



Food Justice Fellowship Project

Seed Sovereignty Tafakari



17th -18th March 2016 | Muvuti- Machakos | Eastern Kenya Region

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Abbreviations

ARIPO: African Regional Intellectual Property Organization

COFCO: Central Organic Farmers and Consumers Organisation

GMO: Genetically Modified Organism

IPRs: Intellectual Property Rights

SFA: Small Farmers Association

Acknowledgements

The successful completion of the Machakos Seed Sovereignty Tafakari is attributable to the collaborative efforts of the community, facilitators and Fahamu staff.

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Of special mention are the facilitators namely Hellen Nafuna and Leonida Odongo for the efforts in enabling the participants understand issues of seeds and for the coordination of the forum. We are indebted Hilary Isaac for her contribution in editing the report.

We appreciate the roles played by Fahamu team either directly or indirectly in making the forum a reality.

¹ Tafakari is a Swahili word for reflection

Background

Fahamu organized a two-day Tafakari² in Machakos from 17th-18th March 2016, bringing together farmers from Gatundu and Machakos for a deliberation on Seed Sovereignty. The session was hosted by Machakos District Small Scale Farmers' Association (Machakos SFA).

Machakos lies in the Eastern Part of Kenya, 63kms south east of Nairobi city. A large section of Machakos county is semi-arid, the major economic activities carried out by residents of Machakos are farming, bee keeping, dairy farming, small scale coffee production and trading. The primary agricultural produce grown in the area includes mangoes, papaya, lentils, beans, maize, cowpeas, watermelon and livestock rearing.

The seed sovereignty Tafakari was a series of training sessions organized by Fahamu, under the Food Justice Project whose goal is:

To build a multi-issue movement that is able to address different oppressions that result in inequality, including food inequality, within communities.

The initiative further aims to:

- provide spaces for communities to interrogate systems that continue to impoverish their lives;
- enhance collaboration amongst stakeholders for cross learning and organising aimed at improving the systems and structures that relate to food production;
- build alliances among grassroots communities for continued discussions about food and other injustices;
- enable communities to dismantle oppressive structures and effectively counter food-oppressive regimes and other related social injustices;
- enable community advocates to improve the conditions of their food
- establish sustainable and functional community-based learning centres

² Tafakari is a Swahili word meaning reflection

DAY 1: WEDNESDAY, 17TH MARCH, 2016

Getting to Know each other, Expectations

The participants introduced themselves to each other and gave updates from the previous session, which discussed soil. The participants pointed out that they had prepared their land in readiness for planting and that the Seed Sovereignty Tafakari couldn't have come at a more opportune moment.

On sharing expectations, the participant's views were:

- To understand spacing of seeds
- To learn how to get better crop yields
- How to gain better understanding of crop rotation
- To learn about seed selection processes
- To understand how to assess quality seeds

Cross section of participants



What is Seed? Historiography of Our Seeds

Seed was broadly described as part of a plant that is ploughed into the soil in order to get a harvest and can either be in the form of grain or tubers. In discussing the history of seeds in Machakos, it was shared that in the past seeds were very respected with the first harvest being led by an elderly woman before other villagers. Seeds were deemed religious and freely exchanged. It was explained that each homestead had a variety of stringed pots used for storing seeds.

It was described that a lot has changed in terms of seeds; commodification of seeds has resulted in the exploitation of farmers through pricing and the sale of seeds that do not germinate resulting in heavy losses for farmers.

Deliberating on the Historiography of Seeds amongst the Kamba³ community



Harvesting and selection of seeds were treated as cultural events. Seed selection was specifically the duty of elderly women. It was further noted that seeds had markers to distinguish them from crop food. In both Gatundu and Machakos, the participants shared that traditionally seeds were smeared with paraffin as a deterrent to ensure they weren't consumed as food. To preserve seeds in the past, pepper, or ash was dusted onto the seeds.

The Technical aspects of seeds

Defining seeds

Seeds were defined as any part of a plant that can be used to propagate new plants. It was discussed that a seed can be a grain or seedling, a corn, cutting, stem or tuber. The session mainly focused on the maize seed given that it is a crop grown in Machakos.

Farmer's perspectives on seeds were described as planting materials adapted to given conditions, which are affordable and passed on from generation to generation. It was however pointed out that indigenous seeds were gradually being phased out and what was left for farmers were chemically produced seeds which sometimes failed to germinate rendering farmers anxious about yields.

³ A community living in the Eastern part of Kenya

Seed security was described as a state in which all users in a region or in a farming community have ready access to sufficient quantities of seeds, of a desired genetic make up and at the right time of year. It was mentioned that seed security is achieved when seeds of the right quality, process and quantity are available at the right time.

Seed production processes

Seed production processes were shared as being:

- Genetic Modification(GM) where seeds are produced via genetic engineering
- Hybrids
- Pollination through tissue culture, tubers (where stored parts of plants are used to produce young plants e.g. in the case of potatoes, suckers; in the case of bananas and arrow roots, cuttings; and, in the case of whole plants like sugar cane,, runners.

Discussions on Seeds



Pollination was described to be either through self-pollination or cross-pollination. Self-pollination was described as the activity of wind or insects such as bees carrying pollen within the same plant. Crops that undergo self-pollination were mentioned as: wheat, finger millet, rice, tomatoes and legumes

Cross-pollination was explained to be a process where pollen is transferred from one plant to the other. Cross-pollination occurs through wind, insects or other animals. Examples of cross-pollinated plants by bees were given as: sunflowers, onions, cucumbers cabbages and carrots.

Sources of Seeds

Sources of seeds were described as follows:

Own Seed	This is where individual farmers produce, select and save seeds by separating seed from the crop
Other individual sources	This includes individual tree seedling nurseries
Seed stockists	When farmers obtain seeds from seed stockists
Commercial seed merchants	These are packaged seeds available through retail systems found in many towns in Kenya
Tree nurseries	These are seed sources either owned as a group or run by individuals. Tree nurseries can also be institutionally supported such as those licenced by the Horticultural Crops Development Authority(HCDA)

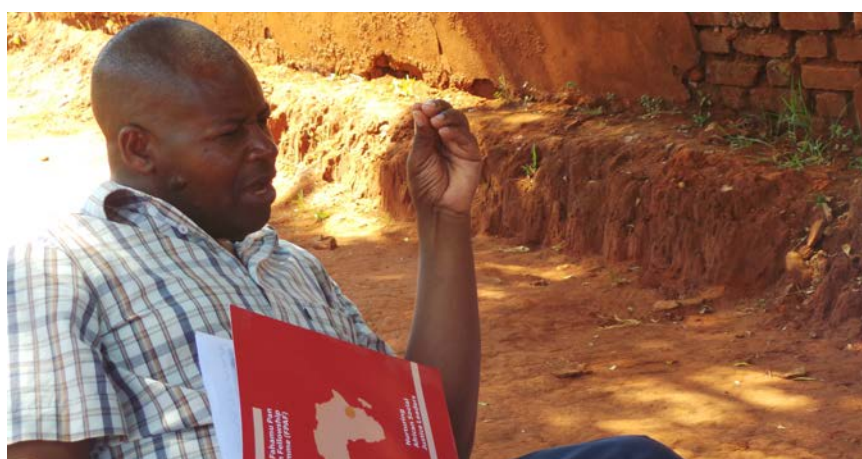
Seed Quality and Seed Selection

On seed selection and seed quality, it was shared that it's very important for the farmer to select the right seeds. In discussing the quality of seeds, it was explained that the outer cover protects them; farmers should not plant soggy seeds.

It was explained that communities managed seed bulking and seed banking initiatives on their own. The challenges facing these traditional methods were climate change and world trade systems, which continue to exploit farmers for profit.

As a result of seeds not reproducing farmers had to buy new seeds every planting season. The situation is made worse by the adoption of Genetically Modified (GM) seeds as well as corporate control of seeds which is in the hands of seed companies who dictate and control prices.

Sharing experiences on how seeds have evolved in Machakos



It was shared that some of the most important criteria in the selection of seeds included the performance of the seeds in the last season, adaptability of the seeds and drought resistance. Storage of seeds at community level was done using a variety of methods, which included smearing cow dung on the seed's surface, and the use of pest proof containers.

Community Seed Bank Systems

It was observed that seed market trends have changed over the years causing most farmers to rely on seeds from commercial seeds sellers, grain dealers or relief programmes. As a result seeds are not readily available and sometimes farmers do not have enough money to buy them.

It was shared that composite seeds refer to seeds that are specifically selected by farmers and used on his/her farm for a long time. These types of seeds are adapted to local conditions.

Advantages of composite seeds were shared as:

- farmers being able to save seeds from the farm hence seeds are available at the right time during the planting season
- being cheap to produce and acquire
- being able to be replanted
- Being able to train community members/family members on effective seed selection
- Being carefully selected by the farmer

Crop Rotation

Crop rotation was explained as planting different types of crops on the same piece of land at different seasons as a way of managing nutrient depletion including pests and disease build up.

Seed Banks practical

Each participant brought seeds from their homestead for the discussion on seed banks. The participants were then taken through what constitutes parts of a seed and the functions were described as follows:

Seed coat	This is the outer part of the seed, it is responsible for protecting the seeds
Plumule	The part of the seed that grows into a shoot, it eventually becomes the leafy part of the plant
Radicle	This is the part of the seed that grows into the root

Endosperm	This is a tissue like substance found in a plant, it provides nutrition to the seed and is also a source of oil and protein
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Each farmer was asked to select seeds based on the shared characteristics of quality seeds, which means:

- Free from pest infection
- Free from diseases
- Clean
- Whole not broken or damaged
- Fresh
- Containing the required amount of moisture (8-12%)

The participants were then asked to assess the seeds they had brought from their farms, to determine whether they had the characteristics of quality seeds as mentioned above. On a test bed previously allocated on their plot of land, each farmer was asked to plant the selected seeds, taking care to ensure that they properly germinated, this would help the learning process throughout the project.

Site Visit

A visit was made to one of the farmer's homes where it was demonstrated how seeds should be planted.

The participants were asked to prepare a half an inch hole, put 3 trowels of manure in the hole, mix it properly then plant 9 seeds in each hole. It was shared that with 9 seeds, the farmer was assured of better yields than the current system of planting just one seed per hole. The farmer dug the holes in the zigzag method, leaving some land fallow.

The zigzag method of planting was described as more efficient than the farmer tilling the whole farm. This is done to enhance soil fertility, to give adequate space to crops, and enhance accessibility to nutrients.

Timely land preparation and planting

It was explained that early and timely land preparation and planting are important aspects of crop husbandry. It was pointed out that due to climate change and the changing rainfall patterns, early planting helped reduce the risk of crop failure .s

It was noted that when farmers plant late and rains are inadequate, they are likely to lose either all or a large proportion of their seeds as well as wasting the

labour invested in planting. Such losses could also result in low morale and may lead to dependence on food relief for survival.

Early planting enables crops to utilize adequate moisture available in the soil which escapes during the dry period. It was further mentioned that early planting enables early and faster germination, with benefits from nitrogen flushes.

Emerging Questions

a). If the farmer has very little compost manure, can one wheelbarrow be adequate for an entire farm?

The minimal amount of compost manure to use is at least 3 wheelbarrows, using farm residues, each farmer should strive to have a compost site within the farm and use this for planting

b). Why is section of soil left fallow adjacent to the zigzags

This is to enables crops to access nutrients

c). Can the farmer plant other crops on the land in addition to the main crop?

Different crops can be planted on the same land but they have to be from a different crop family to prevent nutrient depletion. In many cases it's important for the farmer to plant leguminous crops as this adds nutrients to the soil

Questions fielded during the Seed Sovereignty field visit



Enhancing Seed banks at Community Level

What farmers should do to enhance seed banking at community level was shared as follows:

Exchange visits	Through farmer-to-farmer organized visits to other successful seed bank programmes they are able to see for themselves and borrow seeds from their neighbours.
Farmer field days	<p>During farmer field days, farmers can exhibit their seed varieties, share information on seed banking and storage of various types of seeds.</p> <p>During field days farmers are able to exchange ideas on seed selection and seed management including preservation methods.</p>

Who feeds the world?

A discussion ensued on the relevance of small-scale producers. It was shared that urban agriculture provides 8% of food, hunters and gatherers 13% and industrial food chains 30%. It was emphasized that smallholder farmers provide 50% of global food hence the emphasis on reclaiming our seed sovereignty.

It was further explained that 1 billion people are hungry in the world not because of lack of food but as a result of policies that discriminate against small scale production such as seed laws; the absence of support for small holder farmers giving priority to corporates at their expense; trade liberalization policies resulting in the dumping of cheap agricultural produce in developing countries as well as collusion with politicians to grab land from small scale farmers, in the name of corporate agriculture.

Day 2: Thursday, 18th March 2016

Recap

During recap, it was shared that what had been learnt was:

- seed selection
- There are no superior or inferior seeds
- importance of quality seeds in production
- soil mixing and effective seed planting procedures
- seed storage processes

- better understanding of how corporations are using seeds to further exploit farmers
- that all is not lost and that if farmers come together they can improve their seeds
- seeds need to be well taken care of as they determine yields

Participants going through Recap



Seed Sovereignty

Why care about our seeds?

Reasons for farmers and consumers at large being concerned with seeds was discussed as:

Source of life: It was explained that seeds are the genesis of yields and that availability of seeds determines whether the farmer will have access to food

Medicinal purposes: Seeds were described as being a source of medicine for the treatment of various ailments

Spiritual and cultural connection: It was described that due to its value as a source of life, seeds have a spiritual connection with communities. Examples were given in which seeds were handled by specific people within the community to preserve productivity.

Artistic value: Seeds are important for their decorative value, many ornaments are made using seeds, both now and in the past.

Economic value: Seeds are the basis of various key economic elements, such as trees and cereals, which are sold so that farmers are assured of a livelihood.

Why Seed Sovereignty?

The rationale for seed sovereignty is that if farmers are able to manage their own seeds, they can control what they produce and are therefore protected from the various losses that come about as a result of their failure to germinate.

Other reasons given in support of food sovereignty included:

Solidarity: It was shared that through seeds, farmers across the world can be linked. The struggle for seed sovereignty is being felt in all parts of the world with small-scale farmers feeling the greatest negative impact. Cases were cited where farmers are struggling to retain their indigenous seeds, these included Pakistan and Tanzania, where farmers are either facing court cases or have been victimized for their struggle to protect indigenous seeds. Movements such as La Via Campesina and their work on protecting smallholder production such as seed campaigns were discussed.

Autonomy: Vandana Shiva's quote on "Control the oil and you control entire nations; control the food and you control the people" was shared emphasising that as corporates continue to control seed systems farmers are gradually being rendered powerless in controlling what they want to grow. It was also explained that corporates were amassing power and wealth on seeds through patents.

Social transformation: It was shared that seeds have the power to enable social transformation by bringing together farmers and other collectives to campaign for a just seed system, learning from each other and recognising social struggles. It was observed that if farmers came together an alternative seed system in which power was vested in the farmers was possible.

Promote diversity: The importance of retaining different varieties of seeds was discussed as this leads to an assured source of diverse foods. Genetic engineering of seeds results in the loss of the original flavour.

Experience sharing on seeds across regions: Perspectives from Gatundu



Corporate Capture of our Seed and Food System

This session discussed the existing food system and its characteristics:

Research based: This is the system where seeds are manufactured not in a natural environment but in laboratories by processes such as genetic engineering. This results in the emergence of new types of seeds, thus distorting the original taste of a given food. An example was given of a variety of sweet potatoes that taste like carrots. Institutions such as USAID and One Acre are behind a lot of funding and support especially on seeds.

Legislative anchorage: In order to create a conducive environment for corporate seeds legislation is passed, which criminalizes indigenous seed, related practices such as the exchange, sharing and storing of seeds. Examples of legislation are the Seeds Act 2013 and the African Regional Intellectual Property Organization (ARIPO) aimed at harmonizing seed laws at regional level hence criminalizing the sharing, exchange and saving of seeds. This, it was pointed out, was aimed at benefiting Multinational seed companies through the creation of a conducive environment for their trade operations.

It was shared that through Intellectual Property Rights (IPRs), the power to own, exchange and control indigenous seeds would be taken away from farmers. It was further shared that this involved governments imposing laws that required seeds to be registered in official catalogues in order to trade thus denying small scale farmers the age-old tradition of storing, sharing and exchanging seeds. It was further explained that seed laws meant criminalizing farming activities such as seed banks and introducing seed inspectors who would visit farms to investigate the source of the farmers' seeds and if they were not from a certified source the farmers would be prosecuted.

Deliberations on corporate capture of our seed and food system



Oppressiveness: The exploitative nature of the existing seed system makes farmers continuously dependent on conventional seeds. At times these seeds fail to germinate because they have a gene terminator hence farmers have to buy the seeds season after season. This is unlike the indigenous seed system where seeds have been kept for hundreds of years and have never failed to germinate.

Connectivity: The existing seeds system is based on connections amongst various actors; seed companies are connected to research institutions that are further connected to brokers and marketers who carry out extensive marketing to convince farmers to plant seeds from seed companies such as Duma.

Contract farming: This is where farmers get into agreements with corporates to grow only one type of crop, which is then exported. This has implications for soil fertility and climate change as during monocropping soil nutrients are depleted and the extensive use of fertilizers destroy the environment through the release of toxic gases.

Consolidated farming: This is a system where farmers owning small pieces of land are persuaded to sell off their land, which is then bought by corporates, and used for monoculture. In other instances there have been cases of intimidation of farmers and forceful evictions. Corporate farming thus shows a clear relationship between seed and land grabs.

Corporate wealth versus people's health

It was shared that corporate capture of our food system is further enhanced by so-called development agendas under the guise of improving the status of developing countries. Such was cited as the Millennium Challenge Corporation, (supported by the USA), who under the guise of giving aid to countries in fact are moving towards re-colonization. Countries that have been given aid by the Millennium Challenge Corporation were:

Country	Year of funding
Madagascar	2004
Nicaragua	2005
Benin, Ghana	2006
Mali	2008
Burkina Faso	2008

Experience sharing on comparative analysis between indigenous seeds and conventional seeds



It was observed that the majority of seed producers also control the production of fertilizers and pesticides. Their main aim is to make large profits; they don't care if farmers' crops fail or not. In further analysis of the corporate capture of seeds, the following market share of seed companies were noted as follows:

Pesticides, fertilizers, agrochemicals	Percentage of Global Market share controlled	Seed companies	Percentage of Global Market share controlled
Bayer	19%	Monsanto	19%
Syngenta	19%	DuPont –USA	15%
Basf	11%	Syngenta (Switzerland)	9%
Monsanto	9%	Group limagrain	6%
DuPont	6%	Land O' Lakes	4%
		Bayer Crop	2%

It was explained that by linking food and health, GMOs challenge not only consumers because of diseases such as cancer, but farmers because of the increased use of pesticides which have an adverse affect on the environment. It was noted that as a result of the creation of unpredictable genes, genetic engineering was putting human beings at risk by mixing genes of different species. It was further noted that GMOs did not increase yields as they were infused with a gene terminator ensuring that farmers were unable to replant the same seeds again.

Intersectionality of Food Justice and Other Social Injustices

It was explained that there is a relationship between food justice and other social injustices. For instance farmers who are exploited by buying fake seeds end up growing failing crops, which results in a loss of livelihoods and causes family breakups.

When seeds fail, there is shortage of food, school children are sent home because schools cannot feed them, which ultimately disrupt access to education.

As a result of soil infertility, brought about by monocropping, farmers use a lot of energy tilling the land and waste time when in the long run they end up with poor yields.

For women small traders in local markets, crop failure affects their source of income and families sink deep into poverty and, in some instances; children end up on the streets as street children.

Family break ups were cited as social injustice that can be linked to food. The lack of food in a household results in family members going out in search of money, neglecting households.

To further understand food justice in relation to other social injustices, different identities were allocated to each participant. A set of statements was read out and if it affected an identity positively the affected participant was to take a step forward, if it affected then negatively they were to take a step back.

The participants were then asked to share their experiences based on their allocated positions. The responses were:

Extreme back	Middle	Extreme front
Sad, lonely, neglected, powerless, uncertain about the future	Striving to move forward, excited	Powerful, excited, influential

It was explained that at the start all participants were on an equal footing but as a result of various social injustices suffered by communities, inequalities deepened. It was observed that there was a need for farmers to come together as a collective as they had more power when they were organized as opposed to when they were handling their struggles in isolation.

The Web of Connections



Building alternative Seed Systems/Towards a Seed System Change

It was agreed amongst the participants that indigenous seeds are currently under threat and that if nothing is done there will come a time when these seeds will be extinct.

All the participants unanimously agreed that an alternative seed system was possible and gave the following as proposals on how an alternative seed system should look:

Group One

- There is need to go back to our indigenous seeds
- A seed bank to be owned as a group
- Traditional preservation methods to be enhanced
- Indigenous seeds to be patented
- A system where seeds are exchanged
- A system where seeds are free

Group Two

- Availability of quality seeds
- They do not want Genetically Modified(GM) seeds
- A future where the seeds planted by farmers are indigenous seeds
- A system where a farmer is able to control their seeds and markets
- A future where farming is profitable
- A system where policies are formulated to protect local farmers against Multinational Corporations(MNCs)
- A system of subsidies to farmers by the government

Group Work on the Envisioned Seed System



Evaluation

Based on the observations made, it was noted that the Tafakari achieved the set objectives and that the farmers had better knowledge of seeds. Their comments were captured as follows:

“A job well done! Continue”

Peter Nzioka, Smallholder farmer -Machakos

“I am happy that I have learnt more about seeds. I now know how to select the seeds that I plant”

Patricia Mutunga, farmer -Machakos

“ As farmers we have the power to decide what we want to grow”

Francis Mwenda, farmer –Gatundu

I have learnt more about land preparation and spacing and how to own indigenous seeds”

Catherine Kimeu, farmer Machakos

“I have attended much training in my life, but I have never attended one where discussions are about seeds. I am appreciative ”

Francis Mwenda, farmer, Gatundu

“Masomo yalikuwa mazuri zaidi, Kwa maana nilijua mambo ya kuchagua mbegu pia kupanda”⁴

“Whatever we have learnt, rest assured will be shared with more farmers, this is knowledge that needs to spread out”

Onesmus Kioko, Machakos Small Scale Farmers Association

“Every farmer who has a farm near the road should from now on be a demo farm with a billboard indicating indigenous seeds, this is the best way to counter the seed companies” –*Joyce Mueti, Machakos Small Scale Farmers Association*



⁴ Swahili translation meaning the “learning was great, I learnt how to select seeds and how to plant”