

Access to plant genetic resources for food and agriculture (PGRFA) and its relevance to eradication of hunger



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What are PGRFA?

- “Plant genetic materials with actual and potential value” (CBD)
- 250,000 plant species documented; 60,000 cultivated; 700 grown systematically; just 3 provide >60% of calories in our diets
- Plant genetic diversity exists in the wild (e.g., forests), farmers’ fields and gene banks (over 7 million collections in 1750 gene banks)
- 75% of plant genetic diversity lost and 15-37% of remainder committed to extinction by the end of 2015
- Climate change has exacerbated loss by displacing habitats, introduction of exotic pests and natural disasters

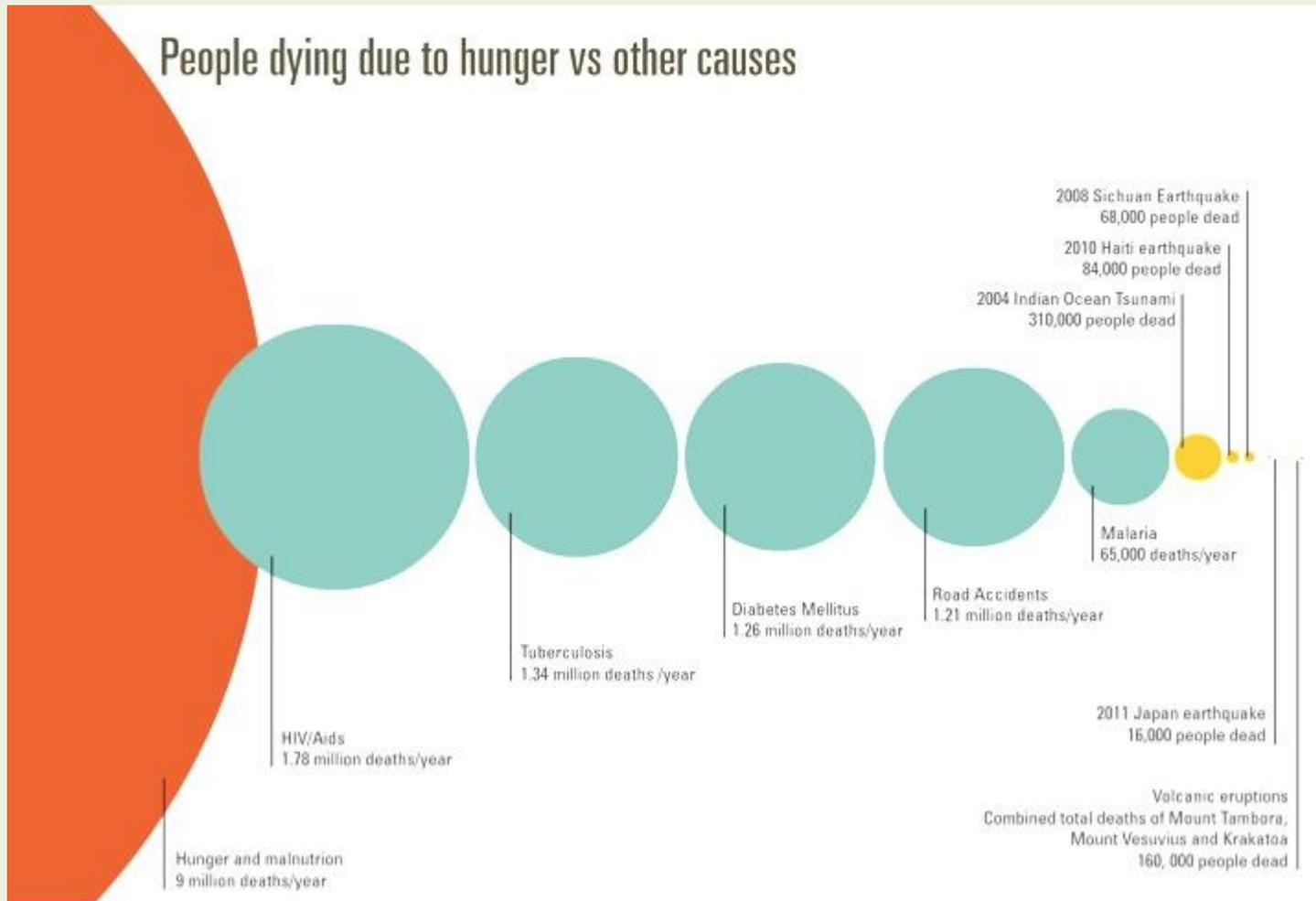


Why do PGRFA matter?

Of over 7 billion people on earth, 805 million are hungry and malnourished



Why do PGRFA matter?



Why do PGRFA matter?

- 75% of 805 million hungry depend on agriculture for their livelihoods and survival
- Agriculture provides food, feed, fiber and fuel, and employment for 1/3 of human population
- *In a single day*, agriculture produces 23.7 Mt of food: 19.5 Mt of grains, fruits and vegetables; 1.1 Mt of meat; 400,000 tons of fish; and 2.1 Billion liters of milk, with total economic value of US\$ 7 billion
- Agriculture depends on plants for its survival, and we depend on agriculture for our survival



What is “access” to PGRFA?

“The legal right of anyone to obtain PGRFA from wherever they exist”

- Most PGRFA originated in the tropics of developing countries
- No country can meet its food, feed, fiber and other needs from its own PGRFA
- PGRFA critical to climate change mitigation and adaptation: carbon sequestration, genes for adaptation; 75% of new climate already in 5 other countries



Access to PGRFA: The Past

- Until about 1960, access to PGRFA open and free
- Nations, institutions, and scientists prided in sharing PGRFA and knowledge
- International Union for the Protection of New Varieties of Plants(UPOV) created on 02Dec1961
- Early 1970s, US started issuing Plant Variety Protection Certificates (valid for 20 years, except for 25 year-validity for vines and trees)
- Mid-1970s, PGRFA access reasonably open, with frequent visible instances of protection and refusal to share



Access to PGRFA: The Present

- Little PGRFA exchange – some nations and institutions have made no seed shipment in 20 years
- Consultative Group on International Agricultural Research (CGIAR) the largest provider of seed; works with about 20 species; denies PGRFA when convenient
- Not sharing and protection (legal and illegal) now a rule rather than exception
- PGRFA exchange highly restricted and regulated



Access to PGRFA: The Present

Key Institutions facilitating access

- **UPOV (The International Union for the Protection of New Varieties of Plants):**
- Created in 1961
- 72 signatories
- Recognizes Plant Breeder's Rights granted for distinct, durable and uniform varieties
- Free use of varieties in breeding and commercialization if credit to the original plant breeder given



Access to PGRFA: The Present

Key Institutions facilitating access

- **FAO Commission on Genetic Resources for Food and Agriculture (CGRFA):**
- Created in 1981
- 191 signatories
- Facilitates discussions on preservation, use and exchange of genetic resources for food and agriculture



Access to PGRFA: The Present

Key Institutions facilitating access

- **UNEP's Convention on Biological Diversity (CBD):**
- Created in 1993
- 168 signatories; deals with all biological diversity
- Until 2010, promoted only UPOV regulations
- Adopted Nagoya Protocol in 2010 to align with ITPGRFA, recognizing monetary and non-monetary benefits to the originator of PGRFA



**Convention on
Biological Diversity**



Access to PGRFA: The Present

Key Institutions facilitating access

- **FAO International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA):**
- Started in 2004 and ratified in 2006
- 130 signatories
- Deals with policies covering conservation, use and exchange of PGRFA
- Covers 64 crops; 1 million collections from CGIAR, 3 other IARCs, and 13 contracting parties
- Responsible for much of PGRFA exchange today – 99% by CGIAR
- Recognizes sovereign right of country, farmers and communities for origin of PGRFA
- Recognizes national laws governing PGRFA access and use
- Established a fair and equitable Benefit-sharing Fund for contribution of 1.1% of total sales

So, how is it working?

- Access to PGRFA much restricted and limited, compared to 40 years ago
- Protection an important cause of lack of access to PGRFA: UN says of hunger; private sector says of development
- PGRFA exchanges voluntary: Depends on nations, institutions and individuals who hold on to PGRFA for possible greater benefits later
- Much loss of time and other resources in developing improved varieties
- Public sector biggest victim – private sector has much of what it needs
- No significant amount in the Treaty Benefit-sharing Fund yet, leading to suspicions



Access to PGRFA: The Future

- Creating awareness about damage done by impeding access to PGRFA
- Advocacy and support for institutions and instruments facilitating access to PGRFA
- More powerful developed countries joining the facilitating instruments
- Contributions to Benefit-sharing Fund - honestly



“Nature can provide for everyone’s need, but not for everyone’s greed”

--Mahatma Gandhi

Thank you