



N2Africa

Putting nitrogen fixation to work for smallholder farmers in Africa



N2Africa increases the nitrogen inputs from biological nitrogen fixation (BNF) to improve food and nutritional security of smallholder farmers, enhance soil fertility and establish new value chains around grain legumes

N2Africa is a large scale, science-based research-in-development project focused on enabling African smallholder farmers to benefit from symbiotic nitrogen fixation by grain legume crops through effective production technologies and long-term partnerships.

N2Africa works since 2013 in Ethiopia, Tanzania and Uganda, and since 2009 in DR Congo, Ghana, Kenya, Malawi, Mozambique, Nigeria, Rwanda and Zimbabwe,

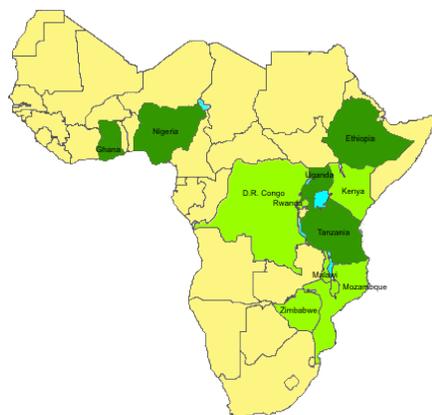


Figure 1. N2Africa's Core (dark green) and Tier1 (light green) countries.

The N from N2Africa

Nitrogen (N) is an essential nutrient for plant growth. N_2 – nitrogen in its gaseous form – comprises almost 80% of the atmosphere. Yet, it is inaccessible for most plants. Leguminous plants can use N_2 from the surrounding air through a symbiosis with bacteria called rhizobia.

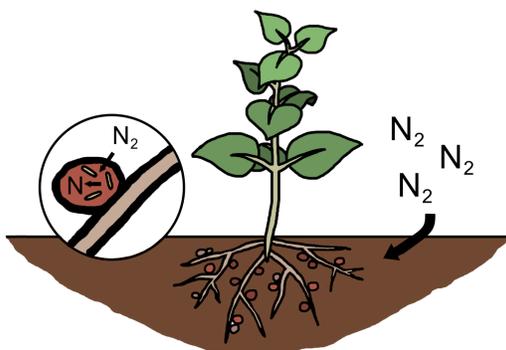


Figure 2. Nitrogen fixation by Rhizobia bacteria in legume root nodules.

Putting nitrogen fixation to work

Many smallholder farmers are stuck in a poverty trap as they struggle with land scarcity, infertile soils, limited availability of agricultural inputs and poor yields. To help alleviate these constraints, N2Africa aims to intensify sustainable cultivation of legume crops.

Legumes are protein-rich and they bring atmospheric nitrogen into the crops and the soil. Enhanced productivity of legumes thereby contributes to improvements in household nutrition, income and soil fertility.



Figure 3. Ms. Gasilida showing her climbing beans.

The N2Africa approach

N2Africa's ultimate goal is to build strong national expertise in grain legume production and research in each partner country. N2Africa provides hands-on training for African smallholder farmers and encourages them to try out improved legume varieties and technologies, including i.a. fertilizers and inoculants. Feedback from farmers ensures co-development of best-fit practices.

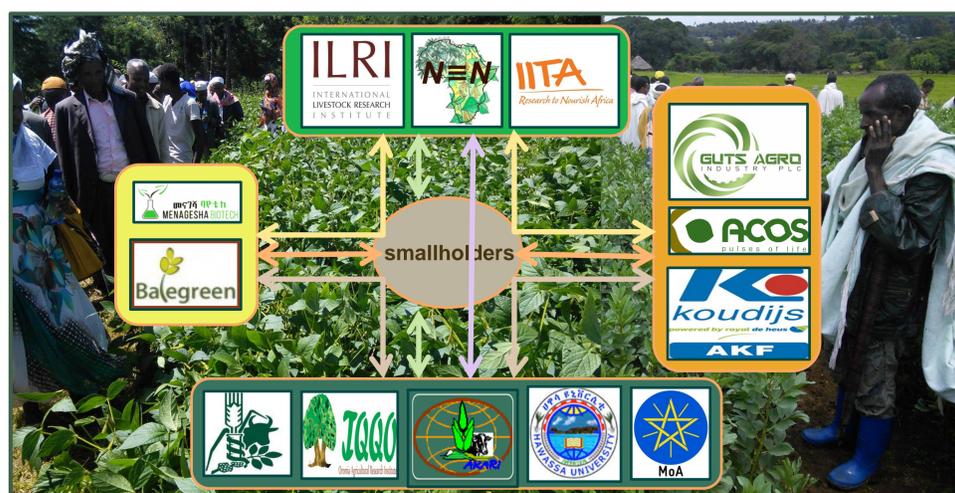


Figure 4. Public Private Partnerships allow for a stable supply of agricultural inputs such as seed, fertilizer and inoculant, and link farmers to output markets.

N2Africa links scientific knowledge with capacity building (from farmers to traders, development workers in extension and NGOs), women's empowerment, and access to input-output markets through Public-Private Partnerships. A strong network ensures continuous and independent improvement of technologies.

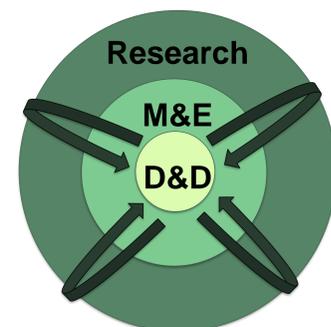


Figure 5. Development and dissemination (D&D) is the core of N2Africa. Monitoring and evaluation (M&E) allows data to flow into research.

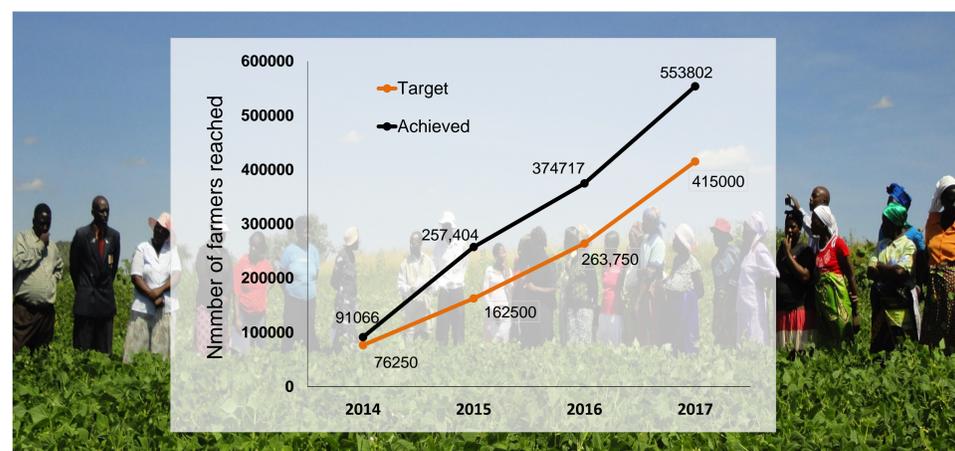


Figure 6. Each year thousands of farmers experiment with the N2Africa technologies and adapt them to their own needs.

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Ethiopia, Tanzania, Uganda, DR Congo, Ghana, Kenya, Malawi, Mozambique, Nigeria, Rwanda, Zimbabwe



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