



# Target material for on-farm management/conservation

Nigel Maxted

## Need for a clear definition of what a landrace is

- Clarity required for intellectual property rights (WTO), farmers' rights and access & benefit sharing (CBD), European legislation
- Landrace definition: pre-require to both *ex situ* and *in situ* (on-farm) conservation
- Landraces are likely to provide key for breeders fighting climate change – reservoirs of diversity



# Problems with definition of landraces

- ▶ Bellon and Brush (1994) consider that a landrace is constituted by *traditional farmers' varieties*.
- ▶ Numerous synonyms for landraces: *agro-ecotypes, heritage varieties, selection and conservation varieties, folk variety, heirloom or local variety, traditional variety and farmer's variety*
- ▶ Zeven (1998) in a review of landrace definitions concluded that as a landrace has a complex and *indefinable nature*, an all-embracing definition cannot be given



## Working definition of landraces

- ▶ Harlan (1975) defined a landrace as *“populations that have evolved in subsistence agricultural societies as a result of millennia long, artificial human selection pressures, mediated through human migration, seed exchange as well as natural selection”*
- ▶ Hawkes (1983) extended the term by adding the association with *marginal environments, lack of direct competition with highly bred cultivars*





# Working definition of landraces

Camacho Villa *et al.* (2005) six (seven) characteristics:

*“A landrace is a dynamic population of a cultivated plant species that has*

- 1. historical origin,*
- 2. distinct identity and*
- 3. lacks formal crop improvement, as well as often being*
- 4. genetically diverse,*
- 5. locally adapted and associated with*
- 6. traditional farming systems”*
- 7. + often has cultural associations*



# Working definition of landraces

Negri *et al.* (2009); Polegri and Negri (2010):

“*sensu stricto*, a LR should be defined as a ‘variable population, which is identifiable and usually has a local name, (generally) lacks formal crop improvement, is characterized by a specific adaptation to the environmental conditions of the cultivation area (tolerant to the biotic and abiotic stresses of that area) and is closely associated with the uses, knowledge, habits, dialects and celebrations of the people who have developed and continue to grow it”



# Yet another definition: On-farm conservation / management

- On-farm conservation refers to the genetic conservation of the landraces by maintainers within the farming system
- On-farm management refers to the maintenance of the farming systems that maintains landrace diversity
- Both could be considered to ultimately sustain landrace diversity
- FAO Resource book states – *“On-farm management of landraces is referred to as all practices for the conservation and sustainable use of these genetic resources within the agricultural systems in which they have evolved”*

