Total</b>	2,263,197	
<b>Annex 1 crops</b>	2,175,789	96%
<b>Non-Annex 1 crops</b>	87,408	4%
<b>PGRFA under development (PUD)</b>	265,701	12%
<b>Non Annex 1 material that is PUD</b>	50	0%
<b>Sent to CPs</b>	1,681,793	
<b>Sent to non CPs</b>	581,404	
<b>Non Art.15 Providers</b>	143,437	
<b>Average Materials per day</b>	743	
<b>Easy-SMTA Users</b>		
<b>Total</b>	665	
<b>Registered last year</b>	523	
<b>Registered this year</b>	142	
<b>Legal entities (e.g, organizations, institutes, companies, communities)</b>	285	43%
<b>Individuals</b>	380	57%
<b>Number of Providers</b>	35	
<b>Number of Recipients</b>	6,218	

<sup>9</sup> The generation of the statistics is a resource intensive activity for the System and the hosting infrastructure. Taking into account the large number of queries and the current size of the Data Store the statistics are run at scheduled intervals in order to minimize the impact on the operations. The statistics included in this document were generated from 30 April to 5 May 2015. Small discrepancies among data in different tables could be present.





### CGIAR STATISTICS RECORDED IN THE DATA STORE AS OF 5 MAY 2015

SMTAs, Material, PGRFA under development, and reporting period by Centre					
Centre	SMTAs	Accessions	PUD	From	To
AfricaRice	390	36,564	20,884	2007-03-05	2014-12-14
Bioversity International	323	4,692	546	2007-01-24	2014-12-09
CIAT	195	5,677	0	2013-02-04	2014-12-20
CIMMYT	14,582	1,542,618	0	2007-03-16	2014-12-22
CIP	468	12,345	7,721	2007-01-19	2015-04-30
ICARDA	351	67,250	0	2007-02-13	2014-02-12
ICRAF	24	104	0	2013-02-14	2014-11-21
ICRISAT	416	24,583	0	2009-11-11	2014-12-15
IITA	473	21,207	0	2007-03-07	2014-12-22
ILRI	639	7,756	0	2007-02-22	2014-12-19
IRRI	4,134	396,157	236,518	2007-01-04	2013-06-24

#### PUD: PGRFA under development

SMTA distribution (CGIAR)	
Total	21,995
Provider Countries	13
Recipient countries	158
Sent to CPs	15,628
Sent to non CPs	6,367

SMTA distribution by Recipient type (CGIAR)		
Individual	17,411	79%
Organization	4,584	21%

Material sent by region (CGIAR)	
Africa	452,199
Asia	698,415
Europe	236,619
Latin America and the Caribbean	337,515
Near East	254,789
North America	106,813
Southwest Pacific	32,603

<b>PGRFA Material distributed (CGIAR)</b>		
<b>Total</b>	2,118,953	
<b>Annex 1 crops</b>	2,100,030	99%
<b>Non-Annex 1 crops</b>	18,923	1%
<b>Samples under Development</b>	265,669	13%
<b>Sent to Contracting Parties</b>	1,563,384	74%
<b>Sent to non-Contracting Parties</b>	555,569	26%

<b>SMTAs sent by region (CGIAR)</b>	
<b>Africa</b>	4,362
<b>Asia</b>	7,172
<b>Europe</b>	2,660
<b>Latin America and the Caribbean</b>	4,225
<b>Near East</b>	2,320
<b>North America</b>	1,037
<b>Southwest Pacific</b>	219

<b>Material distributed by crop above 500 accessions (CGIAR)</b>			
<b>Wheat</b>	1,322,584	<b>Lentil</b>	3,061
<b>Rice</b>	432,721	<b>Sweet Potato</b>	3,015
<b>Maize</b>	195,450	<b>Groundnut</b>	2,943
<b>Barley</b>	38,984	<b>Bambara groundnut</b>	2,487
<b>Triticale</b>	32,249	<b>Medicago</b>	2,145
<b>Cowpea et al.</b>	11,628	<b>Pea</b>	2,025
<b>potato</b>	8,460	<b>Finger Millet</b>	1,655
<b>Sorghum</b>	7,781	<b>Foxtail millet</b>	1,597
<b>Chickpea</b>	7,315	<b>Yams</b>	1,451
<b>Faba Bean/Vetch</b>	6,697	<b>Soybean</b>	1,429
<b>Banana/Plantain</b>	4,779	<b>Cassava</b>	1,363
<b>In trust forage collection under ITPGRFA</b>	4,737	<b>Forages</b>	1,211
<b>Trifolium</b>	4,416	<b>African yam bean</b>	1,069
<b>Beans</b>	4,128	<b>Wild Vigna</b>	889
<b>Pigeon Pea</b>	3,569	<b>Andean Root and Tubers</b>	868
<b>Pearl Millet</b>	3,511	<b>Barnyard millet</b>	648