

# Fact Sheet Series

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PEACE, PROSPERITY AND REGIONAL INTEGRATION



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## BUSINESS CASE ON INNOVATIVE RESILIENCE-ENHANCING TECHNOLOGIES AND PRACTICES IN AFRICAN-GROWN STAPLE GRAINS AND HORTICULTURAL PRODUCTS IN CROSS-BORDER MARKETS OF IGAD CLUSTER 1 (KARAMOJA CLUSTER)

### A. BACKGROUND

The main farming systems in Karamoja Cluster incorporate mixed farming; agro-pastoral farming; highland perennial farming; highland mixed farming and pastoral farming; fish-based farming; irrigated farming; sparse arid pastoralism and oases farming and urban and peri-urban farming systems. In terms of increasing income and resilience at household and community



*Modern Food Storage Facility, West Pokot, Kenya*

levels, there are arguments that pastoral and agro-pastoral livelihoods are more viable in Karamoja than crop farming even in bad years. In fact, a 2014 FAO household economy baseline assessment on livelihood profiles in the Karamoja region of Uganda (in the Southeastern Maize Cattle Zone and Amudat district specifically), indicated households that rely on livestock as a major livelihood were found to have coped better to the effects of dry spells experienced than those that relied predominantly on crop production.



*Drip-irrigation, Bishoftu, Ethiopia*

These arguments perhaps explain, why for a long time, crop production has been considered unviable in the Cluster owing to ecological and social-cultural reasons. But today, there is evidence that where the right conditions prevail, farmers (of which 60-80 percent are smallholders) have benefited from crop agriculture via a range



*Zai Pits Planting at Moroto, Uganda*



*Flood-based Sorghum Farming, Turkana, Kenya*



*Stacked Teff, Bishoftu, Ethiopia*



*Sorghum Hulling Machine at Moroto, Uganda*

of farming technologies. Maize, sorghum, and teff, sesame, sunflower, sugarcane, mangoes, oranges are the main food and cash crops.

Owing to interventions of government and development organisations to promote food and nutrition security, grain production and trade has increased in the last 10 years. However, these gains have been eroded by the rapidly snowballing population in areas of production, changing consumption patterns, and augmented regional and international demand. Grain trade liberalisation has increased intra-regional trade flows; while increased local and regional demand in grains has reinvigorated large-scale production of key grains including maize, beans and sorghum.

## **B. PRODUCTION DATA OF KEY AFRICAN-GROWN STAPLES AND HORTICULTURAL CROPS IN THE CLUSTER**

The African staple grain and horticultural value chains in the Karamoja Cluster is characterised by smallholder farmers, who form 60-80 percent of the farming constituency. An inspection of the crop records at various offices yielded the following data:

<b>Maize</b>					
	Amudat	Moroto	West Pokot	Turkana	SNNP
Area under cultivation (acreage)	13,000	7,953	39,855	3,941	No data
Annual output (tonnes)	110,000	67,294	96,854	1,006	
<b>Sorghum</b>					
	Amudat	Moroto	West Pokot	Turkana	SNNP
Area under cultivation (acreage)	3,500	8,299	623	3,266	No data
Annual output (tonnes)	21,000	70,226	1,026	1,516	No data
<b>Millet</b>					
	Amudat	Moroto	West Pokot	Turkana	SNNP
Area under cultivation (acreage)	No data	No data	940.7	No data	No data
Annual output (tonnes)	No data	No data	204	No data	No data
<b>Beans</b>					
	Amudat	Moroto	West Pokot	Turkana	SNNP
Area under cultivation (acreage)	4,000	5,321	14,571	No data	No data
Annual output (tonnes)	16,000	40,260	20,152	No data	No data
<b>Teff</b>					
	Amudat	Moroto	West Pokot	Turkana	SNNP

Area under cultivation (acreage)	-	-	-	-	608,123
Annual output (tonnes)	-	-	-	-	19,328,573
Horticultural crops					
	Amudat (vegetables)	Moroto	West Pokot (Irish potatoes)	Turkana	SNNP
Area under cultivation (acreage)	13	No data	1,576	187	No data
Annual output (tonnes)	5,200	No data	20730	1,343	No data

### C. PRIVATE SECTOR INVESTMENT OPPORTUNITIES ON SELECTED READY-TO-SCALE OPPORTUNITIES

Observations from the Karamoja Cluster combined with consultative meetings and key informant interviews, focused group discussions as well as field observations conducted in Karamoja Cluster (Karamoja region in Uganda, Turkana and West Pokot counties in Kenya) and from secondary data about South Omo in Ethiopia indicated that farmers are applying a number of technologies at both production and productivity; and post-harvest management and commercialisation levels, which can be scaled up for impact as follows:

Technology	Uganda	Kenya	Ethiopia	Opportunities for private sector
1. Production of crops from Zai pits	X	X		<ul style="list-style-type: none"> <li>• Supply farm implements to dig the pits</li> <li>• Purchase the increased volumes</li> </ul>
2. Investment in resilient crop production and use of improved seed varieties	X	X		<ul style="list-style-type: none"> <li>• Provide agro-dealer support and off-gate/ onward output markets</li> </ul>
3. Development of aggregation and storage facilities	X	X		<ul style="list-style-type: none"> <li>• Modernise and construct warehouses at strategic locations to be fed by village collection centres</li> <li>• Provide business development services and markets</li> <li>• Undertake value addition activities</li> </ul>
4. Flood-based farming		X	X	<ul style="list-style-type: none"> <li>• Provide business development services</li> <li>• Undertake value addition</li> <li>• Provide output markets</li> </ul>
5. Simple irrigation and fodder banks			X	<ul style="list-style-type: none"> <li>• Supply simple irrigation technologies – sprinklers, drip lines etc.</li> <li>• Provide investment and trade finance</li> </ul>

It is important to note that some of these technologies could have a complementary effect on other livelihoods like livestock production. For example, fodder banks would support crop cultivation through retention of ground water and still act as feed for livestock during the dry spells. The by-products of crops (residues) can also be preserved to feed livestock in the dry spells. It is therefore recommended that the commercial development of these technologies be undertaken with the consideration of the complementarity advantages in other livelihoods.

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## **D. LIMITATIONS TO RESILIENCE INNOVATIVE TECHNOLOGIES IN AFRICAN-GROWN STAPLE GRAINS & HORTICULTURE PRODUCTION**

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- Low productivity of land and low use of productivity enhancing technologies leading to inadequate supply of quality raw material in sufficient volumes and at the right time
- Limited access to agricultural finance and technologies
- Limited irrigation infrastructure
- Limited capacity to use early warning systems and predict market conditions
- Ineffective government regulation (input markets) and support
- Weak producer-market linkages
- Weak farmer organisations/cooperatives/capacity for aggregation, inadequate capacity of processing and storage (cold chain) facilities
- Apparent disconnect between researchers and adopters of the innovations
- Latent speed at which technology transfer is done and exchanged between communities and countries due low resourcing, lack of prioritisation of government programmes and other factors

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## **E. POLICY ADVICE**

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The recommended policy actions will provide an enabling environment that will sustain the sharp increase in grain trade that has been witnessed in the region over the last three years. Improved infrastructure will facilitate faster movement of people and food commodities to cross-border markets. Further, the access to cross-border markets will take advantage of resilience-enhancing technologies and stimulate production at farmer level. Some of these policy, regulatory and market system actions include:

1. Honouring all Member State policy commitments to enable cross-border trade, key of these being the fulfilment of made commitments to open up the Karamoja region and SNNP region respectively, with modern tarmac roads;
2. Strengthening the implementation of the Single Electronic Window System, One Stop Border Points and harmonised staple food standards so as to address barriers to trade through tax exemptions on products from the East African Community (EAC) region;
3. Strengthening the implementation of the Simplified Trade Regime by the Common Market for East and Southern Africa so as to make trade easier;
4. Developing mechanisms for high-level interventions to understand all matters related to the political economy issues resulting from Member States' inaction or slow action to ratify policy, regulatory and market instruments;
5. Support to policy work that makes commitments to invest resources in technologies and practices that bring out the complementary advantages between crop cultivation and livestock production; as well as efforts that contribute to sustainable land use management.



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