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Advancements, Challenges, and Prospects in the Hybrid and Improved Forage Seed Markets of East Africa

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Leveraging Genetic Innovation for Resilient African Food Systems in the wake of Global Shocks

Our objective and method

Objective: To develop a descriptive analysis of the behavior of the hybrid and improved forage seed market (H&IFSM) in East Africa in recent years and develop a perspective analysis on how this market is expected to evolve, in addition to identifying its main challenges and opportunities for improvement.

Method:

- Qualitative study
- Key informant interviews with stakeholders
- Farm visits to observe the implementation of hybrid and improved forages in the region

43 interviews with 48 people

Stakeholders



- Seed producers, importers, distributors
- Research institutions
- Government
- Development organizations
- Associations
- Farmers

Countries



- Kenya
- Ethiopia
- Uganda
- Tanzania
- Senegal
- Mali
- Benin
- Madagascar
- Rwanda
- Zambia

Focus

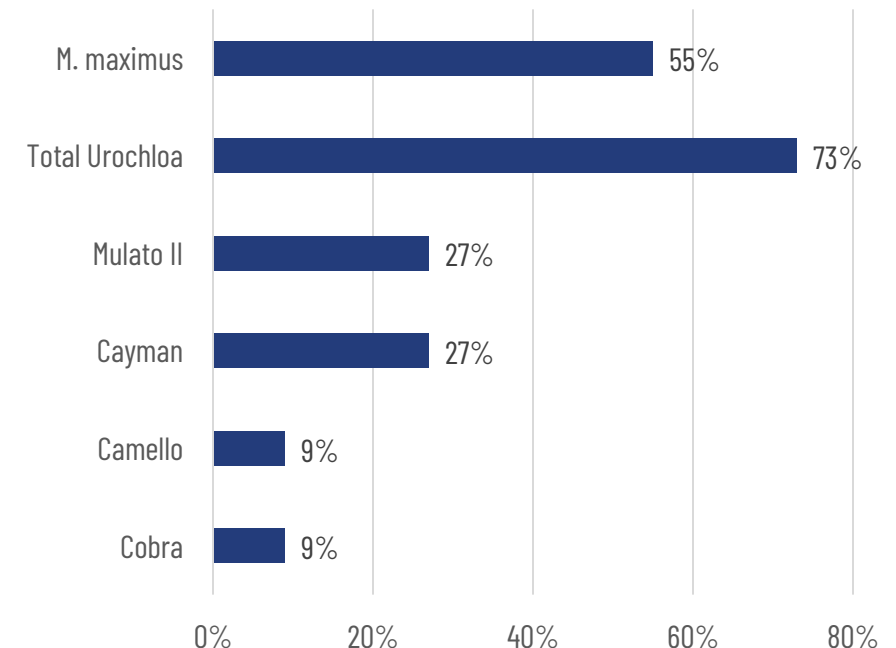


- The past: What happened over the last 10 years?
- The future: What will happen over the next 10 years?
- Challenges and opportunities for improvement

Market development in recent years

- Local forages varieties and fodder still predominate as feed source for cattle.
- In recent years, the H&IFSM has shown a sustained increase in both the **sold quantities** and **sales prices**.
- There is currently a **deficit in the supply** of H&IFS in the region and this gap has not yet been covered, which continues to push prices up.
- The sales price of H&IFS ranges between **40-50 US\$/kg**. This represents a significant barrier to seed access and adoption.
- The most adopted varieties in the region are ***Cenchrus purpureus*** and ***Chloris gayana*** (local), respectively ***M. maximus*** and ***Urochloa*** (improved). There is adoption of ***Urochloa* hybrids cvs. Mulato II, Cayman, Camello, and Cobra**.

Implementation of H&IFS on visited farms in Kenya



Future market perspectives

- It is expected that in the coming years the **current growth trend will continue**. It is essential to achieve faster growth in the supply of seeds so that the gap can be closed, and **prices stabilize**.
- Stakeholders expect the **boom** in *Urochloa* and *M. maximus*, the two most popular varieties to date, to **continue** and the use of hybrids to **increase**.
- It is essential that research centers, governments & development organizations continue promoting the adoption of these varieties.



Stakeholder's requirements for breeding programs

1. Continue with the improvement of varieties such as ***Urochloa* and *M. maximus***
2. Start working on breeding local varieties, especially ***Cenchrus purpureus* and *Chloris gayana***, and legumes such as ***Alfalfa* and *Desmodium***.
3. Increase **biomass** production: one of the main criteria for farmers when selecting a forage.
4. Improve the **nutritional quality** of forage.
5. Work on the **environmental adaptation** of forage. The conditions for forages are different in lowlands and highlands and in different countries.
6. Improved resistance to **spider mite** is required.
7. Increased **tolerance to drought** and reduced water requirement, especially important in East Africa.
8. Improved **palatability and digestibility** of forage for increasing animal welfare.
9. Reduction of **GHG emissions**. Forage varieties that manage to reduce CH₄ emissions by ruminants.

Main challenges and opportunities in hybrid and improved forages seed market

Seed price

The main restriction is access to seeds given **seed shortages** and **high prices**.

The seeds of hybrid and improved forages are commercialized in the region in a range of **40-50 US\$/kg**.

This high price is associated with **seed scarcity** (the demand is higher than the supply) and **high transportation costs** to import the seed since it is not produced in the region.

Transportation costs have increased considerably since the COVID-19 crisis and the temporary interruptions in the global supply chain.

Registration of new varieties

This process is quite **complex** and delays the arrival of new varieties in the region, which creates a disincentive to import.

1. The importing company makes the **request** to the health authority.
2. The health authority **tests seed stability and adaptation** to different agroecological zones of the country.
3. If the seed passes the tests, the new variety is registered, **use in the country recommended**, and its commercialization is authorized.

The health authority recognizes that this process is slow and involves a considerable administrative burden.

Knowledge

Hybrid and improved forages can be more **complex to manage** than the local forage varieties traditionally used by producers. In general, producers still do **not have much knowledge about these forages** and their management, for example, knowledge about adaptation to the soil and the environment of these forages is not disseminated.

Many producers in the most remote areas of the countries are not even aware of the existence of hybrid and improved forages.

Other important challenges and opportunities in this market

Beef Producer Preferences

- In East Africa, beef producers have traditionally not been interested in forages as cattle feed. The most common practice consists of roadside grazing. This preference limits the market for hybrid and improved forages for dairy farmers, who do use forage planting as a source of cattle feed.

Small-scale family production model

- Large-scale milk production is rare in East Africa. Producers are generally smallholder family farmers that use more local forage varieties than hybrids and improved ones.

Distribution logistics

- In East Africa, there are deficiencies in the infrastructure that hinder the distribution of products in the most remote areas of the country. For seed importers, a suitable distribution channel for the sale of seeds has not yet been found in the region.

Input cost

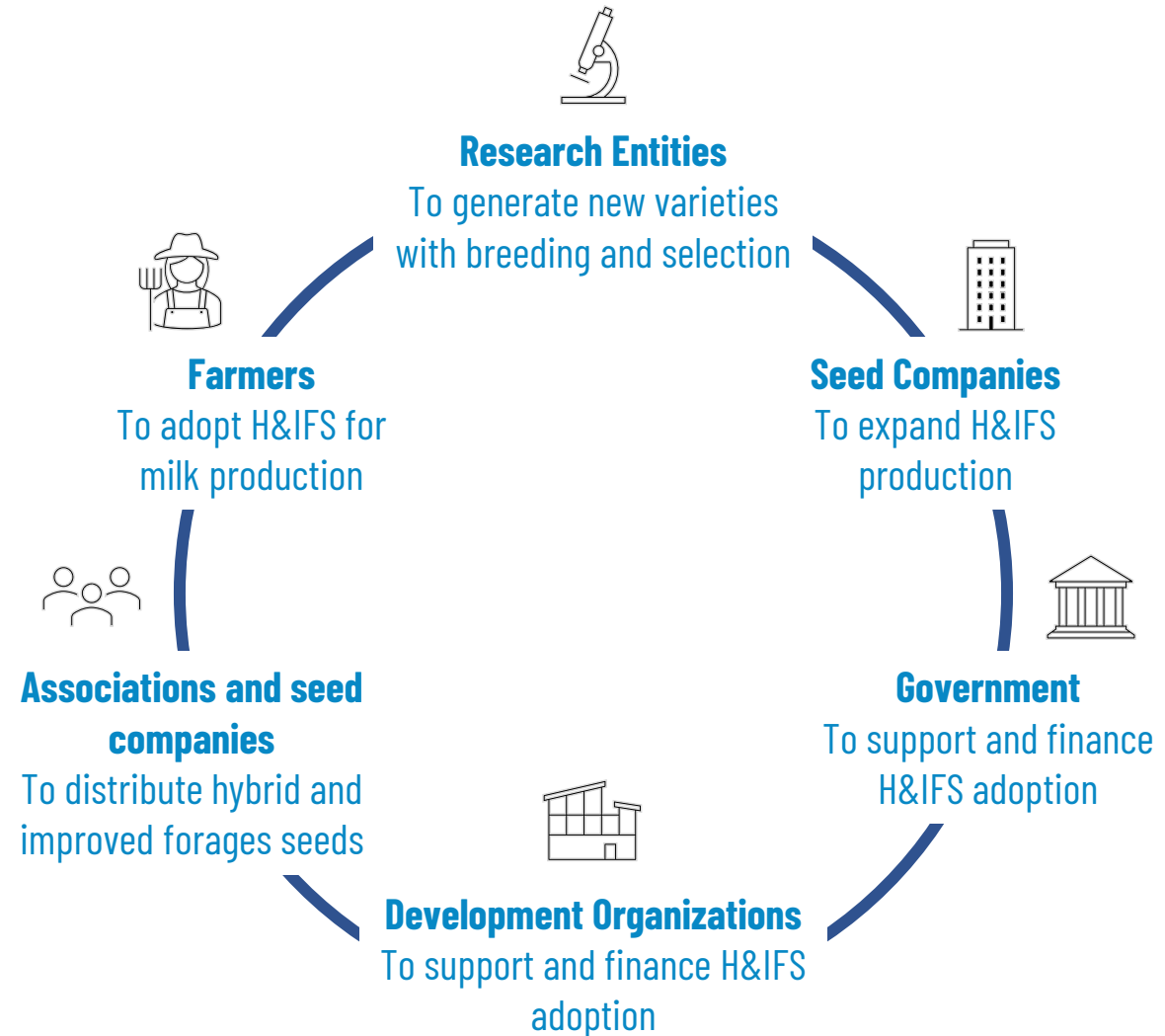
- Agricultural inputs such as fertilizers in are expensive in the region. This increases the cost of forage production and discourages adoption.

Milk prices

- Low farm milk prices discourage the dairy sector and forage adoption. The success of the forage seed market, whether for local varieties, hybrids, or improved grasses or legumes, depends on the success of the milk market.

Conclusion

- A **virtuous circle** is observed for accelerating adoption of hybrid and improved forages in East Africa over the coming years.
- In order to materialize this growth potential over the coming years, it is essential to **intervene in the challenges identified**. Especially **high prices**, difficulties in **seed registration**, and **increase knowledge** of producers.



Virtuous circle for accelerating adoption



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Thanks!



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