

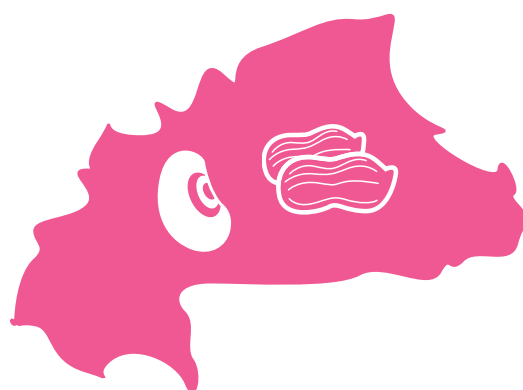
The Tropical Legumes projects were a series of initiatives that developed and distributed high-yielding, climate-resilient food legume varieties to millions of poor farmers across Africa and Asia. Implemented over a 12-year period with US\$67 million in funding from the Bill & Melinda Gates Foundation, the projects were led by three international CGIAR research organizations – the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the International Center for Tropical Agriculture (CIAT), and the International Institute of Tropical Agriculture (IITA) – and executed by national and regional partners.

In Burkina Faso, the main partner was the Institute of the Environment and Agricultural Research (Institut de l'Environnement et Recherches Agricoles [INERA]). The projects also collaborated with several other organizations to exchange knowledge and resources, including the Alliance for a Green Revolution in Africa, the Kirkhouse Trust, and the Feed the Future Lab at the University of California, Riverside.

CONTEXT

Food legumes are an important contributor to household incomes and food and nutritional security in Burkina Faso. In 2018, the country produced 630,000 tons of cowpea grain and 330,000 tons of groundnut grain.^a However, the yields of these two crops fall below their potential, due to widespread land degradation, desertification, and drought. As climate change intensifies, improved climate-resilient food legumes could help farmers address climate risks. With higher and more reliable yields, the essential proteins and micronutrients found in cowpea and groundnut could also make them strategic tools to end malnutrition, which affects an average of 3.8 million Burkinabés a year.^b

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APPROACH

STRENGTHENING BREEDING CAPACITY

The initiatives invested in critical infrastructure to improve the performance of Burkina Faso's groundnut and cowpea improvement programs, such as improving irrigation facilities and increasing the capacity of crop breeders and research technicians so they could meet future climate challenges. Enhanced breeding capacity means that the country's cowpea improvement program, for instance, is now achieving 3–4 generations per year, compared with only 1–2 before.^c This ensures that new varieties can be developed more efficiently and reach farmers much faster.

DEVELOPING FARMER-PREFERRED VARIETIES

Farmers played a critical role in evaluating the new cowpea and groundnut varieties – helping crop improvement programs to more effectively target their preferences,

CROP FOCUS:

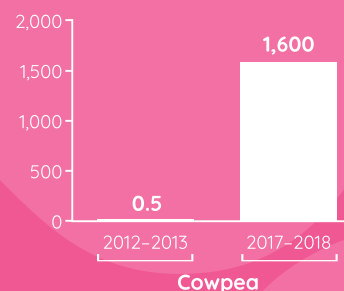


Cowpea

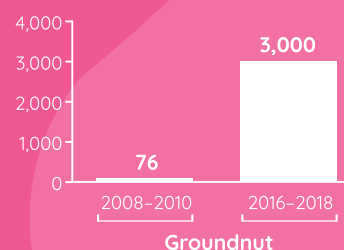


Groundnut

Improved seed produced (annual average tons/year)^c



Improved seed produced (annual average tons/year)^c



^a FAOSTAT: www.fao.org/faostat/en/

^b Global Nutrition Report 2020

^c Tropical Legumes III, Final Narrative: <https://tropicallegumeshub.com/rc/tropical-legumes-iii-final-report/>

BURKINA FASO: FACTSHEET

production constraints, and market needs. With support from the Tropical Legumes projects, Burkina Faso's cowpea and groundnut improvement programs released new, improved varieties from 2007 to 2019. The groundnut varieties were tolerant to foliar diseases and drought, and the cowpea varieties produced good yields under drought conditions and insect infestations.

IMPROVING SEED DELIVERY SYSTEMS

Seed delivery systems were developed and strengthened through public-private partnerships, with local seed producer cooperatives playing a critical role. Through 13 groundnut and cowpea platforms, the Tropical Legumes projects also provided training in seed production and marketing to over 8,900 people.^c

OUTCOMES

As a result of investments made by the Tropical Legumes initiatives, improved seed production increased substantially. Cowpea seed production increased from an average of **0.5 tons/year** (2012–2013) to **1,600 tons/year** (2017–2018), and groundnut seed production rose from an **average 76 tons/year** (2008–2010) to **3,030 tons/year** (2016–2018).^c

The Tropical Legumes initiatives estimate^d that enhanced seed production has been sufficient for an increasing number of households to plant seed. In 2008–2010, the amount of groundnut seed produced was sufficient for **3,800 households** per year on average, but by 2016–2018 this figure had grown to **151,000 households**. Growth was significantly higher for cowpea, with the annual average increasing from just **114 households** in 2012–2013 to **423,000 households** in 2017–2018.

Estimates^d demonstrate the growing economic value of the improved varieties. In 2008–2010, improved seed was sufficient to produce groundnut worth an average **US\$286,000 per year**, increasing to **US\$9 million** in 2016–2018. For cowpea, the equivalent figures were **US\$5,000** in 2012–2013, rising to **US\$18 million** in 2017–2018.

The projects also set out to understand the gender gaps that hold women farmers back, which informed the development of a tailored training program that empowered women, raised their crop production, and boosted their incomes. In 2017, for example, of the 2,450 farmers and seed producers trained by the projects in Burkina Faso, 75% were female.^c

LOOKING AHEAD

Despite the gains of the Tropical Legumes initiatives, efforts are still needed to improve the production and dissemination of quality seed in Burkina Faso. A new project, Accelerated Varietal Improvement and Seed Delivery of Legumes and Cereals in Africa (AVISA), is building on the experience of its predecessors to train more seed producers and increase seed production in the off-season. In addition, AVISA is strengthening and growing seed distribution networks, linking up with agro-dealers, and facilitating farmer and private sector access to credit to sustain seed production activities.

^d Calculations are based on an average plot size of 0.2 hectares per household, seeding rate of 0.02 tons/hectare for cowpea and 0.10 for groundnut, and a price/ton of US\$465.20 for cowpea and US\$452.70 for groundnut. These prices are averages taken from FAOSTAT figures for 2007–2017.

**TROPICAL
LEGUMES HUB**

Find out more about the
Tropical Legumes projects at
www.tropicallegumeshub.com

PARTNER:



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THE COWPEA
IMPROVEMENT
PROGRAM IS
NOW ACHIEVING
3–4
GENERATIONS
PER YEAR

OVER
8,900
PEOPLE TRAINED
IN SEED
PRODUCTION
AND MARKETING

Find out more: Varshney, R.K., Ojiewo, C., Monyo, E. A decade of Tropical Legumes projects: Development and adoption of improved varieties, creation of market-demand to benefit smallholder farmers and empowerment of national programmes in sub-Saharan Africa and South Asia. *Plant Breeding* 2019; 138: 379–388.