Working with farmers in Ethiopia to tap the potential of Durum wheat genetic diversity to adapt to climate change

The Challenge

Help farmers adapt to climate change with information and access to greater crop and varietal diversity

The Initiative

- Farmers selected 25 preferred landraces out of 400 accessions of durum wheat, 7 more were added based on yield.
- Selection was done separately by male and female farmers in order to capture farmers preference
- The next season farmers from 12 villages were given seeds, 3 accessions each, and they formed a committee to discuss the performance of the accessions given
- Farmers agreed to share seeds with other farmers based on performance
- Meanwhile all 400 accessions have been characterized using genotyping and morphological data
- Survey and focus group discussions allowed a better understanding of climatic risks

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Achievements

- Crowdsourcing approach allowed more farmers to be involved and participate to this initiative
- Atlas showing accessions suitable for present and future climate conditions
- Deeper understanding of the sites and farmers' decision making about seed selection, with a focus on gender
- Farmers needed a safe place for their seeds and requested a community seed bank, i.e. entirely demand driven
- An innovative wheat population is being bred by crossing 50 accessions with elite cultivars to improve yield
- Greater knowledge of adaptive potential of accessions
- Use of technology including iButtons (weather data monitoring devices)

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RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security