

Plant Genetic Resources (PGR)Conservation Program -Crop Science Cluster



PGR-Component of biodiversity

- Biodiversity- variability of all living organisms and ecosystems
- Levels of biodiversity (species, genetic and ecosystem)

What are PGR?

- Materials of plant origin of actual or potential use to present and future generations
- Crop science – field and garden crops
- Crops important to food and agriculture

Plant Genetic Resources

**A set of different
genotypes or varieties
that may be conserved
and used**



Genetic diversity

- Variability within the species
- Different varieties of a crop species, varying in a particular trait

Importance of PGR

- Provide food, feeds, clothing, shelter, medicines, ornaments
- Raw materials for crop improvement
- expression of cultural arts

Loss of Diversity

- Replacement of traditional varieties with HYVs
- change in dietary habits
- Natural calamities
- introduction of exotics
- land/crop conversion
- Chemical pollution(loss of pollinators)

What makes up PGR of a crop?

- Traditional or farmers' varieties
- Commercial varieties
- Wild relatives, wild species
- Products of crop improvement programs

From all parts of the world where the crop is grown

Germplasm Holdings

- Agronomy – rice
- Horticulture – plantation, fruits, ornamentals
- NPGRL – all crops, maintains over 40,000 accessions of about 500 species

ACTIVITIES

Acquisition



Characterization



Evaluation



Conservation



Documentation



and distribution germplasm of important and potentially useful agricultural crops

NPGRL, CSC-IPB



functions

- To conserve for national posterity the endemic and introduced PGR
- To provide plant breeding projects in the national research system with broad genetic base for crop improvement
- To monitor and coordinate national effort in the collection, conservation, utilization and exchange of PGR

NPGRL, CSC-IPB



Conservation Methods

- Cold storage rooms – seeds that can be dried at low moisture content
- Field genebanks – vegetatively propagated crops, crops with seeds that cannot tolerate low seed moisture content
- *In vitro* – same as field genebank materials

PGR and Biotechnology

- Conservation *in vitro*
- DNA conservation

Current Activities

- Conservation *in vitro*
- Conservation and planting materials production in banana
- Conservation and reintroduction of indigenous orchids