

Seed saving for food & peace security



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About PELUM Association

Participatory Ecological Land Use Management Association (PELUM) is a network of civil society organizations working with grass-root communities in order to improve livelihoods in ten countries in Africa: Eastern Africa (Kenya, Uganda, Tanzania and Rwanda) Central Africa (Zambia, Zimbabwe and Malawi) and Southern Africa (South Africa, Lesotho and Botswana). PELUM- Kenya is the Kenyan country chapter of the PELUM Association and has a membership of 36 member organizations with seed saving and banking initiatives as one of the core areas of focus.

Each country has a Country Working Group (CWG) whose membership operates within the broader framework of PELUM Association.

Our Mission:

To promote Participatory ecological land use and management practices for improved livelihoods among small holder farmers in Kenya

Our Goal

The Case Studies documented here showcase community seed saving techniques as supported by Rural Initiatives Development Programme (RIDEP); a registered indigenous Kenyan Community Based Organization (CBO) with the unique aspects of making peace between two traditionally warring communities in Tharaka.





Seed Saving for Peace in Tharaka District, Kenya



Rural Initiatives Development Programme (RIDEP) is an indigenous Kenyan Community Based Organization (CBO) which is a member of PELUM Kenya.

Among its 36 MOs, PELUM Kenya has been creating awareness and advocating for the importance of indigenous and local seed saving for enhancing seed securing. The MOs employ the seed saving approach using various strategies that are suitable to their development contexts. For RIDEP, seed saving could not only contribute to seed and food security but peace between the warring communities too

One of RIDEP's objectives is to mobilize, organize and build the capacity of rural communities to improve food production, processing and marketing. In order to implement this objective in a conflict prone environment, RIDEP believes that tension among warring communities or clans especially at the disputed border between Tharaka and Tigania/Igembe districts ought to be dealt with, and peace preached to the communities affected, preferably through peace forums and barazas, for both the communities as well as the local leaders, even as the Government establishes the true boundary to end the problem.

Tharaka is located in Meru County. Formerly it was referred to as Tharaka District which was surrounded by several other districts (that formed the former Eastern Province of Kenya). In almost all age old boundaries of these districts there are land disputes with some dating 30 years back. These disputes have in many instances resulted in numerous

deaths and injuries of human life, disruption of economic activities to the locals, disruption of social life, enmity between clans and sometimes with members of the same clan especially where betrayal is perceived, and displacement of persons and families. This has affected human development by denying people their most fundamental human rights.

A momentum has developed for initiatives that allow farmers access to planting material they desire, whilst maintaining Agro-biodiversity hence acting as an indirect conflict mitigation measure fostering tranquillity and cohesion by promoting community seed banks in order to improve food security. Similar to RIDEP, many NGOs have taken this further and developed community seed banks to facilitate these

conservation activities and to allow farmers access to a wider range of material than is normally available in Tharaka and its environs.

RIDEP's work with the community on seed saving

Tharaka being a very indigenous community, it highly valued seeds. While there are attempts to bring in foreign and exotic seeds to Tharaka, nature has continuously selected appropriate seed for each zone. Almost all the non-indigenous seeds introduced in Tharaka have failed to withstand the climatic conditions thus leaving the area almost free of non-indigenous seed varieties.

RIDEP has been able to carry out some activities in community seed banking and saving hence creating impact through seed conservation for food Security. This is through the identification, collection and preservation of local seeds which are then multiplied and bulked to promote seed conservation initiatives.

RIDEP has initiated cereals and seed stores for income generation among different groups and the establishment of community / group Seed Banks like the Gakia Seed Group situated in Tharaka.



The CBO's role in the seed groups is to organize and hold forums for seed mapping and campaigns against practices and activities that endanger the indigenous seeds. Such includes the Genetic Engineering (GE) and the Genetically Modified Organisms (GMOs)

Through organized seed fair / shows for showcasing recovery of seeds and other planting materials; RIDEP makes use of this opportunity to enhance peace and reconciliation in order to end skirmishes between the Tharaka and the neighbouring Tigania communities.

The role of RIDEP in the seed work

RIDEP offers scientific related advice to farmer groups as they link them with the likeminded groups, government line ministries and other development agents for experience sharing and learning opportunities. Through the provision of tailor made training and extension programs related to seed work, RIDEP is able to develop and facilitate motivation among the farmers and especially the new ones in the programs for work perpetuation. The CBO accompanies the Community Seed Research groups in their work in order to help in the documentation of the seed work and related undertakings.

Challenges faced in the seed work.

The drastic changing climate in Tharaka area has led to un-reliable rain pattern while experiencing a bimodal rainfall pattern ranging with an annual rainfall averaging between 500-800mm with temperatures ranging between 29-36°C. Isolated cases of temperatures reaching as high as 40°C degrees have been recorded. There is a high market demand for the indigenous seeds and cereals due to their taste and preferences; some buyers prefer the modern seed oblivious of the underlying production challenges hence the slowly sneaking in of GMOs in Tharaka. Beneficial insects such as the bees that have been playing a key role in the pollination have been reduced. Currently, farmers are lamenting of drastic reduction in honey production and consequently pollination is betrayed.

About RIDEP

RIDEP works with the less developed communities in order to improve their livelihood security. This is done through mobilizing, organizing, and building the capacity of such communities to utilize locally available resources and opportunities to solve rural local problems.

RIDEP Vision

Rural communities confidently, efficiently and sustainably using locally available resources and opportunities to improve their livelihood security

RIDEP Mission

To work and promote rural initiatives in order to improve communities food and livelihoods security

The RIDEP Objectives:

- 1.** To mobilize, organize and build the capacity of rural communities in order to improve food production, processing and marketing.
- 2.** To provide the necessary technical support to rural groups to enable them realize the goals of their initiatives.
- 3.** To promote child development in Tharaka through household and community development.
- 4.** To promote environment and cultural biodiversity conservation.
- 5.** To create awareness among communities on the opportunities and resources available locally.

Community Seed Banks for Improving Food Security



The Gakia Seed group is a self-help group initiated in the 1990s with the objective of promoting seed saving. With 30 members, Gakia started working with Intermediate Technology Development Group (ITDG) on seed security issues around Tharaka leading to the construction of a seed bank with support from ITDG. RIDEP took over on the group's sustainability after ITDG projects phase out; so far RIDEP has supported the group in constructing the shelves inside the seed bank among other capacity building initiatives. The group's main objective is to promote food security through seed security and environmental conservation as the main activities in addition to merry-go round, Table banking and an Indigenous goat keeping project. Gakia provides clean and readily available planting seeds hence acting as the custodians of local seeds of Tharaka area.

The Gakia group leader revealed that in 2001, they gave three quarters of the stored seeds to farmers but the rains never fell hence lost most of the old Tharaka seed varieties. The group then requested the Kenya Agricultural Research Institute (KARI) for the lost seed varieties and others. After the loss, Gakia initiated a traditional storage system where all seeds are conserved in a small pot with intention to keep them even during droughts. To avoid the risk of the community consuming the seeds and to enhance preservation, the various seeds were mixed with ash from charcoal and a variety of tree species even poisonous ones. The seeds were stored in 2001.

How does the seed bank operate?

Community seed banks usually store seed from a wide range of individuals, informal groups and NGOs who share seed among themselves, sometimes

only occasionally. Seed is primarily retained from participants' own production with no formal quality control, but individual selection process and handling skills are involved. A key problem for farmers in drought-prone areas such as the Tharaka District in Kenya is ensuring seed availability of local varieties, particularly after drought. After extended drought, poor farm households are often so desperate for food that seeds stocks are used for food. To address this, seed banks; like the Gakia seed bank, have been set up to enable community members to gain access to seeds at the right planting time in order to enhance food security.

The Gakia initiative advances two primary objectives of seed banks - farmer seed security and biodiversity conservation - and their relative merits and problems indicated. Tharaka farmers need seeds because without viable seed the survival of their household is endangered. The ways that farmers obtain seed are as old as agriculture, and most small-scale farmers in developing countries routinely save their seed from one harvest to the next. Nowadays, some 60-70 per cent of seed used by these farmers is still saved on-farm. Most of the remaining seed is obtained off-farm, from local sources (Louwaars, 1994; Cromwell, 1996a)

These community systems of seed supply like the case of Gakia are increasingly coming under pressure. Factors such as droughts, crop failure, conflict, difficult storage conditions, and poverty are eroding both the quantity of seed, and number of plant varieties available to farmers. Second, as a result of agricultural modernisation, farmers are increasingly purchasing more of their seed requirements (Berg,

1996a). The role of RIDEP is to promote the importance of indigenous knowledge hence paramount to the survival of groups like Gakia among others in Tharaka County. Tharaka farmers need seed of different varieties of each crop to allow for varied physical environments; benefit from the many end uses of each crop; and as a coping strategy for complex, diverse and risky environments.

The typology of Gakia community seed bank

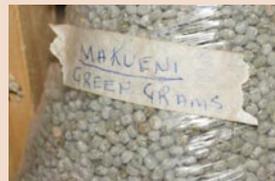
Most community seed banks store seed destined for crop production, yet seed banks vary according to storage methods, and the institutional arrangements needed to set up and maintain these seed banks.

Seed quality

Local farmers want to be assured that the seed that they sow is of consistent quality. The factors that Gakia seed group considers that would affect seed uniformity and quality include the **varietal purity**: the seed should produce plants of the desired variety (although one of the benefits of farmer varieties is their genetic heterogeneity); **the seeds should be clean**: It should be free from unwanted plant seeds e.g. weed seeds; **The germination capacity**: This capacity is largely dependent on the way the crop is harvested, dried and stored; **Freedom from disease**: saved seed should come from healthy crops and stored in appropriate conditions to prevent diseases. **Seed selection**: the plant vigour of the resultant crop depends, in part, on selecting specific plants or parts of that plant for seed.

Seeds saved in the Gakia community seed bank by July 2012

	Seed	Variety before	Current variety
1	Maize	3	3
2	Millet	12	8
3	Sorghum	27	6
4	Cowpeas	16	10
5	Green grams	5	4
6	Finger millet	2	1
7	Proso millet	1	1
8	Green grams	1	1



Government interventions on seed saving and bulking



Having trained at least 500 formal and informal groups in Tharaka for the last 5 years on community seed bulking, seed certification and seed multiplication procedures, the District's Agricultural Office has played a key role in ensuring a food secure Tharaka community through enhancing the capacity of smallholder farmers. Through partnering with RIDEP and likeminded stakeholders, the DAO has promoted conservation initiatives in a quest to restore farmer confidence on being self-reliant and food secure. The following are excerpts from an interview

with the Districts' Agricultural Officer Mr. J. M. Kiva.

Question: How does mobilization through seed distribution and extension service provision approaches work towards assisting farmers in Tharaka to be food secure?

Mr. Kiva: We identify the poor, vulnerable, seed insecure then capacity build them through demonstration, give beneficiaries the right message during sensitization and encourage them to participate in all stages of seed bulking activities. We also promote utilization of the

crops by the community, commercialization of the crops bulked to elicit demand for planting materials, capacity building for both beneficiaries and extension staff on the establishment of community seed banks, bulking activities to continue as both formal and informal for grains and vegetative planting materials respectively.

Question: What are the key interventions (ministry projects) towards a food secure Tharaka through seed bulking?

Mr. Kiva: The District Agricultural Office is involved in a number of projects geared towards assisting farmers boosting farmers to plant quality seeds and to sustainably bulk more seeds for future use.

1. The Eastern province horticulture and traditional food crops project on traditional high value crops. Development of a robust and Commercially Sustainable Multiple Uses Sorghum (MUS) value Chain in Kenya and Tanzania: Three years project started in March 2011 and funded by International Fund for Agricultural Development (IFAD);

2. Purchase for Progress; Connecting Farmers to Markets; Funded by World Food Programme; Innovating for Resilient Farming Systems in Semi-Arid Lands of Kenya; Technology Scoring Matrix funded by KARI/McGill University Food Security Research Project

3. (TIST) The international small group tree planting program that carry out green grams variety evaluation and demonstration. They are expecting to distribute 5 kg each to groups of 15 farmers each who are in turn expected to return double after harvest (10 kg) i.e. B1, B20, and B21 which mature in 55 – 60 days.

Question: What types of seeds are promoted with farmers in Tharaka?

Crop	Varieties	Crop	Varieties
Beans	Mwitamania	Sorghum	Seredna
	Rosecoco		Seredo
	Kat B.1		Gadam
	Kat B.9		Kaguru
	Kat x69		Mugeta
	Kat x56		Kari Mtama 1
	Mexican 142		Sila
Cowpeas	KVU 419		Mesia
	KVU 27-1	Pearl millet	Kat/kpm2, kpm1, kpm3
	M66		Kiraka
	K 80	Pigeon peas	Kat 60/8, mbaazi 1
	Ndamba (local)		Mbaazi 2
	Kalitho (local)	Green grams	N22, N26, K 80, kimeru
Proso millet	Local (fox tail)	Maize	Katamani composite, katamani
			Pannar 4m -19

Question: How important are the seed fairs and exhibitions?

Mr. Kiva: The seed fairs and exhibitions act as venues for interaction and friendship where farmers share experience through training / capacity building. The farmers also use this platform for trading their seeds hence acting as a source of income. The exhibitions also influence policy direction in ensuring food sovereignty and self-sufficiency; the event also act as a source of seeds and sharing or exchanging of seeds.

The DAO mentioned that jointly with RIDEP his office has been promoting various community seed banks and bulking initiatives mostly in

Tharaka South Division -namely Utumi, Gakirwe women group and Maendeleo B in Tunyai location. RIDEP is part of the District Steering Group that's chaired by the District Commissioner. In this group stakeholders are linked to relevant line ministries for instant since RIDEP deals with conservation, the CBO has been working in partnership with Kenya Forestry Service in promoting tree nurseries and together with the DAO in support of Energy conservation initiatives among other agricultural activities.

Question: Kindly mention the advantages of seed bulking in relation to food security Mr. Kiva: Through seed bulking easy availability of clean seed is guaranteed to the small holder farmers in Tharaka ready for planting and adapted to agro ecological zone; there are enough food crops for the community to consume and it's able to access cheap seeds of the right variety. It's also a prerequisite to enable researchers access conserved genetic materials of crop varieties in addition to providing seeds to the rest of the community. Farmers are also assured of high and healthy quality planting materials since same seeds can be planted from one season to another to generally ensure food security and self-sufficiency.



Seed bulking is possible

Mr. Joel Njeru is a 50 year old farmer in Kamarandi location of Tharaka South District was issued 4kgs of cowpea during the short rains season of 2009 from which he managed to harvest 2 bags and gave back 8kgs as per agreement through his group and to the District Agricultural Office (DAO).

Apart from the retrieved seeds, he lent 4kgs each directly to two other beneficiaries, Charity Kamene and Peter Makau during the long rains season of 2010. The two honoured an informal agreement by forwarding 4kgs each similarly to other farmers in the locality.

Through the effort of Joel Njeru and others, Kamarandi location had 27Ha under cowpea alone in the short rains season of 2010 (compared to the initial long term average of 5 Ha before the agricultural intervention programmes commenced in 2006 there), which unfortunately was affected by adverse weather conditions. Seed harvest was nil and the situation just managed to improve in the short rains season of 2011; however, this is no setback but a

stronger resolve from the farmers in the locality to improve their grain reserves when the rains favour them. Joel benefited from capacity building trainings on conservation agriculture, leadership, crop husbandry and currently contributes seeds to kamanyaki-Kamarandi Focal Development Area (KKFDA)

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