Good practices in capacity building and awareness creation on sustainable nitrogen management

David Kersting, GIZ – Project Manager
Soil Protection and Rehabilitation of degraded Soils in Western Kenya
UNEP – GPNM Webinar “Advocating Organic Farming for Sustainable Nitrogen Management in Africa”
As a public-benefit federal enterprise we support our partners in their efforts to shaping a future worth living around the globe.

- We support the German Government in achieving its objectives in the field of international cooperation.
- We promote international education work and human capacity development.
- As a federal enterprise our work is based on German and European values.
Global Programme „Soil Protection and Rehabilitation for Food Security“ (ProSoil)

The programme in a nutshell

Duration
11/2014 – 03/2026

Budget
Contract value: 240 million EUR,
incl. 3 million EUR co-financing by the Bill & Melinda Gates Foundation and 20 million EUR by the European Union

Goal
Large scale implementation of sustainable approaches to soil protection and the rehabilitation of degraded soils.
8 Projects in 7 countries

WHERE WE WORK

6/18/2024 Good practices in capacity building and awareness creation on sustainable nitrogen management
The role of biological N-fixation in Integrated Soil Fertility Management

- N is one of many but a critical soil health indicator
- Biomass availability benefits nutrient availability → ISFM builds on synergies between mineral and organic soil amendments
- ISFM enhances resource efficiency → not a question of ideology but an economic necessity
- Organic farming (biomass-based soil amendments addition only) works under favourable market conditions
Potential and limitations of biological N-fixation (example: *mucuna pruriens*)

- ProSoil promotes a range of **green manure cover crops** in the framework of the ISFM concept; among them velvet bean (*mucuna pruriens*)

- **Multiple benefits** of *mucuna pruriens*
  - Up to 300 Kg/ha of nitrogen (substitute for fertilizer)
  - Biomass production → soil organic matter
  - ground coverage → protection against soil erosion

- Experience shows that adoption by farmers is most likely to be sustained if there’s a secondary **purpose beyond soil health** enhancement

- Potential for human consumption is limited by **high processing requirements** and **limited demand**

- Other purposes livestock / fish feed, medical purposes face context-specific **barriers** (cost, demand, certification, etc.)

Good practices in capacity building and awareness creation on sustainable nitrogen management

18 June, 2024
Good practices in promoting biological N-fixation

• Think **beyond N-fixation** from the start!

• Transforming a farming system means changing behaviour and continuous consultation with farmers (minimum of 3 years)

• Be conscious that different audiences require different ways of communication (age, gender, position)

• Understand farmers economic realities (usually emphasize **resource efficiency** rather than fertilizer substitution)
Conclusion and recommendations

- Governments to invest in **agricultural extension services**

- Governments to **incentivize good agricultural practices** such as green manure cover crops (through rules, regulations and subsidies)

- Support private sector investment in biological N-cycling **beyond immediate agricultural production**

- Where economically feasible; create an enabling environment for **organic farming** in Africa and worldwide