# Investment factsheet:

# Promoting sustainable practices in sunflower and soybean production in Ihemi

Sunflower and soybean value chains are crucial to Tanzania's agriculture, supporting smallholder farmers and local industries. **Sunflowers** are important for edible **oil production**, reducing reliance on imports, while **soybeans** provide essential inputs for **livestock feed** and **food processing**. However, both value chains face challenges, including low productivity, limited access to markets, inadequate waste management, and unsustainable farming practices.

## Problem statement

Both value chains produce **valuable by-products** that can be repurposed. However, due to a **lack of incentives and knowledge** among farmers, these by-products often go to waste, resulting in lost potential yields, reduced incomes, and negative environmental impacts.

## Proposed action

The **Kizimba model** implemented in Tanzania's SAGCOT region, could be adapted to the sunflower and soybean value chains to properly manage their residues and enhance sustainability. It emphasizes repurposing agricultural waste, reducing agrochemical use, training farmers, and promoting market linkages to connect farmers to markets and ensure better access and fair prices.

A **certification system** could support this initiative since it encourages eco-friendly farming, increases incomes, and strengthens community resilience.

## Investments needed

- **Estimated initial investment:** over USD 150,000 (costs include 4 processing machines for sunflower and soybean; agrochemical waste building infrastructure; certification costs; weight balance; and building for project operations).
- **Average operating costs:** USD 150,000 per year (costs include maintenance costs such as annual audits and certifications; wages for permanent employees and temporary workers; and raw materials for sunflower and soybean production).

## Potential areas to be implemented

**Kilolo District** (Mtitu, Ng'uruhe, Ihimbo, Ukwega, Kilolo, Ukumbi)

**Iringa District** (Luhota, Mgama, Magulilwa, Lyamgungwe, Masaka, Mseke)

**Potential beneficiaries:** Sunflower farmers (**300**) and soybean farmers (**200**).

**Partnerships for success:** VICOBA (*financing*), PASS (Private Agriculture Sector Support Ltd) (*training*) and IFCU (Iringa Farmers Cooperative Union) (*training*), One Acre Fund (*financing*), The United States African Development Foundation (*financing*), The Africa Enterprise Challenge Fund (*financing*), SAT (*implementation*), Sokoine University Graduate Entrepreneurs Cooperative (SUGECO) (*implementation)*, Tanzania Organic Agriculture Movement (TOAM) (*Communication*), SAGCOT (support), Local cooperatives and clusters (Ihemi Cluster, AMCOS) (*implementation and Communication*)), Local government, academic, and other private sector partners (*implementation*).

## Expected benefits

**Farmers' income** from the sale of soybean and oil sunflower (assumptions: 300 sunflower farmers, 200 soybean farmers, 142.14 sunflower oil litters at USD 2 by litter, 400 kg of soybean at USD 0.53 by kg) **(130,000 USD/year).** This represents 72% of total expected benefits.

**Economic saving** of adopting sustainable agrochemical practices (USD 10 as saving for each farmer) **(5,000 USD/year).**

**New incomes** for farmers from selling sunflower cake as a residual product and from certification (assumptions: 355 kilograms of sunflower cake, which will be sold at USD 0.057 per kilogram, multiplied by the number of farmers, which is 300). Certification is assumed to increase by 30% the general income of farmers, mainly by reputational reasons that will allow to set higher prices. All this will expect over **44,000 USD/year.**

**Financial:**

| | 2026-2030 | 2026-2035 | 2026-2050 |
|---|---|---|---|
| **Total Present Costs (USD)** | 858,317 | 1,549,767 | 3,452,634 |
| **Total Present Benefits (USD)** | 651,912 | 1,429,789 | 3,570,503 |
| **Financial Net Present Value (FNPV) - (USD)** | -206,405 | -119,978 | 117,869 |
| **Financial Rate of Return (FRR) - %** | -36% | -6.5% | 7% |
| **Benefit-Cost Ratio (BCR)** | 0.76 | 0.92 | 1.03 |

**Break-even point**: It is **Year 14** when the initial capital investments are fully recovered. In that year, a positive cash flow of **USD 20,084** is expected.

**Environmental:**

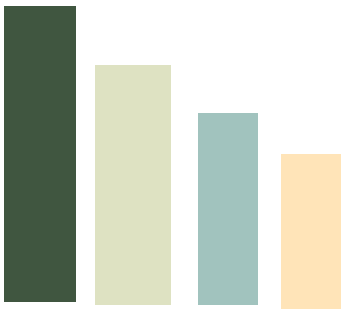
Improved soil health, reduced erosion and lower rehabilitation costs, while increasing productivity from sustainable agro-practices, and reducing $CO_2$ emissions avoiding waste management.

**Social:**

Improvement of farmers' conditions through the increase and diversification of their income. Specific training and mentoring programs focused on young farmers and women to improve loan accessibility.

Although the immediate **profitability** of sunflower and soybean may appear relatively modest, the long-term outlook is encouraging. It increases if supplemented by activities where farmers selling sunflower cake as a residual product after processing sunflower oil.

## Potential for success



- Both initiatives facilitate access to new markets, and it strengthens market acceptance of products.
  - The participatory approach ensures compliance with sustainable agricultural practices while fostering trust, accountability, and collective responsibility within farming communities.
    - Local policies are favourable for project implementation, with government authorities expressing willingness to collaborate.
      - Certification offers an accessible framework for aligning projects with national policy priorities, further strengthening the case for investment and long-term success.
        - A combination of blended finance, PPP and cooperative model will provide viable solution to waste management and certification system for long term financial viability.

### Opportunities for enabling NbS investments

For *sunflower* value chains, the use of **drought-tolerant, locally adapted varieties** and the promotion of **intercropping with legumes** like cowpeas could help to both resilience and soil fertility. Further, **basalt rock dust** and **biofertilizers** can also be adopted to regenerate soils, while **agroforestry integration** with species like *Faidherbia albida* supports erosion control, biodiversity, and carbon sequestration.

In *soybean* value chain **biocontrol agents** (e.g., *Trichoderma spp.*) will enhance root health and reduce fungicide use. The introduction of **cover crops** such as *Mucuna* and *Lablab* improves soil nitrogen and weed suppression, and **zero tillage** with residue retention helps maintain soil structure and organic matter, especially in erosion-prone areas.