Alliance Bioversity & CIAT

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SWEET POTATO

Nutrition security crop that provides an alternative food source when major highly dependable food crops such as maize, rice, and potatoes fail, especially due to drought.

- **Improve soil fertility**
- **Reduces soil erosion**
- **Feed for dairy animals**
- **More high quality milk**

PRODUCTION LOCATIONS

Sweet potatoes in Kenya are produced in:

- **Rift Valley**
- **Lake region** leading in production
- **Central Kenya**
- **Coastal Kenya**

Production is dominantly small scale

It is both for subsistence and income

Is produce individually or collectively

PRODUCTION AND PRODUCERS FACTS

Producers are mainly women

CONSUMPTION

Sweet potato roots, vines, and leaves are utilized in many ways in Kenya.

They are consumed whole either boiled, roasted, deep fried, or mixed with food products such as cooked beans and maize; or mashed and consumed as a complete meal.

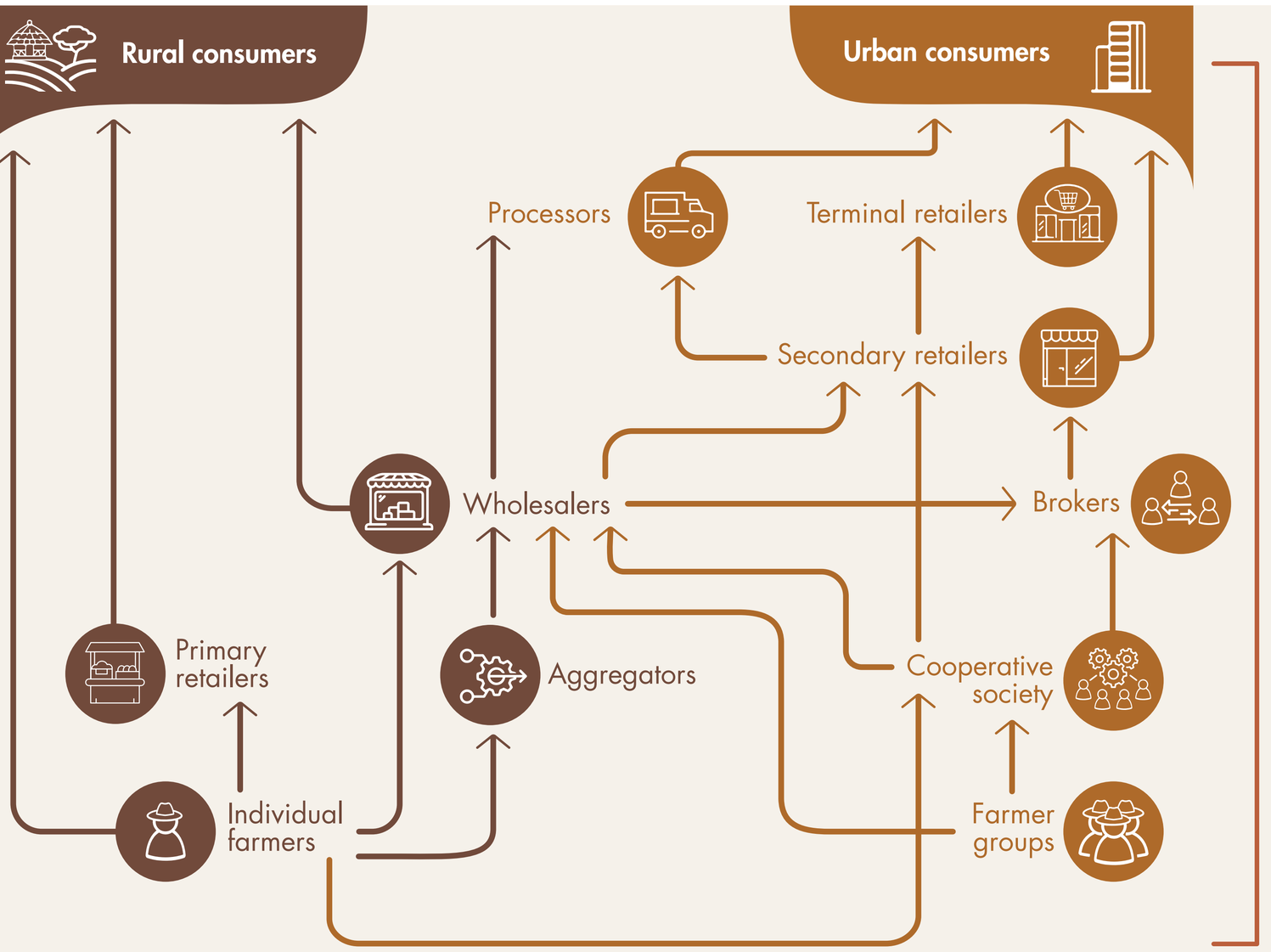
The roots can be made into chips, crisps or dried and ground into flour.

The flour can be composited with wheat flour to make a wide range of products including bread, cakes, biscuits, “mandazi”, doughnuts, “chinchin”, crackies, “chapatis” and “uji” or “ugali”

THE SWEET POTATO VALUE CHAIN

WITH ITS MAIN CHARACTERS, SERVICE DELIVERY ACTORS AND EXTERNAL INFLUENCES.

Some of the challenges experienced across the sweet potato value chain in Kenya are at the same time causes of postharvest losses. Lack of storage facilities experienced across the entire chain is a key contributor to postharvest losses since sweet potato is perishable and has a shelf life of a little more than a week. But the chain also faces production and marketing constraints.



Study on the sweet potato value chain in Kenya that revealed key strategies to reduce postharvest losses to improve food and nutrition security.

Citation
Onyango, K.; Chege, C; Polo, C. (2022) *Sweet potato value chain in Kenya*. Cali (Colombia): Alliance of Bioversity International and CIAT. 2 p.

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STRATEGIES FOR POSTHARVEST LOSS REDUCTION IN SWEET POTATO VALUE CHAIN

Postharvest losses in the sweet potato value chain in Kenya occur cumulatively at different stages between harvest and final consumption.

This infographic shows the postharvest losses that occur on the farm, arranged according to three stages: during harvesting and handling; during transportation; and during storage. And it also shows strategies to reduce these postharvest losses to improve food and nutrition security.

STAGE	CAUSES
During harvesting and handling Sweet potatoes suffer physical injuries and bruising that serve as entry points for pathogens and other contaminants.	● Outdated and poor harvesting tools and technologies. ● Practice of tossing tubers into a central place before bagging. ● Over-packing sweet potatoes in a bag.
During loading, transportation and offloading Theft, spillages, and bruising.	● Transportation through bicycles, carts, donkeys, pick-ups and lorries to the market or to the store. ● Bagged sweet potatoes thrown around.
During storage Water loss, pest attacks (insects and rodents), theft, root infections, and rotting. **At this stage farmers are the most affected by lack of storage capacity to handle the bulky harvest for extended periods.**	● Lack of proper storage facilities. ● High room storage temperature and humidity. ● Inadequate knowledge on storage handling. ● Sweet potato weevil (Cylas spp.) attacks across the value chain and causes a bitter taste, ugly holes and an unpleasant smell of the roots.

STRATEGIES

	Capacity building of farming communities on careful harvesting and postharvest handling	Production with modern farming technologies	Proper curing of tubers to be stored	Proper storage facilities	Proper maintenance during transport and marketing	Adopt solar curing	Value addition Process sweet potatoes into shelf-stable products
Key facts	Tubers should be harvested intact. Do not throw roots onto heaps or from one row to the other. Avoid sun scald: harvested tubers with damp soil adhering left in the field for approximately one hour to dry.	Use of high yielding, pest and disease resistant varieties. Use of varieties suitable for mechanical harvesting.	Remove sweet potato stems and leaves 7 to 14 days before harvesting can reduce postharvest losses up to 40%. Curing can be done by placing tubers in containers covered with dried grass.	Use of in-ground storage, pit storage, clamp storage and indoor storage as alternative low budget storage methods	Held fresh sweet potatoes at 12°C to 16°C whenever possible during transportation and marketing	Solar curing whether the roots are washed or unwashed	Sweet potatoes turn into: flour chips bakery confectionery puree flakes
Who	Ministry of Agriculture, private extension service providers, KALRO, CIP. Farmer groups, associations and individual farmers.	Farmer groups. Associations. Individual farmers.	Actors involved in curing.	Actors involved in storage.	Traders and transporters. Government policy to regulate.	Farmers. Development partners.	Medium scale companies. Restaurants. Vendors.
Expected results	Reduce physical postharvest losses that occur through mechanical root injuries.	Improve productivity and minimize postharvest losses.	Heals the wounds incurred during harvesting reducing subsequent water loss and decay during storage. Avoid tubers appearing dull, stale, and unattractive.	Minimize losses and smoothen seasonal supply of the commodity in the market. Reduce price fluctuations.	Prolong sweet potato shelf life.	Prolong shelf life of sweet potato roots.	Reduce postharvest losses substantially, but investments must be made to this end. There is growing acceptance of sweet potato products.

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