SEEDS FOR NEEDS - INDIA

Broadening the genetic base of crops to empower farmers for climate change adaptation through crowdsourcing

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How can agricultural biodiversity help minimize the risks associated with climate change?

THE APPROACH:

1. Expose farmers to more crops and their varieties and increase their first-hand knowledge about different traits and options available
2. Strengthen their seed systems and seed-saving capacity so that they always have access to planting material that fits their changing needs.

ESTABLISHMENT OF FARMER-BASED EXPERIMENTAL NETWORK

- Farmers provided with different varieties which they evaluated in their own farm
- Most of these varieties performed better than varieties which were previously cultivated
- Farmers are willing to grow selected varieties for further testing for large scale cultivation
- Farmers have better understanding on use of diversity for climate risk adaptation - willing to grow more varieties

RESULTS

- Farmers' network expanded from 30 to 15,000 farmers over 3 years
- Yields obtained from trials comparatively higher than the existing averages
- Farmers' awareness of need for diverse good quality seeds increased
- Groups of farmers have initiated the process of seed multiplication and setting up community seed banks

INNOVATIVE TECHNOLOGIES TO CAPTURE CLIMATE PATTERNS AND TRENDS FOR CLIMATE CHANGE ADAPTATION

- Micro-weather recording devices - iButtons installed across all crowdsourcing trial sites
- Records temperature and humidity at any given time interval
- iButtons are mounted on specially designed stands made of PVC pipes
- Data is downloaded from the iButtons onto portable recorders from the fields

FUTURE PLANS

- Farmers have already become ‘citizen crop scientists’ providing feedback on their preference ranking data
- Project aims to upscale the farmers' network to 30,000 farmers in the next 2 years
- Also aims to generate an ICT-based system to improve farmers' decision-making process for seeds and meteorological information
- In process of developing technologies (with partners) for:
  1. Bespoke Apps for mobile phone
  2. Application Programme Interface (APIs) and online databases
  3. Interactive voice response (IVR) system
  4. Environmental sensors (e.g., iButtons, or Winmotosensors)