THE SEED GIST

Cultivating Knowledge for Farmer Managed Seed Systems

ISSUE 3 JULY TO SEPTEMBER 2024

EDITORS BRIEF

Advancing Farmer-Managed Seed Systems (FMSS)

Welcome to the third issue of Seed Gist, our quarterly publication spotlighting key themes in Farmer-Managed Seed Systems (FMSS). In this edition, we delve into seed quality, management, and conservation as fundamental pillars of FMSS success. Small-scale farmers, the stewards of biodiversity, play a pivotal role in preserving and managing indigenous seeds, a role that is indispensable yet often overlooked. Through diverse perspectives, we explore the importance of FMSS, highlight its challenges, and advocate for its recognition and advancement. The Seed Gist serves as a platform for farmers, researchers, policymakers, and conservationists to share ideas, outline challenges, and propose actionable solutions for strengthening FMSS.

This issue features insights from a groundbreaking study, ***"Seeding Diversity,"*** which underscores the role of FMSS in sustaining biodiversity, addressing food security, and promoting locally adapted seeds. The report calls for stronger policies, multi-stakeholder collaboration, and community-led seed banks to address gaps and build resilience. Further, we spotlight Community Seed Banks (CSBs) as transformative hubs preserving genetic diversity, fostering food sovereignty, and empowering farmers through knowledge-sharing and climate adaptation. FMSS remains the backbone of smallholder resilience in East Africa, yet faces threats from corporate-driven seed policies and counterfeiting. Solutions such as Participatory Plant Breeding (PPB), capacity-building initiatives, and legal reforms can safeguard these systems while enhancing farmer autonomy.

We invite you to explore these stories, reflect on the collaborative efforts needed to sustain FMSS, and join us in ensuring the continuity of local biodiversity, resilient farming practices, and improved farmer livelihoods. Together, we can shape a sustainable agricultural future.

ENHANCING SEED DIVERSITY AND FARMER-MANAGED SEED SYSTEMS IN UGANDA: INSIGHTS FROM THE *"SEEDING DIVERSITY"* STUDY

Figure 1: Photo by ESAFF Uganda

A recent study titled ***"Seeding Diversity: Enhancing Farmers' Access to Crop Varieties and Quality Planting Materials in Uganda's Seed Systems,"*** led by Teshome Hunduma Mulesa and a team of researchers from the Norwegian University of Life Sciences and CIAT, provides vital insights into the landscape of farmer-managed seed systems in Uganda. This report explores how Uganda's smallholder farmers sustain crop diversity through traditional seed-saving practices, social networks, and community-driven initiatives, emphasizing the critical role of the Farmer Managed Seed Systems (FMSS) also referred to as informal seed systems in ensuring food security. Despite significant contributions to Uganda's agricultural resilience, the FMSS face challenges such as quality inconsistency, limited support, and regulatory obstacles.

KEY FINDINGS ON FARMER-MANAGED SEED SYSTEMS IN THE REPORT INCLUDE:

1. Reliance on Farm-Saved Seeds

The study reveals that farmer-managed seed systems form the backbone of Ugandan agriculture, with smallholder farmers relying on farm-saved seeds for 70-100% of their crop varieties. These seeds, which include locally adapted landraces and old improved varieties, are crucial for sustaining agro-biodiversity and providing farmers with seeds suited to their specific climatic and agronomic conditions. Traditional practices like sun-drying, airtight storage, and using insecticidal plants to maintain seed quality are widespread. These techniques help maintain seed accessibility and affordability while reducing dependence on commercial seeds.

2. Quality Concerns and Limitations

While farm-saved seeds offer several advantages, quality inconsistencies are a persistent issue, especially for root, tuber, and banana (RTB) crops. Pests, diseases, and inadequate post-harvest storage can compromise seed viability and lead to lower yields. Farmers report limited support from agricultural extension services, which exacerbates the challenges associated with quality management at the household level. Without proper guidance on pest and disease control, seed quality remains vulnerable, ultimately affecting crop production and farmer livelihoods.

3. Role of Social Networks and Local Markets

The study highlights that beyond personal reserves, farmers primarily acquire seeds through local networks and markets. Exchanges between neighbors, family, and community members create trusted channels that provide timely access to planting materials. However, quality concerns in local markets, including issues of counterfeit or mislabeled seeds, have driven farmers to rely more heavily on trusted sources within their social networks. This pattern underscores the resilience and importance of community-driven solutions in Uganda's seed systems.

4. Emerging Role of Community Seed Banks and Local Seed Businesses

Community Seed Banks (CSBs) and Local Seed Businesses (LSBs) have emerged as promising resources for quality seeds, providing a bridge between formal and informal seed systems. These community-based institutions help alleviate issues of seed scarcity and quality inconsistency by offering seeds at affordable prices and within close proximity to farming communities. Yet, these organizations face challenges in scaling operations, reaching remote areas, and sustaining quality due to limited funding and institutional support. Expanding CSBs and LSBs could significantly strengthen the accessibility and diversity of quality seeds in Uganda.

5. Policy Gaps and Governance Challenges

Although Uganda has policies that recognize the role of informal seed systems, the study indicates that unclear guidelines and inconsistent quality standards hinder their effectiveness. Policies to support community-based seed production, quality management, and variety registration are insufficiently implemented. The lack of coordination and guidance from agricultural institutions further limits the development of these farmer-led initiatives. Addressing these governance gaps could enhance farmer-managed seed systems' functionality, enabling them to support food security on a larger scale.

RECOMMENDATIONS FOR STRENGTHENING FARMER-MANAGED SEED SYSTEMS

The study's recommendations call for a coordinated, multi-level approach to improve seed system performance:

1. Enhancing Seed Availability and Quality:

To increase the accessibility of high-quality seeds, the study suggests strengthening community-based and market-oriented seed production systems. Initiatives could include training community seed banks and local seed businesses in quality management and establishing regional seed hubs for better distribution.

2. Support for Varietal Diversity and Suitability:

Preserving Uganda's rich agricultural diversity requires a focus on conserving existing crop varieties and introducing new, locally adapted ones. Establishing platforms for collaborative breeding programs and participatory varietal selection would allow farmers to access and cultivate varieties that meet their preferences and local needs.

3. Improving Policy and Governance:

A structured annual dialogue on seed governance could help unify efforts across stakeholders, aligning policies and standards to improve seed access, variety registration, and quality control. Increased public investment in decentralized seed inspection, quality certification, and support for community-based seed initiatives is essential for sustainable growth.

CONCLUSION

The ***"Seeding Diversity"*** study underscores the indispensable role of farmer-managed seed systems in Uganda's agricultural landscape. By building on community-based practices and addressing systemic challenges, Uganda has the potential to strengthen food security and resilience in its farming communities. However, achieving this requires targeted policy reforms, enhanced support for community-led initiatives, and improved coordination among stakeholders. As Uganda moves toward a more integrated seed system, the lessons from this study provide a blueprint for empowering smallholder farmers, preserving crop diversity, and fostering sustainable agricultural development.

https://www.researchgate.net/publication/382931146_Seeding_Diversity_Enhancing_farmers'_access_to_crop_varieties_and_quality_planting_materials_in_Uganda's_seed_systems

Andrew Adem
Programs Manager,
ESAFF Uganda

CONSERVING INDIGENOUS SEED VARIETIES THROUGH FARMER-RESEARCHER COLLABORATION

Figure 2: Photo by Dr. Kalule Okello David

Seed is a vital input for agriculture production and its timely access is key in ensuring food security and improving livelihood. Conserving seed diversity is essential for maintaining agricultural biodiversity, ensuring food security, and building resilience against environmental stresses. Globally, the United Nations Food and Agriculture Organization (FAO) estimates that about 75% of crop diversity has been lost since the early 20th century. Efforts to conserve diverse, resilient seed varieties are very crucial for sustainable agriculture and food security. According to the Uganda National Seed Policy 2018, 85% of the seeds are from the informal sources, mainly farm-saved seed, local markets, and social networks which uphold the indigenous seeds that have valuable genetic diversity critical for protecting the future of agriculture.

Throughout history, farmers have played a pivotal role in the selection, saving, and conservation of seeds, preserving the indigenous knowledge associated with various seed varieties and passing it down through generations. However, this invaluable biodiversity faces growing threats from the escalating impacts of climate change, including the proliferation of pests, prolonged droughts, floods, and other extreme weather events. Compounding these challenges are the limited capacity for managing and conserving local genetic resources and the lack of proper documentation, both of which hinder efforts to safeguard this heritage. These constraints disrupt seed access, directly affecting agricultural productivity and resilience.

In response, innovative measures have been adopted to ensure the conservation and sustainable use of indigenous seeds. Key among these are Community Seed Banks(CSBs) and Farmer Field Schools, which serve as vital platforms for safeguarding biodiversity and empowering farmers. These approaches foster collaboration between farmers and researchers, enabling the co-creation of solutions to the pressing challenges facing biodiversity and seed systems. Such initiatives are crucial for enhancing seed access, improving agricultural productivity, and ensuring food security. By addressing these challenges comprehensively, these efforts also contribute to improving the livelihoods of rural communities, making them more resilient to the adverse effects of climate change while safeguarding global food systems.

In Uganda, over 90% of the improved seeds are bred and managed by the National Agriculture Research Organization(NARO) exemplifying the impact of research on seed conservation. NARO collaborates with community seed banks and local farmers to study, document and preserve traditional crop and seed varieties, with a strong emphasis on indigenous varieties that are resilient to local environmental challenges. This research safeguards unique genetic materials, enhances biodiversity, and strengthens food security, positioning Uganda as a key player in sustainable agriculture and the conservation of vital genetic resources.

Dr. Kalule Okello David, a Principal Research Officer, Plant Breeder-Geneticist and the Director of research at the National Semi Arid Resources Research Institute (NaSARRI) shared his take on the conservation of indigenous varieties, how these contribute to plant breeding and the

opportunities attached to his position especially towards the conservation of indigenous seeds. As an institution, the operations of NaSARRI are aligned with the strategic government agenda and works towards the National Development Plans (NDPs) with key emphasis on the pillar of Natural Resources Conservation. As a breeder, I value landraces and I have made several collections that have been fully characterized (molecular and morphological) as we plan for their redeployment to the communities that supplied them, use them in breeding programs and repatriation (at exsitu gene banks). As a research institution, conserving the local diversity along with its knowledge is key especially for the future developments that address the ever changing climate. Dr. Kalule emphasized that plant breeding highly leverages on diversity, hence the existence of the indigenous seed varieties cannot be underscored when it comes to research. Additionally, research is very central to conserving seed diversity because it uncovers essential information about the genetic, nutritional, and adaptive traits of indigenous and traditional crop varieties. Most of the indigenous seed and crop varieties have resilient traits that are leveraged on to ensure food security and livelihood improvement amidst climate change. In the recently released groundnut varieties, Dr. Kalule highlights that among them was Erudurudu and RedBeauty, these local varieties were enhanced basing on the local knowledge and needs of the farmers and other end users.

Farmers have played a pivotal role in the conservation of not only the indigenous seed varieties but also their knowledge. However, most of the indigenous varieties and knowledge are not protected and documented, a gap that could potentially lead to the extinction of this very important biodiversity. Therefore, strengthening farmer researcher collaboration is key in bridging the documentation gap. This documentation involves phenotyping, integrating Indigenous Technical Knowledge(ITK) about them and using the available molecular approaches like the DNA profiling to enrich passport data and aid in both conservation, utilization and filing for Intellectual Property rights or royalties. This would ultimately promote the usage of indigenous varieties as functional foods through widening their utilization base and conservation beyond the known norms. Farmers' knowledge and experience on the indigenous varieties is also key validating the various traits and needs of communities before varieties are released. These therefore have a representation on the National Farmers Working (NFW) group platforms as their say is relatively important in this process. Additionally, farmers are key in on-farm adaptation and conservation studies where they collaborate with researchers to adapt, conserve and cultivate traditional seeds on their farms. This method respects the original growing conditions of the seeds and involves farmers directly in the conservation process, enabling a practical exchange of knowledge between scientists and communities.

ARE FARMERS' ABLE TO BENEFIT FROM BIODIVERSITY CONSERVATION AND KNOWLEDGE EXCHANGE?

The objectives of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) are the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security. Article 13 outlines that facilitated access to plant genetic resources (PGRs) in the Multilateral System is a key benefit, and the resulting benefits must be shared fairly and equitably through mechanisms like information exchange, technology transfer, capacity-building, and commercialization benefits. It emphasizes making non-confidential data accessible, prioritizing technology transfer and research partnerships for developing countries, and strengthening conservation efforts through capacity-building. Commercial benefits must include equitable monetary contributions, especially from commercialized PGR-based products, with exemptions for small farmers in developing nations. Ultimately, benefits should flow primarily to farmers, particularly in developing and transition economies, who conserve and sustainably use PGRs, under the guidance of the Governing Body, which sets related policies and criteria.

The objectives of the ITPGRFA have not been significantly realized in many developing countries and among the key challenges in Uganda as highlighted by Dr. Kalule include the lack of a structure for benefit sharing. Without a clear structure for benefit sharing, it is very difficult to trace especially the monetary benefits that should reach the small-scale farmers, as a result, their conservation efforts and knowledge go unnoticed. As NaSARRI, we have offered benefits to farmers through capacity building where farmers are trained on quality seed management, post-harvest handling and conservation especially through the Community Seed Banks(CSBs) and Farmer Field Schools. These trainings have enabled farmers and strengthened CSBs for adapted materials to keep evolving even with the increasing climate change. Besides capacity building, the institution ensures that at the release of every new variety, the contributing communities and participating farmers are given first priority to access seeds in order to reap from the bumper that comes with the introduction of new varieties. We also have frequent exchange visits among researchers and Farmers with media presence. Farmers are given the platform to air out the kind of beneficial mutual collaborations they have with NaSARRI. Both the live and recorded messages are relayed on air and this make the farmers feel important andtheirnefforts acknowledged.

Dr. Kalule appreciated the existing policies and seed systems initiatives under organizations like ESAFF Uganda, PELUM Uganda and Oxfam that are working towards the conservation of indigenous seed varieties. He further echoed that building farmer-researcher collaborations calls for acknowledging the fact that farmers are also researchers and repositories of knowledge which is not formally documented hence collaboration on documentation is key. Both farmers and researchers can collaborate to tackle the void areas of research such as the sources of the indigenous varieties, evaluation of their performance and document the findings.

POLICY RECOMMENDATIONS

1. Create an equitable benefit-sharing framework

The framework should ensure that small-scale farmers are fairly compensated for preserving genetic materials and their management informations/knowledge. This framework should emphasize transparency and inclusivity, acknowledging the role of small-scale farmers in biodiversity conservation. Fair rewards would enhance farmer livelihoods, encourage ongoing conservation, and strengthen resilience and food security.

2. Invest in collaborative research;

Promote and strengthen comprehensive research and systematic documentation of genetic resources to capture their importance, local adaptations, and novel traits. This research should involve collaboration among research stations, academia, NGOs, and civil society to ensure a holistic approach. The findings must inform evidence-based policymaking, emphasizing the critical role of biodiversity in sustainable agriculture.

3. Strengthen the informal seed systems by promoting Quality Declared Seeds(QDS) as a sustainable solution

This involves providing technical and financial support to small-scale farmers and local seed producers, building their capacity to produce and distribute high-quality seeds and clear standards and monitoring frameworks to ensure QDS meet quality benchmarks while remaining accessible, affordable and in the demanded volume.

4. Duplicate storage of genetic resources

In decentralized systems like community seed banks, ensuring their protection and accessibility. This will enhance conservation, innovation, and ensure fair participation in the use of agricultural biodiversity. Researchers and farmers can share the materials each party feel important. These policy measures will foster resilience, improve seed accessibility, and strengthen agricultural productivity, contributing to food security and rural livelihoods.

Kalinaki Naume
Enterprise and Livelihood Development Officer
ESAFF Uganda

COMMUNITY SEED BANKS (CSBS) ARE KEY FOR INDIGENOUS SEED CONSERVATION

Figure 3: Photo by ESAFF Uganda

In an era marked by rapid environmental change and the loss of biodiversity, community seed banks emerge as vital sanctuaries for preserving indigenous seeds and fostering agricultural resilience. These grassroots initiatives not only safeguard the genetic diversity of traditional crops but also empower local communities to retain cultural heritage and food sovereignty. By collecting, storing, and sharing seeds that have been cultivated for generations, community seed banks play a crucial role in sustaining the agricultural practices of Indigenous people and smallholder farmers.

Indigenous seeds represent a rich genetic diversity developed over centuries, embodying unique traits that enable them to thrive in specific local conditions. For instance, many indigenous varieties are more drought-resistant or pest-resistant than commercial hybrids, making them invaluable in the face of increasingly unpredictable weather patterns. To enhance conservation of indigenous seeds, ESAFF Uganda has supported the establishment and strengthening of 4 community seed banks in the districts of Omoro, Amuria, Adjumani and Apac thus preserving diversity, which is crucial for future agricultural adaptation and resilience.

Beyond conservation, community seed banks empower local communities by fostering a sense of ownership and stewardship over their agricultural heritage. Community members actively participate in the seed-saving process, which not only enhances their knowledge of local biodiversity but also strengthens their cultural identity. This empowerment is particularly significant for Indigenous communities, for whom traditional seeds are inseparable from cultural practices and food sovereignty. By involving community members in the management of seed banks, these initiatives promote self-reliance and encourage sustainable farming practices that respect and preserve traditional knowledge.

"Through community seed banks, we are able to take ownership, access quality seeds, plant in time and secure food for the future." Atim Janet, a small-scale farmer from Amuria noted. Furthermore, Community Seed Banks have played a crucial role in reducing gender-based violence in various households. Before their establishment, men often sold the seeds that women had stored for planting without their consent, leading to conflicts when planting time arrived. Now, these banks provide a secure space for seed storage and equitable access, fostering greater collaboration and respect within families.

Community seed banks serve as critical hubs for biodiversity and knowledge exchange, uniting farmers, researchers, and local advocates through workshops, seed fairs and community events that foster the sharing of techniques, stories and traditional practices related to seed cultivation. This collaborative approach not only broadens the understanding the importance of biodiversity in agriculture but also promotes the cultivation of the Neglected and Under-utilized plants that might have been overshadowed by more commercially viable crops, thereby revitalizing local agricultural practices and ensuring the survival of indigenous crops.

The indigenous seeds preserved within these banks are often well-suited to local conditions, rendering them key assets for adapting to climate variability. By encouraging the cultivation of these indigenous varieties and providing training sessions through initiatives like Farmer Field Schools, community seed banks equip farmers with the skills needed to grow and save these seeds, enhancing local food system diversity and resilience against climate impacts.

"Through the community seed bank we are able to share knowledge and learn from each other on different crop cultivation, pest control, post-harvest handling and seed storage thus strengthening our agricultural traditions." Oyile Rocky a small-scale farmer from Apac Community Seed Bank.

Despite their significant contributions, Community Seed Banks still face challenges in funding, resource availability and recognition. Many of these initiatives operate on limited budgets and rely heavily on the dedication of volunteers. To sustain their efforts, it is essential for local and national governments, NGOs, and private organizations to support these vital conservation efforts through funding, resources and policy advocacy. Additionally, raising public awareness about the importance of indigenous seeds and the role of community seed banks can foster broader support and participation, ensuring their longevity and effectiveness.

ESAFF Uganda plans to enhance the operational efficiency and sustainability of these Community Seed Banks through expanding the reach and capacity of these seed banks by providing training for local farmers on effective seed management practices, including seed multiplication, seed saving, storage, and preservation techniques. Additionally, ESAFF plans to strengthen partnerships with agricultural institutions and NGOs to facilitate access to quality seeds and resources, ensuring that farmers have the necessary support and tools with emphasis on the conservation of indigenous seed varieties. Furthermore, ESAFF intends to leverage technology for improved communication and information sharing among community members, fostering collaboration and resilience in local farming systems.

Community seed banks embody a powerful response to the dual challenges of biodiversity loss and climate change. By preserving indigenous seeds and empowering local communities, these initiatives not only safeguard genetic diversity but also weave a narrative of resilience, sustainability, and cultural heritage. As we face an uncertain agricultural future, the role of community seed banks in conserving indigenous seeds will undoubtedly remain critical, offering a pathway to sustainable food systems and a flourishing planet.

Nansubuga Josephine Hilda
Programs Volunteer
Market Development
ESAFF Uganda

STRENGTHENING FARMER-MANAGED SEED SYSTEMS IN EAST AFRICA AMID CORPORATE INFLUENCE ON SEED POLICIES

Figure 4: Photo by ESAFF Uganda

In East Africa, smallholder farmers rely on Farmer-Managed Seed Systems (FMSS) as the main source of seeds for their crops. Several studies in the sub-Saharan Africa highlight that about 80% of households are depending on these systems for food production. Despite their resilience, genetic diversity, and cultural significance, FMSS face mounting pressures due to policy shifts favoring commercial seed systems, often influenced by corporate interests. A recent policy brief by the Southern and Eastern Africa Trade Information and Negotiation Institute (SEATINI) and the African Biodiversity Network (ABN) highlights the challenges FMSS encounter amidst corporate pressures, emphasizing the need for protective policies and investment to preserve these critical systems.

KEY FINDINGS ON FARMER-MANAGED SEED SYSTEMS FROM THE POLICY BRIEF;

1. Vital Role of FMSS in Food Security and Cultural Heritage

FMSS are deeply embedded in East African farming communities, supporting food security, biodiversity, and traditional knowledge systems. Farmers in these systems grow and save local and indigenous seed varieties, valued for their adaptability to local conditions and resilience against pests and diseases. These systems help ensure food security for smallholders, who make up the majority of farmers in East Africa, by providing access to affordable and adaptable seeds.

2. Challenges Posed by Corporate-Driven Seed Policies

Policy changes that align with corporate interests are undermining FMSS. Specifically, regional frameworks such as the UPOV-1991 Convention prioritize breeders' rights, granting exclusive rights to commercial entities over their seed varieties, often at the expense of farmers' rights. This shift limits the autonomy of farmers to save, exchange, and use their seeds freely, creating a dependency on corporate seed sources and eroding traditional farming practices. This in return affects their resilience, seed diversity and the long-standing cultural practices in farming.

3. Legal and Policy Constraints on FMSS

Seed laws that mandate strict standards on seed uniformity and stability disproportionately benefit commercial breeders while sidelining the diverse and heterogeneous nature of FMSS. This restrictive environment hampers the growth of FMSS and limits farmers' choices, contributing to a loss of agricultural biodiversity and traditional knowledge. The policy brief points out that current frameworks often lack provisions for protecting indigenous seeds and traditional knowledge, further disadvantaging smallholder farmers.

4. Economic Impact and Increased Production Costs

The rise of corporate-dominated seed systems imposes significant economic challenges on small-scale farmers through increased production costs. With commercial seeds often requiring specific inputs, farmers incur additional expenses to achieve optimal yields. This limits their access to affordable and locally adapted seeds. This situation increases the economic burden on farmers and shifts control over seed production and food systems to corporate interests. This economic strain exacerbates inequalities within the agricultural sector, reinforcing corporate influence at the expense of farmers' livelihoods and regional food sovereignty.

POLICY RECOMMENDATIONS TO STRENGTHEN FMSS

The policy brief proposes a multi-faceted approach to support FMSS and protect smallholder farmers from corporate pressures:

1. Legal Reforms and Policy Support:

National governments in East Africa should revise and implement seed laws to explicitly recognize and support FMSS and indigenous seeds. Laws should protect farmers' rights to save, use, exchange, and sell seeds and ensure a conducive environment for FMSS to thrive alongside the formal seed systems. By aligning national seed laws with unique needs of small-scale farmers, East African Countries can strengthen agriculture sovereignty, enhance food security and empower rural communities.

2. Capacity-Building Initiatives for Farmers:

Strengthening FMSS requires targeted capacity-building programs to support seed production, management, and marketing at the community level. Programs should aim to empower farmers with the skills needed to sustain high-quality seed production, maintain crop diversity, and adapt to environmental changes.

3. Promotion and Documentation of Indigenous Seeds:

Initiatives to document and promote indigenous seeds across East Africa can aid in preserving these varieties for future generations. Such documentation efforts capture valuable information which raise awareness, drive policy change, enhance regional resilience, support local economies and encourage practices that support FMSS. This in retune strengthens the entire agriculture ecosystem, contributing to sustainable development and long term agricultural sustainability across the region.

4. Increased Investment in FMSS Research and Development:

More investment in research tailored to FMSS can enhance resilience, productivity, and biodiversity within these systems. Collaborative research with local farmers will be key to developing solutions that respect traditional practices, maintain genetic diversity while incorporating modern techniques.

Conclusion

Strengthening Farmer-Managed Seed Systems is essential for achieving food security, resilience, preserving cultural heritage, and supporting biodiversity in East Africa. However, with growing corporate influence over seed policies, urgent policy reforms are needed to protect FMSS and empower farmers to maintain control over their seed systems. By implementing supportive policies, investing in research, and building farmers' capacity, East African countries can build resilient and sustainable seed systems that honor the contributions of smallholder farmers.

https://seatiniuganda.org/download/policy-brief-on-building-the-resilience-of-fmss-amidst-the-corporate-capture-of-african-seeds-2024/

Eastern and Southern Africa Small Scale Farmers' Forum
ESAFF - UGANDA

ADDRESSING COUNTERFEIT SEEDS THROUGH PARTICIPATORY PLANT BREEDING AND MULTISTAKEHOLDER COLLABORATION

Figure 5: Photo by ESAFF Uganda

Agriculture remains the major source of livelihoods for the majority of the population and the economy of Uganda therefore the quality of agricultural inputs especially seeds are paramount to the success of the sector that employs about 70% of country's population. However, the emergence and dominance of fake and counterfeit seeds into the markets has caused an alarm and poses a threat to food security and livelihoods of small-scale farmers in most parts of the country. The fake seeds have dominated all the rural markets exploiting the ignorance of the resource constrained small scale farmers and yet they are not meeting the minimum standard of quality seeds.

Counterfeit seeds are often traded under false pretense characterized with misleading information, lack of quality and genetic standards. These seeds are produced illegally, basing on poor breeding practices, packaged with inferior and contaminated seeds varieties. Additionally, these seeds are not viable and pose a big risk to those who fall victims and use them in their agricultural livelihoods. Small-scale farmers struggle with counterfeit seeds due to several factors such as limited farmer education and awareness about the right seed varieties, lack of knowledge to identify the quality seeds from fake seeds, high cost of quality certified seeds and lack of strict regulatory frameworks and law enforcement on seed certification, quality control and marketing in Uganda.

With the growing demand for high quality seeds, the increasing rate of counterfeit seeds and poor enforcement of related seed policies and laws jeopardizes crop production in Uganda. This has allowed Counterfeit seeds to proliferate in the market over the recent years and have caused significant losses among the small-scale farmers. According to the Uganda seed policy about 30% to 40% of seeds in the Ugandan market are counterfeited with the rural areas being the most affected. In a country dominated by small scale farmers accounting for 70% of the agricultural sector and have limited access to quality crop varieties and are relying on the informal seed market that feeds 85% of the seed they use.

Counterfeit seeds have a series of consequences to the small-scale farmers whose capital is always limited and if not well invested suffer the worst agricultural risks. Key among the effects is reduction in yield which directly translates to economic losses this results from failure of the seeds to germinate and eventually low yields. The effects further affect the food security status at the household level and contributes to social and economic crisis. Furthermore, counterfeit seeds cause reduced household resilience due to over dependence on the market for seeds, reduction in the quality of products posing health and nutritional risk for the consumers. A random visit to any rural community in Uganda today, most families are struggling to cope with the effects of counterfeit seeds characterized by a chronic poverty cycle, and reduced resilience resulting in psychological impact characterized by stress and anxiety thereby increasing cases of mental health and community vulnerability.

To address the escalating evil of counterfeit seeds in Uganda, inclusive, innovative, and sustainable approaches are desired to provide a lasting solution. One of such approaches that has shown potential to address the issue of counterfeit seeds is Participatory plant breeding (PPB) using Farmer field school methodology. ESAFF Uganda has established Farmer Field Schools in districts like Apac, Adjumani, Amuria, Amuru and Serere. Besides these various organizations are also running FFS on PPB as a measure to address the increasing seed challenges especially the counterfeit seeds that have only left farmers exploited of their little resources. PPB prioritizes farmers' local knowledge and community preferences, allowing them to contribute their expertise to the selection and improvement of crop varieties that best suit their farming

conditions and community needs. Working closely with researchers, breeders and extension workers, small-scale farmers are able to tap into scientific knowledge to enhance their capacity. Additionally, small-scale farmers can produce their seeds that are resilient and adapted to their ecological conditions, they are sure of the quality and the source of their seeds which is not the case with most seeds in the market.

For sustainable community resilience, the adoption of community management and preservation of their seeds through the use of community seed banks which are based in the communities and managed by the farmers themselves can play a significant role in ensuring access to good quality seeds at a low cost and reliable. The community seed banks are charged with testing the seeds, carrying out seed multiplication, and training farmers on how to produce and maintain good quality seeds. Community seed bank initiatives can offer a reliable solution to the counterfeit seed challenge.

These participatory interventions have laid ground for small-scale farmers to champion the restoration of lost seeds and increase access to high quality seeds within the community. Through these interventions, small-scale farmers have been empowered with knowledge and skill on the improvement, production and selection of quality seed, varieties whose source is well known to the communities. As a result, small-scale farmers are able to build their trust and confidence as well as strengthen community resilience. It is important to understand the complexity of counterfeit seed distribution, and address the root causes using sustainable approaches, such as Participatory plant breeding, Community Seed Banks and investing in farmer capacity building. Additionally, strengthening the regulatory frameworks is also key in ensuring the seeds availed on markets meet the necessary procedures. To achieve this, a multistakeholder approach is required bringing together all actors in the seed industry.

By Julius Engwedu
Field Assistant Extension
ESAFF Uganda

CONTRIBUTE TO THE SEED GIST

CALL FOR CONTRIBUTIONS: Share Your Seed Stories with the SEED GIST!

Do you have insights or experiences related to Farmer-Managed Seed Systems in Uganda and beyond? The SEED GIST wants to hear from you!

We're inviting contributions from farmers, researchers, and advocates to enrich the SEED GIST. Share your success stories, challenges, innovations, or advocacy efforts. Together, let's amplify the voices of small-scale farmers and promote sustainable seed systems.

Submit your contributions or inquire at ***nkalinaki@esaffuganda.org***

Sow the seeds of change with the SEED GIST!

Eastern and Southern Africa Small Scale Farmers' Forum
ESAFF - UGANDA

coordinator@esaffuganda.org
www.esaffuganda.org

Eastern and Southern Africa Small-scale Farmers' Forum (ESAFF) Uganda

ESAFF Uganda solicits and compiles stories for the Seed Gist from a variety of sources worldwide, including NGOs, academia, small-scale farmers, researchers and the media among others. These stories are designed to broaden knowledge and drive sustainable change in the Farmer Managed Seed System (FMSS).

This Seed Gist is published under the Cultivating Change in a Warming World Project with Financial Support from OXFAM