

How can we breed resilience to climate change?

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Why?

Climate change is predicted to increase the frequency and severity of drought-associated yield losses in many parts of the world.

It will have the greatest impact among resource poor farmers in developing countries. One approach to mitigate these effects and to promote food security is to encourage the wider use of existing drought tolerant, but underutilised, species such as bambara groundnut (*Vigna subterranea* (L.) Verdc.).



Better use of water resources

Improved nutritional security

Resilience to shocks of climate change

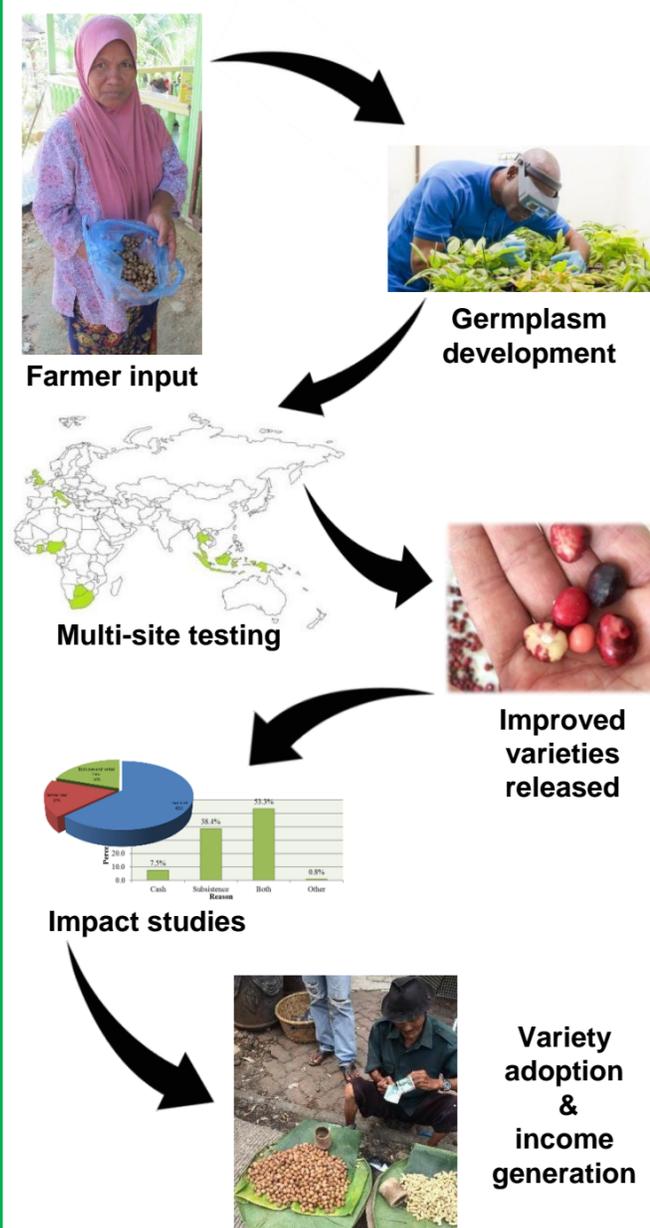
What?

The project is an evaluation of existing plant genetic resources and trait diversity, and the development of new material with grower and user-selected traits.

A three year, fully-funded (500,000 USD) project forms a Sub-Saharan African – Southeast Asian collaboration between four research centres to improve bambara groundnut's beneficial traits, such as drought tolerance, while reducing the disadvantages of its negative traits, such as long cooking times.



How?



Impact

Improving adaptation to climate change and enhancing food security.

The structured trait evaluation and breeding programme will create 'climate change ready' pre-breeding lines, varieties and variety mixes that can yield in regions unsuitable for major crops and particularly in harsh marginal soils. This will lead to improved drought tolerance and reduced cooking times, as well as a selection of lines adapted to particular agro-environments and socioeconomic conditions by local farmers and consumers. Finally, a major effort will be put towards conserving all genetic material, together with open access datasets generated using this material.

Find out more

Aliyu S, Massawe FJ, Mayes S (2015) Beyond landraces: Developing improved germplasm resources for underutilized species - a case for Bambara groundnut. *Biotechnology and Genetic Engineering Reviews* 30(2): 127-141