Creating a national crop wild relative Checklist

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SADC Crop Wild Relatives Regional training workshop
‘In situ conservation of CWR including diversity assessment techniques’
Le Meridien Ile Maurice, Mauritius 10th – 13th November 2014
Model of Genetic Conservation

- Model needs to be easy to apply, applicable in tropics and temperate world, and appropriate for fauna and flora.
Approaches to CWR in situ networks

• Numerous diverse approaches that result in CWR conserved in (and outside) genetic reserves

• Three basic approaches:
  – Individual
  – National
  – Global

• Each concludes with CWR diversity being actively conserved in situ in genetic reserves or informal conservation sites
National CWR Strategies for a SADC country

- CWR are a unique national resource – SADC countries have unique CWR resources
- CWR are threatened
- Legislative requirement to conserve
- CWR by their nature require an integrated *in situ* / *ex situ* approach, best implemented via a National CWR Strategy
- No single method of generation
National CWR Strategy generation

- Focus on national CWR flora, objective to maximise taxonomic and genetic diversity of the country’s CWR conserved
- National in situ / ex situ priorities
- Inside and outside of national PA network
- Genetic reserves established within existing national PA at priority sites
Identification of important areas for CWR and conservation gaps: methodology

1. Generation of CWR Checklist
2. Selection of priority crop gene pools
3. Ecogeographic and gap analysis to select target sites
4. Recommendations for *in situ* / *ex situ* conservation action
5. Implement *in situ* / *ex situ* conservation action in and outside of existing PA
1. National / Regional Botanical Diversity

- Floristic checklists
  - Listed in Davis et al. (1986) and Frodin (2001)
  - Neighbouring country
  - Broader region (e.g. Flora Zambesiaca)

- Taxonomic checklist of country taxa
  - For the UK – 2,300 species
  - For SADC countries – ???? species
1. National CWR checklist

‘Floristic route’ = Flora to crops to CWR inventory (semi-automated)  
‘Monographic route’ = Crops to flora to CWR inventory (via workshop)

Is the digitised Flora of SADC countries available?
1. National CWR checklist

- PGR Forum methodology (Kell et al., 1995)
  - National floristic / taxonomic checklist
  - National crop checklist
  - Matching of genera
  - Extraction (data mining) of CWR taxa

- Uses generic definition of CWR
2. Selection of priority crop gene pools

- Broad CWR definition with generic limit = relative large number of taxa (81% of Flora)

- Limited resources so need to focus on priority CWRs
  - current conservation status, socio-economic use, threat of genetic erosion, genetic distinctiveness, ecogeographic distribution, biological importance, cultural importance, cost, sustainability, legislation, ethical and aesthetic considerations, and priorities of the conservation agency

  - economic value (Mansfeld use categories)

  - relative threat assessment (IUCN Red List Criteria)