DECISION MAKER'S NOTE

FUTURE OPPORTUNITIES FOR FLOOD-BASED FARMING IN AFAR AND SOMALI REGION

Developing an adapted lowland agricultural extension concept for flood-based farming to increase resilience in Afar and Somali Region

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Key take-away messages

- The Ethiopian lowlands are punching below their potential weight in agriculture
- Current crop production does not meet local requirements for food and nutrition security or fodder supplies
- Due to improved soil and water conservation practices derived from water-spreading weirs and dry stone measures, new rehabilitated land will become available for crop production
- Opportunities exist to produce crops that can serve as a basis for new value chains aimed at income generation of agro-pastoralists and pastoralists
- Such opportunities could leverage trade-based food and nutrition security in Afar and Somali region

Introduction

Package One has introduced best soil and water conservation practices using innovative and adapted infrastructure and institutional innovations. Together with agricultural extension material, this aims to train farmers in an applied setting. Package One serves as foundational material for reaping the opportunities in Afar and Somali region. Package Two follows from this and present the options for flood-based farming in the lowland regions.

At present, agricultural output in both regions is low and insufficient to meet food and nutrition security challenges in the Ethiopian lowlands. Too often, food security is further jeopardized due to drought, conflicts, locusts, pests and others. The lowland regions y have therefore required substantial food aid assistance by the federal government and donors. However, this is not a viable way forward for the fast-growing populations in Afar and Somali region.

Field interviews with communities on the ground confirmed their current and future needs for improved food and nutrition security and secure access to supplementary sources of fodder. It became evident that communities in the two regions have a desire to grow more locally sourced crops and fodder but also crops that can be traded with other regions in Ethiopia to achieve trade-based food security and income generation. For this purpose, this note aims to discuss the strengthening of existing crop production and to introduction of potential new crops to be grown in areas around water-spreading weirs and drystone measures. These could help to feed the regions through local food production but also through trade-based approaches.

Climatic conditions in Afar and Somali region for crop growth

Both Afar and Somali region are located in the arid zones of Ethiopia. During most of the year, there is little if no precipitation making agricultural production a challenge for farmers and local communities. However, the two rainy seasons in March/April and July/August bring high levels of floods from the neighboring mountain catchments. This water is the main source of moisture, which – if managed properly – allows agricultural production. There are several favouring conditions in the lowlands of Ethiopia.

- Several crops can be grown under local conditions in Afar and Somali region.
- Floods carry nutrients in the form of sediment, which acts as a natural fertilizer for crop production.
- Weeds are largely absent due to the general lack of vegetation and high temperatures.
- Animals are widely available for traction/ploughing.
- Manure as fertilizer is widely available.
- The agricultural production can be further expanded if drought-resistant crops and crop varieties are selected that tolerate longer periods of drought.
- There is a high demand for fodder crops that feed locally reared livestock. These crops enable local agro-pastoralists and pastoralists to continue with livestock and dairy production. Fodder can be the main product of the farm product or an important by-product through the production of leaves and stalks.
- Regional governments/NGOs/traders already market crop promotion.
- Due to the strategic location of both Afar and Somali, there is an easy access to neighbouring markets such as within Ethiopia but also Somalia, Eritrea and Djibouti.

Harvest of sunflower (GIZ/SDR-ASAL)

Which crops could boost food security in Afar and Somali region?

A number of crops have been identified as most promising for the lowlands by the Ministry of Agriculture and by research organizations. Some of these crops are already grown, whereas others are relatively new. The table below gives an overview. Under Package 2 Extension material has been prepared in support of these preferred crops.

Promising crops for the lowlands

		Food security	Fodder security	Commercial sales
Grains	Maize, Pearl Millet, Sorghum	✓	✓	✓
Legumes	Chickpea, Mung Bean, Lablab/Pigeon Pea/Cow Pea;	✓	✓	
Fodder grasses	Napier Grass/ Elephant Grass, Sudan Grass, Desho Grass, Rhodes Grass		✓	✓
Oil seeds	Sesame, sunflower			✓
Vegetables	Tomato, onion	✓		
Tree crops and shrubs	Moringa, acacia, incense trees	✓		✓

Opportunities for new value chain developments

Another crucial opportunity exists in new value chain developments in Afar and Somali region. The different crops described above provide new opportunities for farmers, local businesses, traders and consumers as the production of higher crop diversity would provide the initial input sources for value chains.

For example, the livestock value chain would benefit from more fodder crops, including the production of hay. This allows local farmers to produce more meat and dairy for the local and national market. Given Ethiopia's high demand for e.g. milk to increase milk availability to more than the current 40 litres per year per capita Afar and Somali region could play an important part by sourcing fodder.

Moreover, growing oilseeds such as sesame or sunflowers, which are highly drought and heat-tolerant crops, could enable Afar and Somali region to become new actors in the vegetable oil value chain. This would be of local and again national relevance as vegetable oil has seen dramatic price increases in the past 12 months on the global market, hence Ethiopia must become self-sufficient in vegetable oil production to meet the demand of a growing population.

The role of agricultural extension

Accompanied by effective agricultural extension services through development agents (DAs), new crops could provide new jobs for agricultural processors such as abattoirs, traders among others and in turn economic development. Given socio-economic conditions, any material for agro-pastoralist and pastoralist communities must be based on graphics and easy to understand images so that adoption of new practices will be ensured. Extension services must also demonstrate new best practices for rapid adoption by the local farming community by providing technical knowledge on farming but also on how to fight the spread of invasive species. Extension services must also facilitate the availability of inputs such as seeds and convene regular discussion groups amongst farmers on lessons learned. As a central tenet for extension services at the Pastoralist Training Centres (PTCs) where training can be provided and where farmers can meet to discuss experiences and future opportunities.

Preparing the field for the next cropping season (GIZ/SDR-ASAL)

Policy recommendations

- There is considerable scope to increase the production of crops in the lowlands and introduce new crops. To ensure the adoption of new practices requires investment in the number and mobility of Development Agents in combination with appropriate extension material
- In promoting agricultural production it is important that the specific lowland circumstances are sufficiently taken into account, including choice of crops, food and fodder preferred by the agro-pastoralists, climatic conditions, experience of men and women in specific crops. What may be national priority crops (such as wheat), may not necessarily be suitable for the lowland conditions.
- A strong link should be created with the Soil and Water Conservation programs, to ensure that water will remain available and soil fertility is managed well, whereas the potential of flood-based systems is optimally used
- The promotion of agricultural production should be combined with the development of value chains, that take care of the preservation of crop produce (for instance as hay), the distribution and sales over a larger area. This will create jobs and will support trade-based food security.
- An area of special concern for the lowlands is the spread of invasive species. This should be incorporated in the agricultural extension efforts.
- Agricultural extension programs should also play adequate attention to nutrition and safe diets, which is a major concern in the lowlands.

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