



Inputs for outputs: Improving farmers' access to seeds and agro-inputs in North-West Ethiopia

Executive Summary

Without quality seeds, fertilizers and agro-chemicals, farmers cannot double sesame yields and improve the production of rotation crops, fruits and vegetables. Although good varieties are released, the required inputs are known and farmer demand is increasing, quality seeds are hardly used (<5%), and soil fertility management and pest and disease control remain largely conventional. This strongly affects the performance of the sector. Thousands of tons of additional production and millions of US dollars of additional revenues are not realized. Supplying the required amounts of inputs of good quality and at affordable distance and price for farmers calls for a seed and agro-inputs action plan, for which recommendations are given below.

Recommendations for action

- Vision 2025: 80% of the farmers use quality seeds and fertilizers and have access to agro-chemicals when required.

To move to this outcome, the following practical actions are recommended:

- Use Kebele agro-economic planning for detailed assessment of farmers' demand for quality seeds and agro-inputs
- Continue demonstrating evidences on the yield gain and additional income (MRY/MRR) resulting from improved seed and fertilizer use versus farmers' conventional practices
- Pursue participatory variety selection methods (PVS and crowd sourcing) for all commodities
- Promote rotation crops for reduced mono-cropping, food and nutrition security and risk management.
- Build research capacity to increase the production and improve the storage of breeder, pre-basic and basic seeds
- Promote seed multiplication by investors and seed producer groups for sesame and all relevant rotation crops by: tailored training, close technical support, provide land when needed, facilitate loans and ensure seed prices that are sufficiently incentivizing.
- Develop action plans for the promotion of home gardens, horticulture and fruit trees and avail required seeds, with involvement of nurseries and private seed suppliers.
- Invest in seed storage, cleaning and packaging facilities in the sesame zone and promote local seed business.
- Strengthen the capacity of seed inspection and regulatory unit (vehicles, laboratory equipment; budget and motivation mechanism to improve quality of inspection);
- Package seeds and fertilizers in small quantities to improve access for small farmers.
- Voucher system for input financing via micro-finance institutes, RUSACOS, unions and cooperatives.
- Build technical and physical capacity of private retailers and promote farmer service centers and cooperative seed and agro-input shops.



Problem statement

- In sesame producing areas, the use of quality seed is still very limited (<5% of the sesame acreage). The same holds for the availability and appropriate use of fertilizers and agro-chemicals.
- Although demand is increasing, the contribution of quality seeds and agro-inputs to yield improvement is underestimated by farmers.
- Although good varieties are available, there is a substantial gap between the production of quality seeds and farmers' demand. The few investors and seed producer groups do not function well.
- The organization of fertilizer supply has to be improved and has to be based on explicit farmers' demand.
- Repeated growing of sesame on the same plot is leading to increased pest infestation (such as web-worm and gall midge). Crop rotation, resistant varieties, early detection of pests and diseases and timely and wise use of agro-chemicals are required.
- Agro-chemicals are often of unclear origin and do not have proper labels in Amharic or Tigringna. Retailers can often not explain the appropriate use of the chemicals they are selling.

Experiences and lessons learned

- Demonstrations and scaling-up efforts of previous years have succeeded in raising farmers' awareness and creating higher demand for quality seeds, fertilizer and agro-chemicals.
- Good results have been obtained with farmer-inclusive approaches towards variety selection (participatory variety selection and crowd sourcing).
- Many varieties have been released, both for sesame, sorghum, mung bean, soy bean and other crops. Farmers are more interested to grow rotation crops and there is high interest for the production of fruits and vegetables.
- The Kebele agro-economic planning approach allows for detailed identification of farmers' need for seeds and agro-inputs.
- With capacity building and technical backstopping, regular inspection, functional public, private and cooperative distribution channels, seed packaging in customized sizes, and sufficient price



incentives for seed producers, It is possible to promote seed producer groups and investor farmers in seed production.

- To respond to local variations, soil mapping and tailored recommendations are key for optimal use of expensive fertilizer use.
- The voucher system is a good option for improving access to fertilizers and appropriate use of agricultural credit.
- Farmers can be trained in pest and disease control and be early detectors of pests and diseases.
- Farmer service centers and cooperative or union shops can be outlets of seeds and agro-inputs.

Opportunities

- The direct contribution of quality seed to improved production is 15-20%. This translates in a yield increase of 60-80 kgs. per hectare (e.g. 30-40,000 tons extra production on 500,000 hectares).
- The effect of fertilizer and field operations depends upon the quality of seeds used . The combined effect of using quality seeds and fertilizer is up to 45-50%. This translates in a yield increase of 180-200 kgs. per hectare (90-100,000 tons extra production). When all recommended practices are applied, yields can double