Changing the discourse, policy and practice on farmer seed systems in Africa

Key issues briefing

African Centre for Biodiversity

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On 7 April 2015 the African Centre for Biosafety officially changed its name to the African Centre for Biodiversity (ACB). This name change was agreed by consultation within the ACB to reflect the expanded scope of our work over the past few years. All ACB publications prior to this date will remain under our old name of African Centre for Biosafety and should continue to be referenced as such. We remain committed to dismantling inequalities in the food and agriculture systems in Africa and our belief in peopleís right to healthy and culturally appropriate food, produced through ecologically sound and sustainable methods, and their right to define their own food and agricultural systems.

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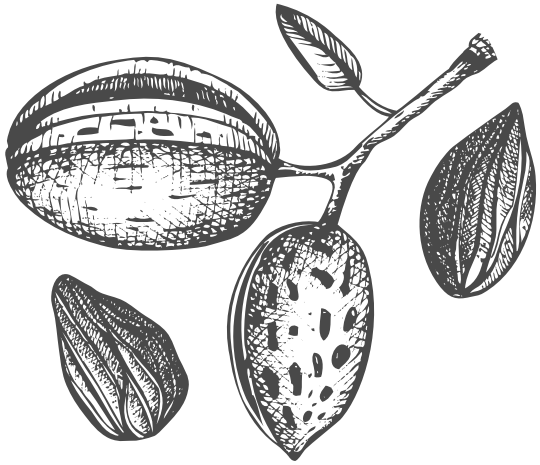
Most of the photos were taken on Zanzibar, particularly of the field visits to the Permaculture Design Institute and Shaban Ameri Hajjís organic farm in Bungi.

Introduction



"We cannot win this struggle if producers are not committed to searching for solutions and being involved." **Noufou Koussoube, Fédération Nationale des Groupements de Naam (FNGN) Burkina Faso**

The African Centre for Biodiversity (ACB) organised a meeting in Zanzibar from 24-26 August 2019, with the objective of facilitating a discussion about what kind of support may be required to build farmer seed systems, and how this can be provided. The overall objective was sharing and learning from farmers and those with long experience on issues related to farmer seed systems, globally and in Africa. This briefing highlights key issues arising from the meeting.

Thirty two participants came from 10 African countries (Burkina Faso, Ethiopia, Kenya, Malawi, Mozambique, South Africa, Tanzania, Togo, Zambia and Zimbabwe), and five countries beyond Africa (Brazil, France, Italy, Nepal and the United States). Participants came from farmer organisations, non-governmental organisations (NGOs), academia and government institutions (specifically gene banks and research institutes).

Context

In Africa and beyond, smallholder/peasant farmers produce and reproduce the majority of their own seed needs from season to season. Commercial seed markets have developed but only for a narrow range of profitable crops and varieties. A combination of neglect, commercial market interventions, environmental shocks, changing consumption patterns related to urbanisation and many other factors have resulted in loss of biodiversity and crop variety. Commercial markets and the mechanisms put in place to support their development also have negative consequences for agricultural biodiversity. First, as the private sector has taken over funding of agricultural research and development (R&D) from the public sector, this has resulted in the dwindling of R&D in diverse crops and a focus on the relatively few lucrative crops. Second, in parts of Africa, farm input subsidy programmes (FISPs) favour a limited range of standardised crops and varieties, mostly developed for industrial uses such as animal feed.

Farmers usually do not favour the certified seed varieties received from input subsidy programmes for their own consumption, but these varieties are produced for sale into large-scale commodity markets, often underpinned by corporate-controlled closed value chains and government price floors.

Despite these challenges, farmer seed still constitutes the majority of seed used and exchanged, and crops produced from this seed contribute substantially to food and nutrition security on the continent. Farmers will use their own seed for household consumption when they can. But these seeds receive scant recognition, and there is limited support for their reproduction, adaptation and use by farmers, for farmers. Seed laws prohibit this seed from being traded in national and regional markets. 'Marginalised' crops that farmers continue to reproduce themselves from their own seed may gradually decline in quality, especially if no diversity is added to the genetic pool over time.

Farmers are forced out of farming or into accepting inappropriate seed from the formal sector, including genetically-modified (GM) seed in some African countries. These seeds are standardised and bred for large-scale industrial production and processing techniques. Power is centralised and agro-food systems have come under the undue influence and direction of multinational corporations and imperialist states. The autonomy and agency of farming households, and women in particular, as the engine of food production and preparation, are weakened and devalued.

Defining and recognising farmer seed and farmer seed systems

Definitions

*"***Farmer seed** *is defined by a process of production, and is conserved and multiplied by farmers in the same field as it is cultivated … This seed constitutes populations, not varieties. Evolving selection allows us to choose changing characteristics every year. We must characterise the farmer seed.* **Where does the seed come from, what are its origins, and which are the parents."** **Guy Kastler, Confédération Paysanne/La Via Campesina (LVC), France**

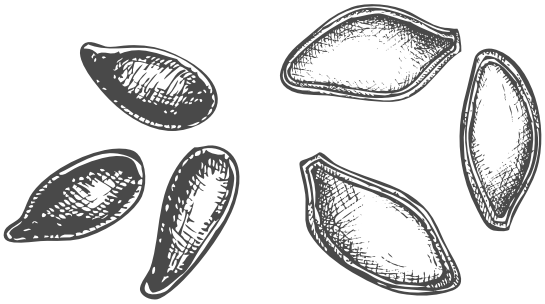
Farmer seed systems can be defined as the measures and practices by farmers themselves for sourcing, selection, adaptation, reproduction, use, storage and dissemination of farmer seed. This can include commercial activities, e.g. farmer-owned cooperative seed enterprises.

"We know farmer seed systems do exist in member states. The role farmers play in ensuring food security is huge." **Justify Chava, Southern African Development Community (SADC) Plant Genetic Resources Centre (SPGRC), Zambia**

There are numerous tried and tested practical methods and techniques for supporting farmer seed systems, including farmer field schools (FFS), community seed banks (CSBs), diversity plots, participatory plant breeding (PPB) / participatory crop improvement (PCI), participatory variety selection (PVS), and seed fairs and exchanges.

The **formal seed** system refers to the externally regulated system of plant breeding, production and distribution. Fixed varieties are developed, following defined procedures and inspections, culminating in distinct, uniform and stable (DUS) and sometimes value for cultivation and use (VCU) tests. Laws and regulations, and public sector and donor financial resources are channelled only to this system, even though it does not respond to all farmers' needs. Farmers have not widely adopted improved crops because they cannot adapt to diverse conditions.

Some participants in the meeting placed strong emphasis on **sustainable seed systems** with complementarity. According to these participants, both formal and farmer systems can generate a diversity of plant materials for farmers, including those involved in formal public sector breeding and seed production activities. Quality is needed across both these systems of producing and distributing seed.



However, different rules and standards are required for the different systems. A big limitation is that standards and rules designed for the formal system are imposed on farmer systems, often in a punitive way.

Where there are exceptions from the laws and regulations, farmer systems are mostly just left to their own devices without any type of proper recognition or public sector support to build and strengthen these systems.

There is an overwhelming range of beneficial results from recognising and supporting farmer seed systems, including: biodiversity conservation and use, climate change adaptation, carbon capture and increase in soil organic matter, diversification of opportunities for gainful productive activity and economic inclusion, resuscitation of indigenous knowledge and community, recognising and valuing the roles of women, and many others. Farmers' autonomy over their seed is a prerequisite and core component of a just transition towards diverse ecologically sustainable agricultural production under democratic control.

Access to diverse locally-adapted seed is elemental to responding to the multiple challenges facing sustainable food production in Africa today. Direct custodianship over seed places power in the hands of agricultural producers rather than external corporate-financial forces.

Democratic farmer organisations can channel these practices into a significant systemic shift.

Varieties vs populations discourse

There are many examples globally of efforts to identify and register farmer varieties. However, these efforts run up against constraints to the way in which "varieties" are statically defined in commercial laws, based as they are on DUS criteria.

Existing laws and regulations are not able to accommodate dynamic and evolving farmer seed populations.

Participants shared innovative examples from around the world on criteria for identification of populations that may overcome the limitations of the strict DUS means of defining a variety.

"In the SADC Seed Harmonisation Protocol there is a provision but no mechanism to define what a farmer variety is. Descriptors should not be based on the formal sector. We need basic requirements of what it should be, minimum requirements. These seeds don't need to go through DUS testing. It is in its own context and we should not try to fit it into the commercial system." **Andrew Mushita, Community Technology Development Trust (CTDT) Zimbabwe**

Criteria for identifying seed populations

Riccardo Bocci of Rete Semi Rurali in Italy shared his experiences with registration of seed populations. In 2011 a new European seed category was introduced, called heterogenous materials. This brought a shift from "distinct" as part of the DUS testing to "identifiable". **The process becomes relevant for identity, and traceability is important.** The materials do not need to be registered, and no exclusive intellectual property rights (IPRs) are allowed. Although the regulations are currently only for the organic sector in Europe, there are lessons to be learned.

According to Riccardo:

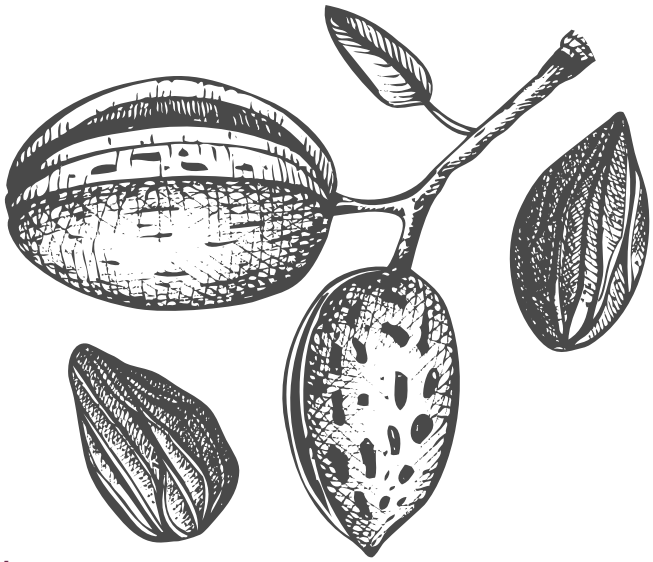
"If we check for off types, we find all of them are off types. It is a population, so there are plenty of types in the field ... We don't want to use uniformity or stability to define these materials, but you must still be able to identify the materials you want to put on the market ... Key elements of dynamic populations are to **describe the parents, degrees of diversity (large or small), the farming system used to adapt the population, and local adaptation (years of cultivation in same place)."**

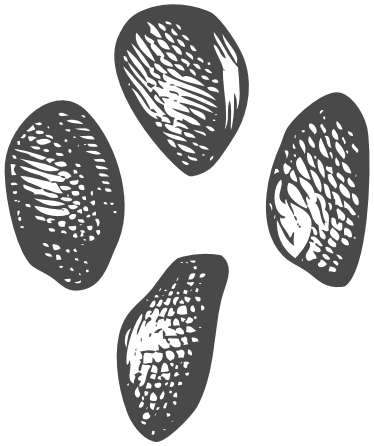
Guy Kastler from Confédération Paysanne/LVC, France added from his experience:

"As a farmer practicing agroecology, if I want to know if the seeds can be used in my system, I need to know the species, its specific characteristics, where they come from, how they were selected, who multiplied them, and in what year were they multiplied. The geography, climate, field, and cultural system to which the seed is adapted ... Farmers record their seed, and establish a community catalogue, identified by their own criteria ... Many communities ask states to recognise their inventories but not to publish the characteristics that could enable biopiracy."

"We must prove the seed comes from the farmer seed system, and is not a copy of industry seed and that is it. It is now for government to tell us if the description is not good enough for them, then what else must we provide."
Guy Kastler, Confédération Paysanne/LVC

Registration/ notification of farmer seed





"Rather than registration, we talk about notification, where you describe the material you want to put on the market. It is a flexible description, ***so as the population evolves, the description evolves****. It is difficult for officials to understand, but they have accepted the description should change over time. It is a description of breeding methods. You don't need DUS,* ***but use your own test, and say where it was grown, by who, and under which conditions and describe the uses****."* **Riccardo Bocci, Rete Semi Rurali**

Key elements of notification/registration/recognition of farmer seed:

- Agronomic description (e.g. macro-economic characteristics, with ranges)
- Description of the breeding methods
- No VCU and DUS testing, but trials under control of the breeder
- Traceability/identification (no classical scheme of seed production such as base-first and second reproduction)
- Use/qualitative description (i.e. quality characteristics of the heterogenous material relevant for the consumers)

Riccardo Bocci, Rete Semi Rurali

Riccardo suggests changing the name from control and inspection to field visits, with the emphasis on support and learning rather than imposed compliance.

New relationships are developed between sellers and consumers based on trust, transparency and the history of the material.

In **Brazil** the 2003 Seed Law provides exemptions from registration requirements for local, traditional and Creole seed. This seed may not be restricted from inclusion in public sector seed and food programmes.

However, these gains that were won after long struggle are under threat by the recently installed hard right-wing government in Brazil. There is need for mobilisation and solidarity to defend, consolidate and advance these and other democratic gains.

Quality controls in farmer seed systems

"When you go to seed fairs, you see that farmer seed quality is good. But it is not tested. It is not recognised but it is there." **Evelyn Chateya, Ministry of Agriculture Seed Services Institute, Zimbabwe**

Traits of quality seed across both farmer and formal systems are:

- Full maturity/good grain filling
- Free from seed borne disease
- Free from pest attack (in the field or in storage)
- Optimum moisture content
- Free from damage by late rains
- Free from moulding during storage
- Seed viability

Bayush Tsegaye, Ethio-Organic Seed Action (EOSA), Ethiopia

How farmers respond to quality challenges

Challenge faced	How farmers respond to the challenge
Poor quality	Access new seed if known before planting, and replant the field if known after planting
Mixtures	Clean seeds properly by removing other varieties as well as stones and other debris Selectively harvest, thresh separately, and keep selected cobs/ heads without threshing
Poor grain filling	Do field inspection, selectively harvest and thresh Check if the seed lot is viable or not Get new seed if viability is poor
Poor storage condition	Clean seed container, check seed moisture content, fumigate storage facility, keep in cool and dry place, seal seed containers air-tight
Seed borne diseases	Wash seeds before planting, or buy new seeds
Soil borne diseases	Change crop type next planting season
Disease in the field	Spray chemicals and rescue, get new seed for the next season if damage is serious
Damage by storage pests	Buy or access new seed for the season, use insect repellent herbs, treat seed with ash or chilli powder, etc.
Moulding	Access new seed for the season, check moisture content of seeds, dry properly before putting in storage containers
Poor viability	Check germination by doing sample tests and then get new seed if viability is below acceptable level.
Poor management	Improve field management and seed handling practices

Bayush Tsegaye, Ethio-Organic Seed Action (EOSA), Ethiopia

"In case of uncertainty on seed quality, a farmer can do isolated crops. For many years they will observe the seed and if happy will integrate it into the seed system. This goes well with farmer seed systems, where most seeds are local seeds. There is not a lot of seed from elsewhere, so there is time to observe before including them. The exception is if there is loss of the total local stock because of a disaster." **Guy Kastler, Confédération Paysanne/LVC, France**

Phytosanitary criteria are important, especially screening out of genetically-modified organisms (GMOs) and diseases. In Brazil, GM seed is distributed through formal and informal channels and can end up in farmers' fields without them being aware of it. This can contaminate local seed stocks.

The Brazilian peasant movements won the distribution of strip tests to screen out GM contamination in farmer seed systems, which is one necessary step. Ultimately, however, GM seed must be banned for the threat it poses to biodiversity.

Considerations for technical quality solutions

- Work through multiple channels, beyond farmers' own stocks
- Widen the quality parameters, because the formal parameters are very limited
- Offer options for standards (with cost in mind)
- An active feedback function from farmers/users is essential

Louise Sperling, SeedSystem, consultant to International Center for Tropical Agriculture (CIAT)

Markets

A key issue that has arisen in discussions with farmers and other stakeholders when discussing agricultural biodiversity loss, is that farmers may want to produce diverse crops beyond the core crops available through the commercial sector, but there are no markets for surpluses or to generate some income.

The gathering assisted in unpacking this question of market demand for diverse crops and varieties, and identified and considered ways in which market demand can be stimulated and supported beyond integration into commercial, industrialised value chains.

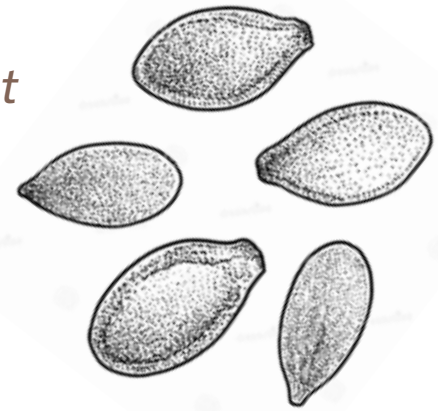
"We need to think in the context of pluralistic markets, not just one market." **Andrew Mushita, CTDT, Zimbabwe**

"If you are interested in diversity, you have to look at local markets."
Louise Sperling, SeedSystem, consultant to CIAT

The Brazilians emphasised the importance of **public procurement and institutional markets**, as part of a multi-pronged strategy. Farmers were supported in seed production, conservation and sharing, and had access to public sector markets for school feeding schemes as outlets for diverse, nutritional crops. Together with legal recognition and protection of farmer seed, this stimulated farmer seed production of diverse crops.

Louise Sperling shared on the role of **small and medium scale traders** as a potentially significant channel for dissemination of diverse, quality farmer seed. In her research on traders, she found that a subset of grain is specifically there to be used as seed. This is dubbed "potential seed". The traders select and handle this subset specifically for sale as seed. It fetches a quality premium over grain, even though it is not recognised as seed in the formal system. Individual traders can move up to 400 tons of "potential seed" each, indicating a significant market.

"[Small and medium] grain traders are a good vehicle for moving local seed and are more effective than farmer to farmer or extension for moving big volumes ... Traders have better storage conditions, they keep different varieties for different agroecological zones separate, there is a price differential, and traders go everywhere including into crisis areas." **Louise Sperling, SeedSystem, consultant to CIAT**



Work also needs to be done on building farmer capacity to produce seed at volumes to meet existing demand.

"Farmers can contribute to quality seed production, but with some quality controls ... There is demand but farmers cannot meet the demand at scale." **Thandi Lupupa, SPGRC, Zambia**

Policy

A large number of global processes have an impact on recognition and support for farmer seed systems. Information was shared on the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA, also known as the Treaty), as well as on the Convention for Biological Diversity (CBD) and its Protocols.

The **Treaty** has important Articles on sustainable use of plant genetic resources (PGR) (Article 6) and farmers' rights (Article 9). However, there are many problems with implementation, and the system of global sharing of resources and benefits from their use are under attack by reactionary governments in the United States (US) and elsewhere, hand in hand with corporations.

Guy Kastler highlighted the dangers of digital sequence information (DSI). These new technologies dematerialise genetic information and allow corporations to bypass access and benefit sharing (ABS) arrangements, and to claim patents on genetic sequences that extend to whole plants merely because of the presence of that sequence in those plants. This includes genetic materials currently under farmers' custodianship.

Efforts to detach DSI from ABS negotiations and agreements threaten to undermine the multilateral system (MLS) and destroy the Treaty, and the CBDís Nagoya Protocol on Access and Benefit Sharing. For more information see https://www.acbio.org.za/en/crunch-time-seed-treaty. These issues will be discussed at the upcoming Treaty Governing Body meeting in November 2019.

On the **CBD**, Mariam Mayet from ACB in South Africa shared that there is a lot of activity on PGR, with recognition of the importance of biodiversity in the context of loss, erosion and species extinction etc. This is not a new issue. But overall efforts at implementation, including development and implementation of national plans, have been a dismal failure. There is reluctance to address the systemic issues, such as extractivism, inequities, carbon footprints and lack of legal frameworks and enforcement. Discussions have started on a post-2020 biodiversity framework. South Africa will play an important role in Africa as chair of the African Ministerial Conference on the Environment (AMCEN) as well as possibly chairing the African Union.

An ongoing threat in Africa is the adoption of **rigid** plant variety protection (PVP) **laws** modelled on the International Union for the Protection of New Plant Varieties (UPOV) 1991, along with stringent seed laws that marginalise, exclude and even criminalise farmer seed activities.

"Africa is doing a copy and paste of European laws without realising that Europe is changing those laws now for more diversity and pluralism." **Riccardo Bocci, Rete Semi Rurali**

Participants were unanimous in the need for **official recognition of farmer seed and systems** and farmer seed, as something distinct from the commercial/formal seed sector.

"We want to move from the criminalisation and inequality, and recognition of only one system. Recognition is like a funding mandate. So if there is no recognition, farmers will not be able to do any work, they will always be on the margins." **Mariam Mayet, ACB**

"We can't make farmer seed systems an appendage of the formal system, it must be a separate system with its own support and systems, with recognition that it plays a key role." **Andrew Mushita, CTDT, Zimbabwe**

"We need to look at what policy framework is necessary to recognise farmer seed systems, what technical and capacity building is required to make them more functional and resilient, and also what kind of economic contribution is being made." **Andrew Mushita, CTDT, Zimbabwe**

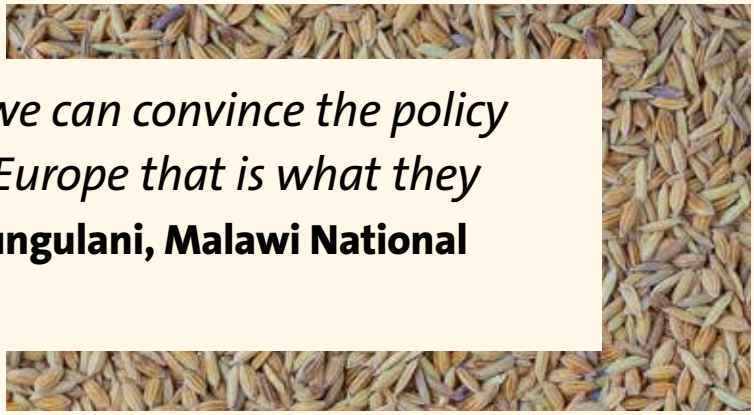
"We must work with government representatives to write legally what a farmer seed system is." **Guy Kastler, Confédération Paysanne/ LVC, France**

Field visits were identified as a key strategy for engagement with policy makers, an effective means for them to hear information directly from farmers and practitioners, and bringing them to awareness of the key issues for farmers. Multi-stakeholder partnerships for diverse practical work, documentation and advocacy has worked in many places.


KILIMO ENDELEVU

"It is easier to debate with government if we get recognition from formal researchers." **Gabriel Fernandes, Federal University of Rio de Janeiro (UFRJ) /National Agroecology Coalition (ANA), Brazil**

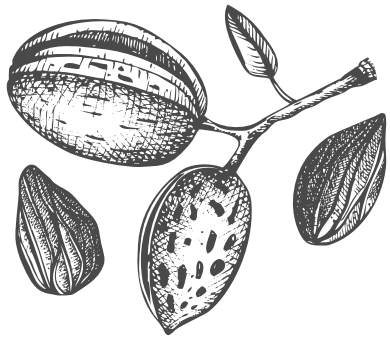
"Policy makers are hard to convince in a scientific way. They need to see, we need to organise them, they do not read scientific papers. So we use farmer field visits and seed bank visits to show that local seed can really contribute to farmer livelihoods. Then they can revise the seed policy." **Niranjan Pudasiani, Local Initiatives for Biodiversity, Research and Development (LI-BIRD), Nepal**



"We must first demonstrate, then we can convince the policy makers. In Brazil and Nepal and in Europe that is what they have done and it works." **Lawrent Pungulani, Malawi National PGR Centre**

"To face the big companies we have to go faster. We must go straight on the ground to show we can produce seeds."
Jacques Nametougli, L'Action Réelle sur l'Environnement, l'enfance et la Jeunesse (AREJ), Togo

Rules and guidelines



There was some discussion about whether rules are needed for farmer systems. On the one hand, some participants felt that bringing rules will impose constraints on farmers. Farmers should rather be free to do what they are doing without external intervention.

Others suggested that guidelines can be of use because a free-for-all may not produce quality seed for farmers. Guidelines can be a flexible support mechanism for farmers as opposed to a rigid, imposed system. Farmers interact with users and others to define appropriate norms and standards, and there should be some kind of official recognition of these systems to protect them.

"We must develop standalone guidelines to direct us on how to move forward." **Lawrent Pungulani, National PGR Centre, Malawi**

"A huge failure of the formal system is that there really is only one standard, which is certified ... We [should] start to think about multiple standards according to need, always with cost in mind." **Louise Sperling, SeedSystem, consultant to CIAT**

"In farmer systems there is a need to ensure quality and traceability. Farmers are being let down in this regard, because there are no guidelines to ensure farmers exchange quality seed amongst themselves ... [We must] help farmers develop guidelines suited to their conditions." **Justify Chava, SPGRC, Zambia**

"Rules" is a strong word. We need guidelines or procedures with flexibility." **Thandi Lupupa, SPGRC, Zambia**

"We need different procedures, guidelines, and rules to ensure quality for different systems." **Riccardo Bocci, Rete Semi Rurali**

"We must put guidelines in place and practice simultaneously without waiting for good laws, recognition etc." **Riccardo Bocci, Rete Semi Rurali**

"Our rule framework can be different from one country to another. There can be general baselines on which we agree, what must be recognised in laws by government." **Guy Kastler, Confédération Paysanne/LVC, France**

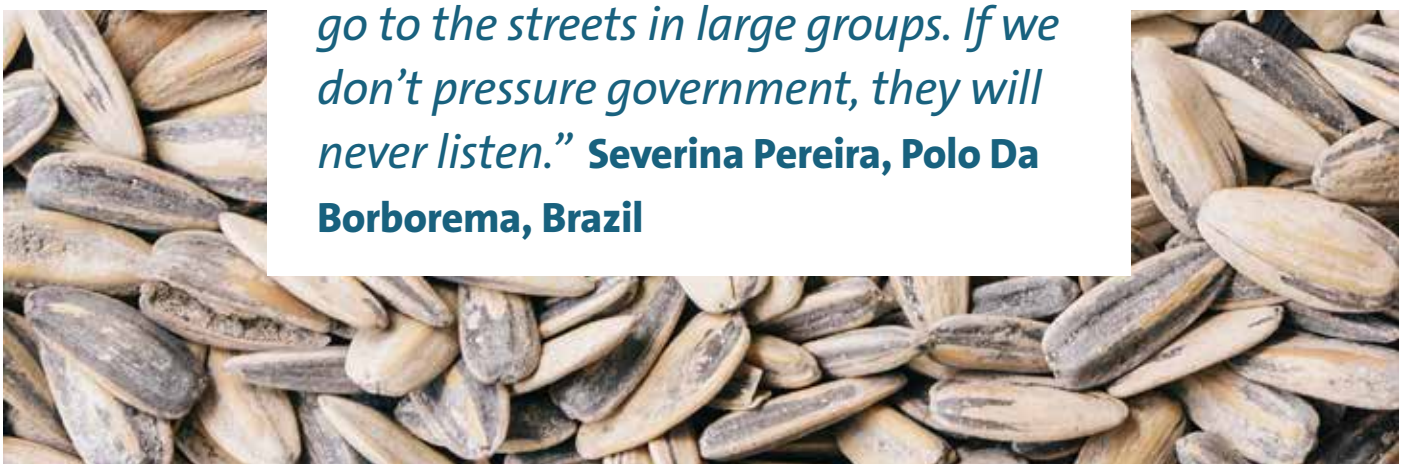
Priority activities

Participants identified areas for further work:

- **Pilot** a multi-country ***sui generis*** **farmer variety/population registration system**
- **Multi-stakeholder organisation and implementation on local seed systems** with national gene banks, including farmer organisations, NGOs and researchers, government institutions
- **Record the quantities of seed being sold**, as evidence of economic benefit
- **Maintain activities at practitioner level** with farmers, and **connect to advocacy** at multiple levels from local to global
- **Revisit and update** the **African Union Model Law** for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (https://www.wipo.int/edocs/lexdocs/laws/en/oau/oau001en.pdf)
- Engage with **national focal points** on the **ITPGRFA** to push for continuation of working group on farmers' rights
- **Recognise diversity and different views even within our movements**
- **Work in solidarity and love one another**

There was a strong call for **farmers to organise** themselves and take the initiative without waiting for others.

"Farmers have to unite and fight, and go to the streets in large groups. If we don't pressure government, they will never listen." **Severina Pereira, Polo Da Borborema, Brazil**



"People say as farmers we are not organised and then our word does not count. Who will listen to 1,000 farmers individually? We need to be organised to lobby, to advocate so there are laws to protect us. What is important is our own organisation. When farmers get together, the laws lose their power." **Jacques Nametougli, AREJ, Togo**

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