Farmers as Custodians of Crop Diversity

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Terms - Perceptions

Farmers

Economic and/or livelihood activity of growing crops; Conserves and preserves wild species or traditional varieties; buying and selling, exporting, or importing seed

150 million farmers in India

Custodian Roles

User, Conserver, Innovator and Promoter; Most relevant in diversity hotspots; Farmers need to lead and scientists should play only a supportive role (systematic monitoring, measuring transitions and documenting drivers).

Community-based Biodiversity Management leading to continuous creation of novel and unique diversity

Crop Diversity

Cultivars variability; 117 species originated (Vavilonian)-rice, millets and legumes-25 crop species domesticated; 160 major and minor crops cultivated + 325 wild relatives; 145 roots and tubers + 521 leafy + 101buds and flowers + 647 fruits + 118 seeds and nuts

Custodians - Documentation





Mr. N. K. Unnin

Dwarf coconut **Tender on demand**





Mr. Aberdeen Blair

"Achin and Paltu"
CTCRI and CIARI

Nicobari Aloo/ Water Yam **Good cooking quality Staple**





Shri.Chintaharan

Neil Mango **Ascorbic acid & Flavanoids**





Rev. Saw Saytha

Black Burma **Halwa & Burma Ladoo**

R.K.Gautam, M.Sankaran, S.K.Zamir Ahmed, Jai Sunder, Nagesh Ram and S.Dam Roy(2014). Custodian Farmers and Communities of Biodiversity Conversation and Utilization in Andaman & Nicobar Islands, India. Central Island Agricultural Research Institute, Port Blair

On farm *In Situ*



In Situ Forest- Kokum



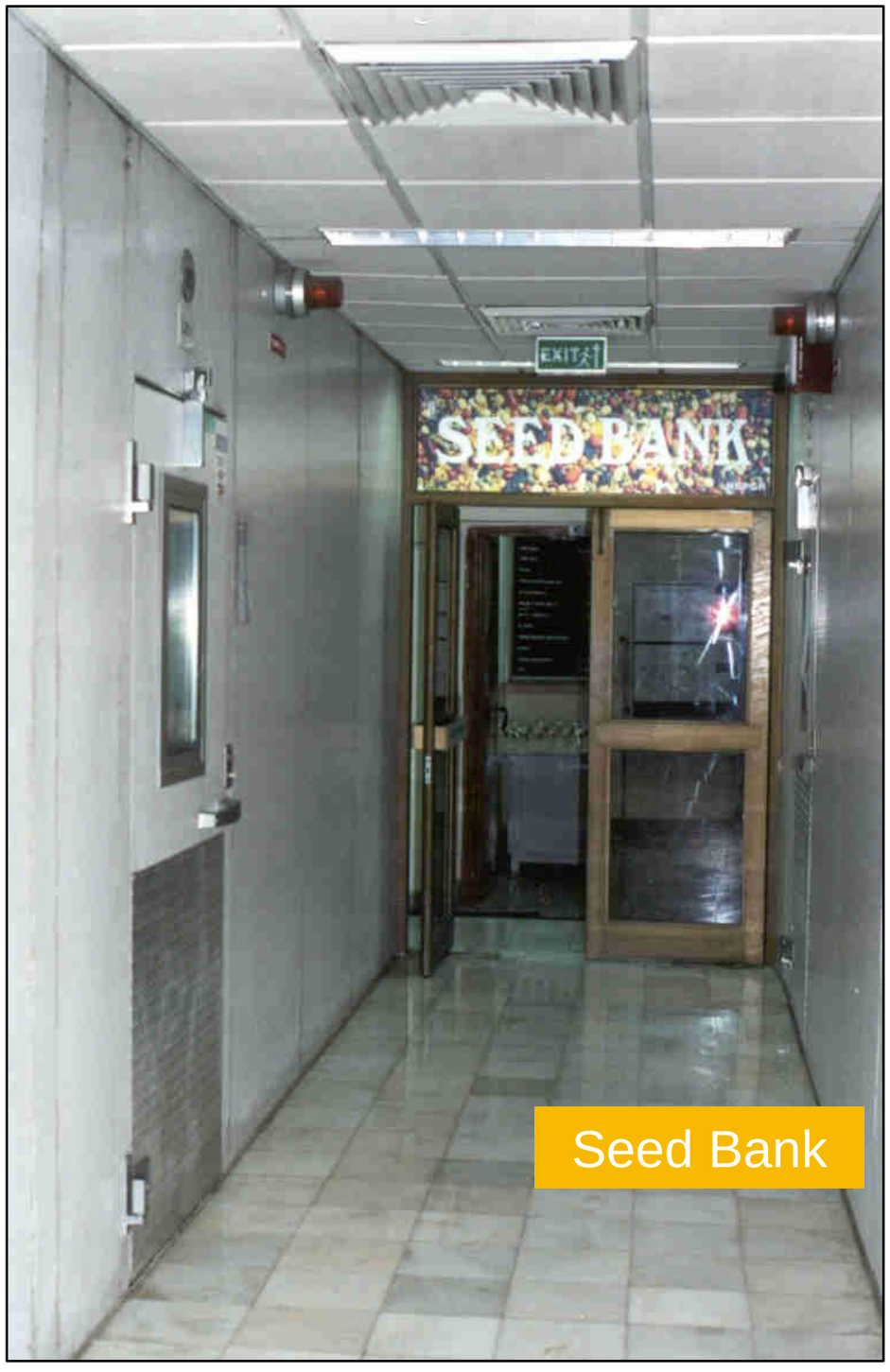
On farm - Sama -Samvat

Custodians role in National parks, Gene sanctuaries, Biosphere reserves ???

Field Genebanks



EX Situ Conservation



Seed Bank



Cryo preservation



In-vitro conservation

Custodians role in *Ex Situ ???*

Legal and Policy Framework & Custodians

- BDA (CBD) - NBA, SBBs(28) - Landraces, Folk varieties (?) - BMCs (2,65,711) - PBRs (95,252) - Community Ownership - Recognised Seed Repositories (17) - NP ABS **10+5 ?**

- PPVFRA (UPOV)- PVPA - (New, Farmer, EDV, Extant) - Ownership on registration- Individual farmers, Associations and Private and Public **One out 15 ?**

- Seed Act 1966 (Seed Bill 2020)- CVRC/ SVRC Notified State Sale Registration - Pedigree declaration and Benefit Sharing (**Desi Cotton - Gujarat, Balinta pesalu & several**)

- Patent Act- CGPDTM **PCT- Grape farmer -subsoil**

- GI - CGPDTM Only associations - exclusive rights for commercialisation

- ABS Guidelines 2014 (2020?) Nagoya Protocol 2010 - **Communities share ?**

- Registered varieties, Notified Varieties, GIs, Registered germplasm, Seed sales registration, **Farmer variety commercialisation ?**

PPVFRA- Farmer Rights Issues

Examples

Fieldpea; **Pant Pea-13;** 106 of 2009; ICAR
Rice; **Pratikshya;** 110 of 2009; OUAT
Pearl Millet; **Nandi-52;** 112 of 2009; Nandi Seeds Pvt. Ltd.
Rice; **Tilak Chandan;** 120 of 2009; Mr. Dev Nath Verma
Rice: CHENNELLU; 56 of 2013; Seed Care- An Association of Indigenous and Traditional Crop conservers of Malabar

Issues

- Farmer equated with breeder ?
- Registration Process (DUS?)
- Multiple Ownership, Open source
- IP rights given on a first come first basis
- Agrobiodiversity hotspots - Database of Traditional Varieties - 8.2(c) documentation, indexing and cataloguing of farmers' varieties
- Not getting registered- Eg. 30 to 40K in rice Vs few hundreds registered Legal position of not registered varieties ? 28 (1) Government shall be deemed to be the owner of such right
- Seed systems for farmer Varieties ?

Institutional Framework

- PPVFRA - No provision for institutional support for conservation or seed systems to custodians - Mainly grant of rights and protecting rights of farmers (providers) & breeders (users)

- BDA - SBBs and BMCs starving for technical, human and financial resources

- Seed Laws - Not oriented to farmer varieties- Notified varieties mainly

- Community Seed Banks Vs Seed Repositories (BSI, NBPGR, NBRI, ICFRE) - Posterity Vs weak linkage with farmers for immediate use

- CSR - Very limited and not focussed

- Mainstreaming of biodiversity - a distant vision

Public Investments

- Farmer Varieties Conservation- PPVFRA, NGB, NBRI, ICFRE- CG genebanks (11),Svalbard Global Seed Vault, Global Crop Diversity Trust - Huge investments for establishment and Millions of dollars for annual maintenance- **Negligible investment for conservation through use** (of farmers, by the farmers and for the farmers)

- Conservation through use (on farm) is the key to changing climate, pest and nutritional scenario allowing continuous exposure to the changing climate and crossing with naturally occurring wild relatives.

- Formal breeding programmes (**custodian Participation ?**) focus on higher yields ignoring the above changing scenarios and is a risk to food security

- Utilisation of farmer varieties, landraces and primitive cultivars has become very low in public and private breeding programmes for commercial reasons ignoring longterm benefits of **ecological and health benefits ?**

WGoSS RRAN

(Working Group on Seed Systems in the Revitalising Rainfed Agriculture Network)

- PPVFRA: Open Source; Seed Systems;
- NBPGR: Exchange of landraces with farmer networks
- OMM: Alternative Seed System, CMSS, Pulses and Oilseeds
- NASF: Characterisation or traits of value (climate resilience, nutrition, pest resistance, low input culture) - Bringing NGB and farmer networks together
- DAC: Seed Village Programme inclusion of landraces; Declaration of farmer varieties as notified varieties
- Database or documentation of Farmer Varieties/ Landraces/ (Rice 40K Vs 700?) / custodians ?
- ICAR institutes and SAUs: Seed and field standards and bringing farmer varieties and landraces in to main stream
- Institutional framework (Research and teaching) for farmer varieties and landraces including the respect for traditional knowledge

Conclusion

Legal and policy framework, investments and institutional framework need to undergo a radical change to promote conservation of farmer varieties through use both in farmer fields and in formal breeding programmes by involving famers/ custodians to sustain public health, protecting ecological assets and environment

Thank you

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