A model for promoting a versatile but yet minor crop: Soybean in the farming systems of Kenya

Tropical Soil Biology and Fertility (TSBF) Institute of the International Centre for Tropical Agriculture (CIAT)

Take-Away Message

Benefits of soybean

- Livelihoods: Important food, feed, oil, castor crop, raw material for bio-energy
- Soil fertility; Fixes 49-120 kg N ha⁻¹ from atmosphere.
- Savings: On investment in fertilizers.
- Nutrition: high protein, 23% oil, no cholesterol, and omega 3 fatty acid that reduces the risk of chronic diseases (e.g. IHD).

CIAT’s mission

- Contributes to: Hunger reduction (e.g., through IFR 11)
- Poverty reduction (e.g., through IFR 2 and 3)
- Quality collaboration (see the Strategic Alliance)
- Improved natural resources management (e.g., N fixation)
- Capacity building and training of key stakeholders

CIAT Product Line

- Fits in product line 4 (Innovations in סוybean)
- Links to product line 1 (Maximizing benefits for the poor)
- Vehicle for new development
- Improved livelihoods of small-farmers
- Value addition

So includes both CIAT’s R&D’s

Contributions to MDGs

- Eradication of extreme poverty & hunger (Goal 1)
- Improvement of child nutrition (Goal 3)
- Improvement of health & nutrition, increase in income & reduction in vulnerability to HIV (Goal 6)

Successes in sub-Saharan Africa

The Nigeria case:
- Double yield: from 340 kg ha⁻¹ to 740 kg ha⁻¹
- 170% increase in productivity.
- Consistent increase in number of farmers.
- 150% increase in soybean products available for sales and consumption.
- 100% increase in processing companies.

The Zimbabwe case:
- From 55 participating smallholder farmers in 1999 to 50,000 in 2006.
- Widespread processing and consumption of soyOil, soy yam, and other soy products.
- Use of SoyLab (soy oil making machine) by groups of small farmers to generate incomes.

Reasons for the successes

- A combination of methods including: collective action, processing and development of cottage industries, value addition, product branding, marketing, information exchange, good agronomy, community involvement, trade and credit facilities.

Failures in sub-Saharan Africa

Failures in Kenya in the past were contributed to by lack of awareness on processing, utilization, low yield, lack of market, weak policy support, and low prices.

Learning from the past: a reflection of soybean failure in Kenya

- There is need for understanding the reasons for successes in Nigeria and Zimbabwe and the failure of earlier soybean development in Kenya.

- Using the understanding to create a model three-tier approach for sustainable soybean promotion in Kenya, supported by a Strategic Alliance of Stakeholders and extensive training, capacity building and awareness creation.

Objective

- Maximize the use and benefits of soybean through improved agronomy, marketing, processing, value addition, nutrition, training, outreach and income generation in Kenya.

Materials and Methods

- The use of a three-tier approach for soybean market development supported by three pillars: strategic alliance of all stakeholders, extensive training and capacity building, and awareness creation on all the benefits of soybean at all levels. The target groups and development stakeholders are fully involved in all the tiers. For sustainability, the use of locally available resources was emphasized.

The three-tier-approach

- This model is about intervening at household level, community level, and linking soybean producers with large-scale food and feed industries that use soybean for manufacturing but presently import large quantities of soybean used for manufacturing.

The first tier focuses on the household-level production and aims at training household members on ways of processing and consuming soybean.

The second tier focuses on improving the community-level. Surpluses of soybean production at household level are harvested here and processed into soyoil, yoghurt, soy bread, cakes, biscuits, etc. This prevents food output at household level that could become a constraint to further production, creative and solving the whole problem. Tier 2 also creates new jobs and demand through the creation of new products (e.g., soyOil, soy yoghurt, meat analogues) from soybean.

The third tier, also known as the industrial level soybean market development involves linking of farmers to large-scale feed and food processing companies and industries for import substitution and to increase the market at prices determined in the Strategic Alliance meetings for different product qualities.

Key Next Steps

1. Scale-up to all east and central Africa region.
2. Increase participation of micro-finance agencies.
3. Increase the involvement of the youth.
4. Increase awareness of the high potential benefits to the poor.
5. Adapt model to other farming enterprises.


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