

# Permaculture as concept for efficient and environmentally sound agro-forestry on small farms in Sierra Leone



Brigitte Amara-Dokubo<sup>1</sup>, Fatmata Bangura<sup>2</sup>, Peter M. Bangura<sup>2</sup>, Edwin Sam Mbomah<sup>3</sup>, Falko Feldmann<sup>4</sup>

<sup>1</sup>Löwe für Löwe e.V. Braunschweig, Germany; <sup>2</sup>Moringa Innovation and Start-up Centre (MOST), Robekah Village, Sierra Leone; <sup>3</sup>Njala University, Institute of Environmental Management and Quality Control; <sup>4</sup>Julius-Kühn-institut, German Federal Research Centre for Cultivated Plants, Institute for Plant Protection in Horticulture and Forests, Braunschweig, Germany; **Contact:** [falko.feldmann@julius-kuehn.de](mailto:falko.feldmann@julius-kuehn.de)

To achieve subsistence, food security and food safety, a permacultural agro-forestry approach basing on the wonder-tree (*Moringa oleifera*) underutilized in Sierra Leone is currently developed.

## Permaculture

- Integrates design principles reflecting whole system thinking
- Combines cultivated plants of all growth form types
- Produces as diverse products as possible (from timber, oil and fibres to vegetables, fruits and starch crops)
- Is purely organic avoiding agro-chemicals
- Extracts as much as is revolved
- Circulates nutrients
- Produces no waste
- Includes water harvesting methods
- Catches and stores Energy
- Aims at regenerative, divers and self-maintained habitats
- Observes and Interacts
- Applies self regulation and accepts feedback
- Designs from pattern to details
- Integrates rather than segregates
- Use small and slow solutions
- Develops use and value diversity
- Uses edges and values the marginal
- Creatively uses and responds to change

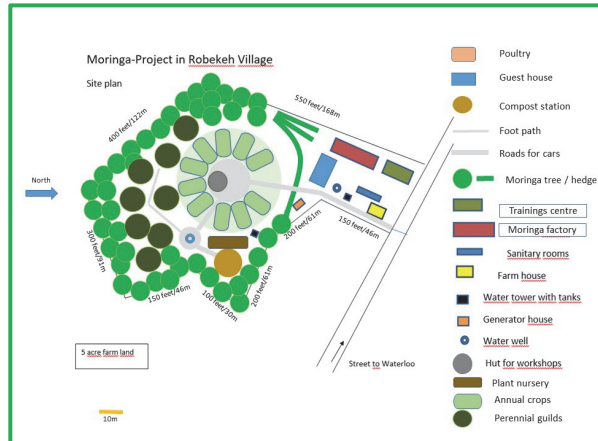
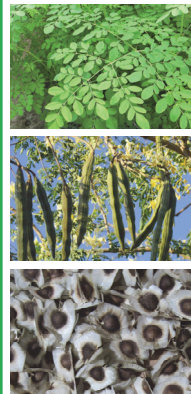
We re-think plant production as bottom-up approach: smallholders learn by doing and teach their community

## Moringa Innovation and Start-up Centre

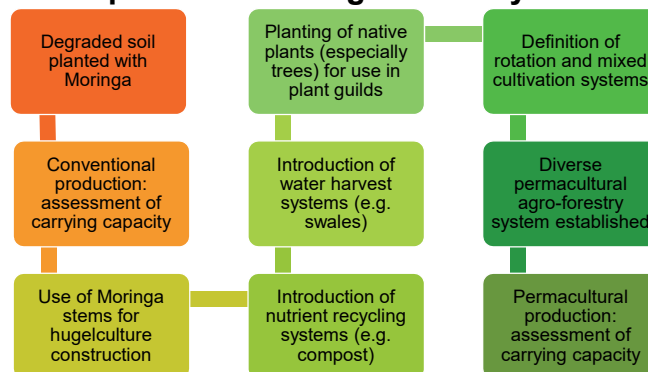
The Moringa-project is planned as demonstration farm connected with education facilities and consultancy services, called "Moringa Innovation and Start-up Centre (MOST)". The project is NGO-driven by Loewe fuer Loewe Germany and Sierra Leone, with support by Njala University, Sierra Leone, and Julius Kühn-Institute, Germany. MOST is located in Robekah Village in the peri-urban area of Waterloo.

- The project will guarantee the scientific and charitable exploration of agricultural, technical and medicinal aspects of the multi-purpose Moringa tree. Starting with Moringa, the growing system will be developed into an innovative permacultural agroforestry system.
- Own facilities for diagnosis and analyses should complement the centre and allow education of farmers and students on-farm.
- The offer of a start-up consultancy service should lay the basis for small-scale entrepreneurial actions of the MOST.

All plant parts of Moringa have several uses



## Moringa starts the transformation process towards permacultural agro-forestry



## Progress

### Since 2014: Fundraising



### 2016: Foundation



### 2016-2017: Planning



### Since 2017: Constructions



### 2019: Planting



### 2020: First harvest



### 2020: Train the trainers



Take me home



Permacultural agro-forestry will create food, expertness and ecological stability:  
**the MOST**

