ABS policies for climate resilient seed systems

ALQ - How can access and benefit-sharing policies make valuable contributions to seed systems that promote farmers’ resilience to climate change?

Background

Climate changes are having negative impacts on a number of crops in many parts of Sub-Saharan Africa.

Farmers need to manage crop diversity (both within and between crops) with a range of genetically based functional traits as insurance against the increasingly unpredictable precipitation, droughts, shifting growing seasons, and hot spells.

Genetic diversity in seed systems is introduced, maintained, and exploited differently by different actors in those seed systems. In informal seed systems in particular, the distinction between genetic resources and seed largely disappears.

Farmers depend on seed systems to access genetic materials, in the form of quality seed, or small samples of materials for experimentation. Farmers play key innovative roles in those systems, selecting, replanting, exchanging and selling seeds on local markets.

A range of factors are creating challenges to introduce, maintain and ultimately making this diversity of reproductive materials available to farmers, as well as to plant breeders, researchers, and seed sellers.

Most sub-Saharan African countries have ratified the ITPGRFA and the CBD, and regional agreements to harmonize their seed laws. A growing number are ratifying the Nagoya Protocol.

To date, these agreements have not been implemented. If anything they are creating impediments. However, opportunities exist to implement them in ways to promote the exchange of genetic resources/seed between key actors in sub-Saharan Africa to increase their overall resilience in the face of climate change.

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Participatory Exercises on resilient seeds with farmers in Chikankata, Zambia, August 2015

Analyzing resilient maize varieties with farmers in Chikankata, Zambia August 2015

Seed Fair at Chikankata, Zambia August 2015

A farmer displays her seed at a seed fair in Chikankata, Zambia

Key activities & outputs

Nationally-based experts lead four separate country studies in Zimbabwe, Zambia, Uganda, and Rwanda. In each country, the lead researchers worked through participatory exercises with two local communities (with technical support from international experts), and surveyed a range of stakeholders.

Key outputs:

Pilot tested methods for national multi-stakeholder teams to work together to locate/identify potentially useful crop materials in collections around the world for use in climate stressed areas.

Compiled lists of crop materials conserved in genebanks around the world that were identified by the national research teams as potentially adapted for use under the climate-stressed conditions of the eight case-study communities;

Contributions to the evidence base for reforms to national access and benefit-sharing and seed polices in each of the four countries

Four national research papers, and one cross-cutting synthesis paper, to be published by ISSD (with possible spin-off peer reviewed journal publications)


Nkhoma, C., Otieno, G. (forthcoming). Climate resilient seed systems and access and benefit sharing: a Zambia case study


Gapusi, J. (forthcoming) Access and benefit sharing policies and climate change adaptation: a case study of Rwanda

Halewood, M., Otieno, G., et al., (2016) How access and benefit-sharing policies can make valuable contributions to seed systems that promote farmers’ resilience to climate change. ISSD Africa TWG 3 synthesis paper.

Programme launch: Launch of the programme in Nairobi in September 2014 and the development of key research questions in thematic working groups with resource persons, validated by large audience in breakout working groups.

Scoping paper and action planning: Validation of the scoping paper and identification of action learning activities and action plan for each of these with the thematic working group in Kampala February 2015


National Workshop on Seed Laws:

How can seed laws be adjusted to support an effective functioning of informal (farmer) seed systems? 21October 2015, Harare, Zimbabwe


Expert Meeting: The Impact of Seed Laws on Smallholder Farming Systems in Africa: Challenges and Opportunities. 16-17 March 2016, Cape Town, South Africa

Output: Meeting Report: Impact of Seed Laws on Smallholder Farming Systems in Africa: Challenges and Opportunities

National seminars: Workshops in which the research questions were discussed in Uganda (23 participants), and Zambia (42 participants) with a wide array of national seed sector stakeholders, including seed companies, research organizations, seed trade and producer organizations.

Output: National workshop report for Uganda and Zambia
Main findings

**Quality seed of adapted local varieties is often not available.** In participatory exercises, farmers identified some potentially useful, adapted varieties being grown by one or a few farmers locally, but they are not available for use. Impediments to their wider use include lack of quality seed (including foundation seed), seed laws that 'criminalize' their sale and or exchange, and subsidies for alternative materials promoted by companies and national programs.

**There will be less and less potentially adapted materials in national collections.** The proportion of PGRFA in the countries’ national gene banks that is potentially adapted to that countries’ changing climates – as demonstrated in the community-based exercises – is decreasing over time.

**There will be an increasing reliance on materials from other countries.** By way of contrast, there is a lot of material in foreign gene banks that is potentially adapted to the four countries’ changing climate conditions. Those materials were originally collected from many different countries and continents. The research confirms that countries are becoming increasingly interdependent on genetic resources as a result of climate change.

**But there are significant challenges to getting materials from other countries.** The challenges that came through most clearly are:
- the fact that most countries in sub-Saharan Africa don’t have on-line accession level documentation making it impossible to discover whether or not they have potentially adapted materials to climate conditions
- the ITPGRFA’s multilateral system of access and benefit sharing is not implemented, so systems are not in place to request, and receive facilitated access
- the Nagoya protocol is not implemented, so there is inadequate recognition of the interests of farmers and breeders as potential providers of materials outside the multilateral system, leading to disincentives to share materials
- national and regional seed laws make it illegal to market farmers’ varieties within countries and in other countries in the regions

It will be necessary to invest in capacity building to take full advantage of potential contributions of the ITPGRFA and Nagoya Protocol for climate resilience. These agreements are not self-executing. The studies show that a range of organizations will need to play intermediary roles, between formal sector organizations and farmers, to ensure that they are ‘brought into’ systems for providing and receiving seeds and genetic resources.

Lessons learned

The formal and informal seed systems operating in the four countries – for the crops studied – continue to operate largely independently of each other.

The pilot research supported through this ALQ demonstrated the benefits in terms of seed system resilience that could potentially be realized through more proactive integration of formal and informal seed systems in the four countries.

International agreements to which the countries have committed themselves related to access and benefit sharing and seed regulation are not, so far, being implemented in ways that proactively encouraging integration/cross overs between formal and informal seed systems.

Considerable effort will be required to overcome historical division between formal and informal seed systems, and to integrate them where useful for climate change adaptation.

Next steps and future focus areas

The researchers involved in this ALQ conclude that there is a need for a program to raise the capacity of African (sub)-regional organizations to support national programs to implement the ITPGRFA, the Nagoya Protocol and national and regional seed laws in mutually supportive ways, reflecting the reality and diversity of different seed systems, ensuring that all actors involved - especially farmers - are able to access and use quality reproductive materials (genetic resources/seeds) to adapt to climate changes.

To this end, a regional pilot program should strengthen the capacity of one or more regional organizations working together to:
- Raise awareness about the importance of introducing, maintaining and exploiting genetic diversity in seed systems as a means to increase their climate change resilience
- Support multi-stakeholder teams to identify planting materials anywhere that possess potentially adapted traits to changing climate conditions in their own locality.
- Stimulate and support exchange of such materials (and related knowledge)
- Support national programs to identify and develop policy and legal options to take advantage of the international commitments they have made concerning access and benefit sharing, genetic resources, seed health and seed trade to promote accessibility and exchange of genetic resources/seeds between researchers, plant breeders, farmers, and NGOs, promoting new partnerships and equitable forms of benefit-sharing