



***“Multilateral System and Standard
Material Transfer Agreement of the
International Treaty on Plant
Genetic Resources for Food and
Agriculture: Implications and
Scope for Regional Cooperation”***

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Presentation Outlines

- Background about ITPGRFA and Multilateral System
- PGRFA in CGIAR Systems /under MLS
- Concept and benefits of Standard Material Transfer Agreement
- Status of adoption MLS /SMTA in Nepal / South Asia
- Constraints and Issues
- MLS Implementation Status in Nepal
- Options, Scopes and Implications of MLS and SMTA



International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

- **Party to ITPGRFA:** *Government of Nepal endorsed ITPGRFA on 2 January 2007 and became party to it on 19 October 2009.*
- *Several efforts were made to convince Government of Nepal to become **party to ITPGRFA** through **awareness creation, policy research and advocacy** through GRPI-I Project*
- **To date 135 countries ratified it including Nepal.**
- **Objectives:** Conservation and sustainable use of Plant Genetic Resources for Food and Agriculture (PGRFA) and the fair and equitable sharing of benefits arising out of their use in harmony with **Convention on Biological Diversity (CBD).**

Interrelationships and Differences between CBD and ITPGRFA

- The **objectives** of **CBD** and **ITPGRFA** are basically identical- as they aim to promote
 1. -the **conservation** of genetic resources
 2. -**sustainable use of the biological and genetic diversity**
 3. -the **equitable sharing of benefits derived from its use**

However they differ in access and benefit sharing (ABS)
- **ITPGRFA** focus on international *pooling and sharing* of genetic resources through **multilateral system (MLS)** of access and benefit sharing for agricultural research and food security.
- **CBD**: focus on **access and benefit sharing** subject to **individually tailored** access and benefit-sharing agreements through its **national sovereignty** of genetic resources

What is Multilateral System (MLS) ?

- **Multilateral system (MLS)** is a **global gene pool** of important crop genetic resources maintained in “**public domains**” for global food security and shared through MLS.
- It provisions to keep PGRFA materials in **common pool** in **IARCs Gene Bank** as a “**public good**” that have common benefits to global community for ensuring global food security
- MLS is operative within **15 CGIAR centres** and applicable to **35 food crop species and 29 forage species** listed in **Annex 1**, that account for >80% of human calorie intake from plants (**Article 11**)

Benefits of Multilateral Systems

- Easy and ***facilitated access*** to **wider range of crop genetic resources** for research, breeding and training through SMTA
- Reduction of **transaction costs** (no need of bilateral negotiations for each of the germplasm or its derivatives) in accessing needed materials
- **Quicker access** of materials in **no** or **at a minimum** cost for genetic materials required for country's food security in developing countries .
- Access to **technologies, training and investment support** from Global system with materials under MLS



What is Standard Material Transfer Agreement (SMTA)?

- The centerpiece of the Multilateral Systems in ITPGRFA is a ***Standard Material Transfer Agreement (SMTA)***- an agreement or contract that provides the **rules of access** (terms and conditions) to the transfer of common genetic resources covered by the Treaty.
- **Article 12.4** of the Treaty provides that **facilitated access** under the MLS shall be provided pursuant to a **SMTA**, and **the Governing Body** of the Treaty in its Resolution 1/2006 of 16 June 2006, adopted the SMTA.
- The **SMTA** would bind the recipients of **Annex 1 PGRFA** to certain conditions and would require that **recipient to pass on these obligations** to any subsequent recipients.

Type of Standard Material Transfer Agreement (SMTA)

(www.planttreaty.org)

- A “**shrink-wrap**” SMTA is where a copy of the Standard Material Transfer Agreement is included in the packaging of the **Material**, and the **Recipient’s** acceptance of the **Material** constitutes acceptance of the terms and conditions of SMTA.
- A “**click-wrap**” SMTA is where the agreement is concluded on the **internet** and the **Recipient** accepts the terms and conditions of the SMTA by clicking on the appropriate icon on the website or in the electronic version of the Standard Material Transfer Agreement, as appropriate.
- **Easy-SMTA** is being developed and it has launched new online **global information system**. **Easy-SMTA is a voluntary tool** that combines SMTA generating and reporting functions



PGRFA in CGIAR Centre Gene banks (under Multilateral System)

- Globally Over **7 million** accessions maintained in > 1400 collections in 1750 gene banks (FAO, 2010). **Out of these, CGIAR holds ~10% of global accessions (0.7 million) in ~0.5% of world's gene banks.**
- CGIAR centres deliver approx 600,000 samples / year by their 11 centre gene banks through SMTA .
 - Out of these ~ 70% are improved material and ~ **75% of these germplasm are delivered to developing countries** (CGIAR, 2013)
- Approx. **1.6 million** included accessions in MLS documented (Bhatti,2013)





Genetic resources held in CGIAR Gene banks as “trust” (MLS) for the benefit of Global Community

CGIAR Centre	Crops	Accessions
Africa Rice	Rice	20,000
Bioversity	Banana, Plantain	1,298
CIAT	Beans, Cassava, Tropical forages	65,635
CIMMYT	Maize, Wheat	155,129
CIP	Potato, Sweet potato, Andean Roots & Tubers	16,495
ICARDA	Grain legumes, Wheat, Barley, Forage crops	135,406
ICRAF	Trees	5,144
ICRISAT	Dryland cereals, Grain cereals	156,313
IITA	Banana, Plantain, Maize, Cowpea, Cassava, Yam	28,286
ILRI	Tropical forages	18,291
IRRI	Rice	116,817
Total		712,568

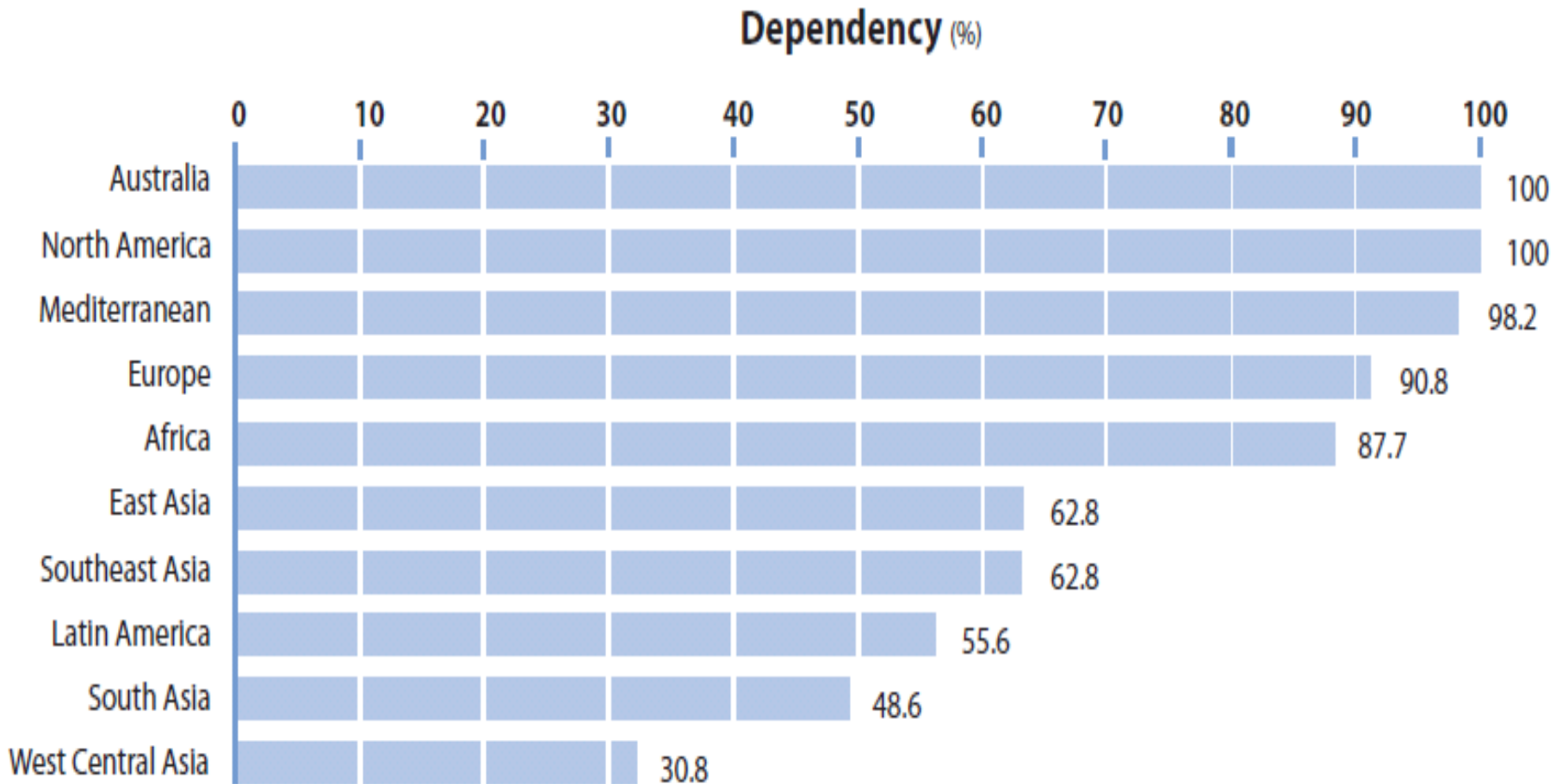
Source: Amri et al (2013)

Need for Multilateral System and SMTA

- **Interdependency in PGRFA** : No country is self sufficient in PGRFA originated from its own territory
- **Easy access of diverse genetic resources** is essential to increase crop productivity, ensure food security and maintenance of sustainability of agricultural system.
- **Climate change has increased** need for easy access of diverse genetic resources adapted to varied agroecological domains
- **SMTA provides uniform rules and legal instruments** for sharing benefits to farming communities and providers of PGRFA



Interdependency: % of Food Production of Major Crops based on Species Originating from Other Regions

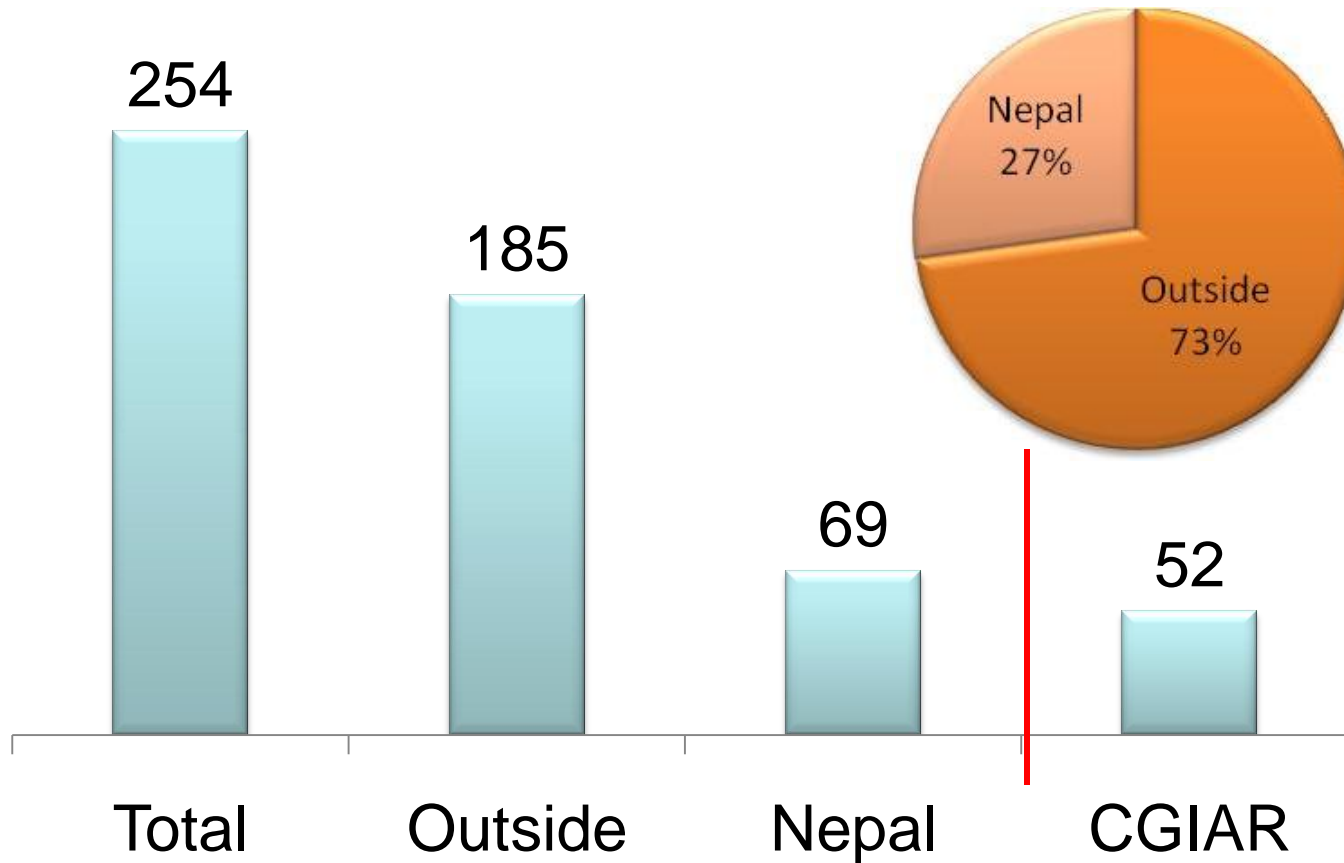


Top 20 countries receiving PGRFA from MLS

(López-Noriega et al, 2012)

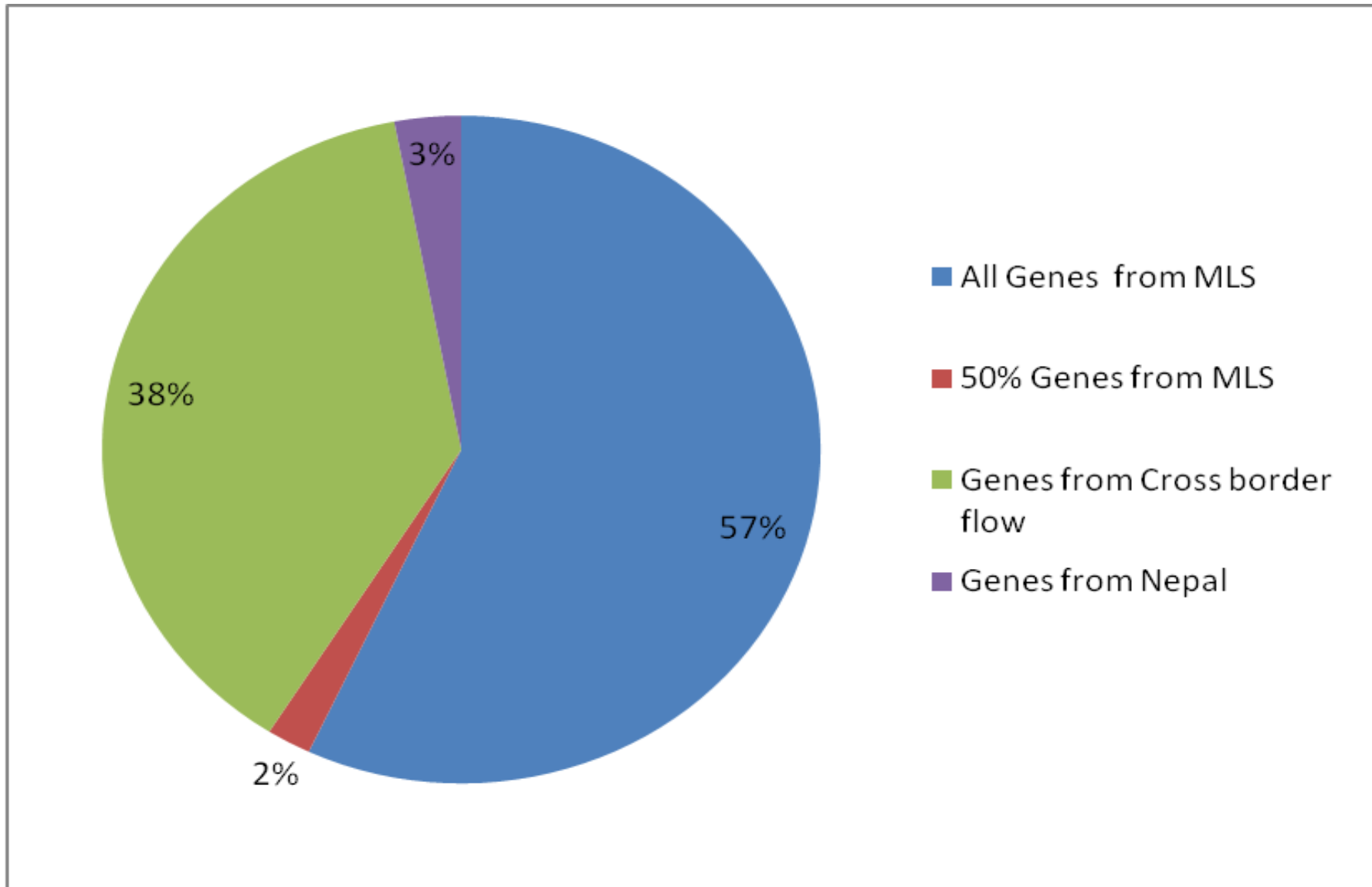
Top 20 recipients	N. samples received	N. of countries of origin of material received
India	341028	180
USA	47034	174
China	43382	151
Japan	22316	149
Australia	19963	142
England	18614	146
Ethiopia	17891	144
Morocco	16932	101
Pakistan	16420	138
Philippines	15611	105
Italy	14176	138
Iran, Republic of	13184	135
Tunisia	12666	68
Austria	12222	89
Colombia	12065	101
Syria	10912	90
Korea, Republic of	10000	137
Canada	9634	123
Russia	9579	90
Brazil	9198	136

Origin of Varieties Released in Nepal (Analyzing the PGRFA Interdependency)



Source: GRPI-2 Project Nepal (2014)

Farm level Adoption of Rice Germplasm derived from MLS and other sources in Nepal (Gauchan, 2014)



Constraints and Issues

- Lack of **enabling administrative** and/or **legal framework** for the implementation of the MLS and use of SMTA.
- Lack of **designated authority** for the implementation /operationalization of MLS and SMTA
- National laws on biodiversity /PGRFA are either *restrictive* or no laws are formulated yet in many SA countries to promote facilitate exchange employing SMTA under MLS.
- National ABS /Biodiversity Act /Rules are limiting implementation of SMTA among South Asian countries- which are mainly formulated in line with CBD (e.g. Indian BDA (2002), BD Rules (2004) and Bhutanese BDA (2003)).

Options for Implementation of MLS and S/MTA in South Asia

- **Harmonization** of bilateral and Multilateral system of Access and Benefit Sharing in **national legislations**
- Revise existing **Draft ABS Bills/laws** for inclusion of MLS for Annex 1 crops as per ITPGRFA provisions

OR

- Create a new separate ABS Bill suited for MLS of PGRFA
- Develop separate administrative mechanisms for implementation of MLS in the country (if ABS draft bill is approved as it is)
- Implement **SMTA for Annex 1 Crops to facilitate flow** of germplasm between and among countries (e.g. through SAARC Seed Banks) for ensuring regional food security.

Status of Germplasm Exchange and MLS/SMTA in South Asian Countries

- Germplasm exchange among South Asian countries through official channels has declined in recent years after 2000 AD
- Some informal project based exchanges occur. For instance initiatives through CGIAR centres (e.g. IRRI, CIMMYT) projects among SA countries (India, Bangladesh and Nepal)
- Informal farmers to farmers exchange is a common features in South Asia particularly in bordering areas
- **SMTA** is currently followed between CGIAR Centres and individual Countries. **But SMTA is not being commonly adopted between SA countries for Germplasm exchange as no regional agreements formally prevail.**

Status of Implementation of MLS in Nepal

- Revision of existing Agrobiodiversity Policy (2006) in 2014 to include provision of MLS / ITPGRFA by *GRPI-2 & other Initiatives*
- Analysis and Identification of PGRFA that are in public domain and under direct management of the GoN of Nepal
 - **Annex 1 crops** and their varieties that are already in **Public domain**: Released /Notified crop varieties and varieties that are already in foreign Gene banks and CGIAR centres.
 - ***Rare, unique and endangered*** accessions of the **Annex 1 crops are not listed for the submission to MLS** even though they are under direct management of the GoN (Contracting parties)
- Awareness creation on ITPGRFA, MLS and SMTA to stakeholders through national and regional workshops
- Consultation made to identify designated Authority for the exchange and transfer of PGRFA through SMTA: One window system of exchange is suggested (e.g. NAGRC)
- Development of Strategy and Action Plans for implementation of ITPGRFA and MLS (including draft IT Bill)



Scope and Implications of MLS and SMTA in South Asia

- The easy **flow of PGRFA** through **MLS/SMTA** offers enormous opportunities for better economic growth; food and nutritional security; enhanced stability & a sustainable environment
- Adoption of **MLS and SMTA needed** to promote enhanced **access, exchange and flow** of crop genetic resources between and among countries and communities.
- Adoption of **MTA** in “**sharing common varieties**” as proposed in SAARC Seed Banks
- Facilitate exchange of germplasms in **climate change adaptation** and **disaster risk reduction** (e.g. earthquake)
- Facilitated access through **SMTA** provides option for **sharing benefits** to providers of genetic resources (mainly farmers)

Issues for Future

- How to implement **MLS of ABS** among **SA countries** for **important food crops (non-Annex-1)** to promote flow of **PGRFA** where exchange among countries has restricted recently?
- How to **operationalize SMTA** between countries in South Asia for **crop variety development** and **sustainable use of PGRFA** to adapt to **changing climate** and **risks of natural disasters** ?
- How **SMTA** can be implemented in **community seed banks** materials **linking** with **national & international gene banks**?



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