Progressio is an international charity working to tackle poverty and injustice in developing countries

Climate Change and Seed Saving Study

Conducted by:
Progressio Zimbabwe
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Funded by
IIED

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Context/Study Sites

1. Mrewa
   - High potential agro-ecological zone 2B
   - Moderately high rainfall and moderate temperatures for crop production.
   - Wetlands and gardens prolong the length of the growing season especially for maize and allows for intensive vegetable production.
   - Cash and food security crops like potatoes, sweet potatoes and tomatoes are popular.
2. UMP
   - A low potential zone with the [classified as falling in the green zone
   - The larger portion of the district in agro-ecological region 4
   - Characterized by low rainfall, high temperatures.
   - Only 15.7% (42,000ha) of UMP is in agro-ecological region 2B with good granitic loams, while the remainder (225 000ha) is in agro-ecological region 3 and 4.
   - Alternative livelihood strategies include illegal gold panning, cotton growing.

Objectives of the Study

1. To analyse the extent to which seed conservation practices in Zimbabwe are part of adaptation strategies to climate change.

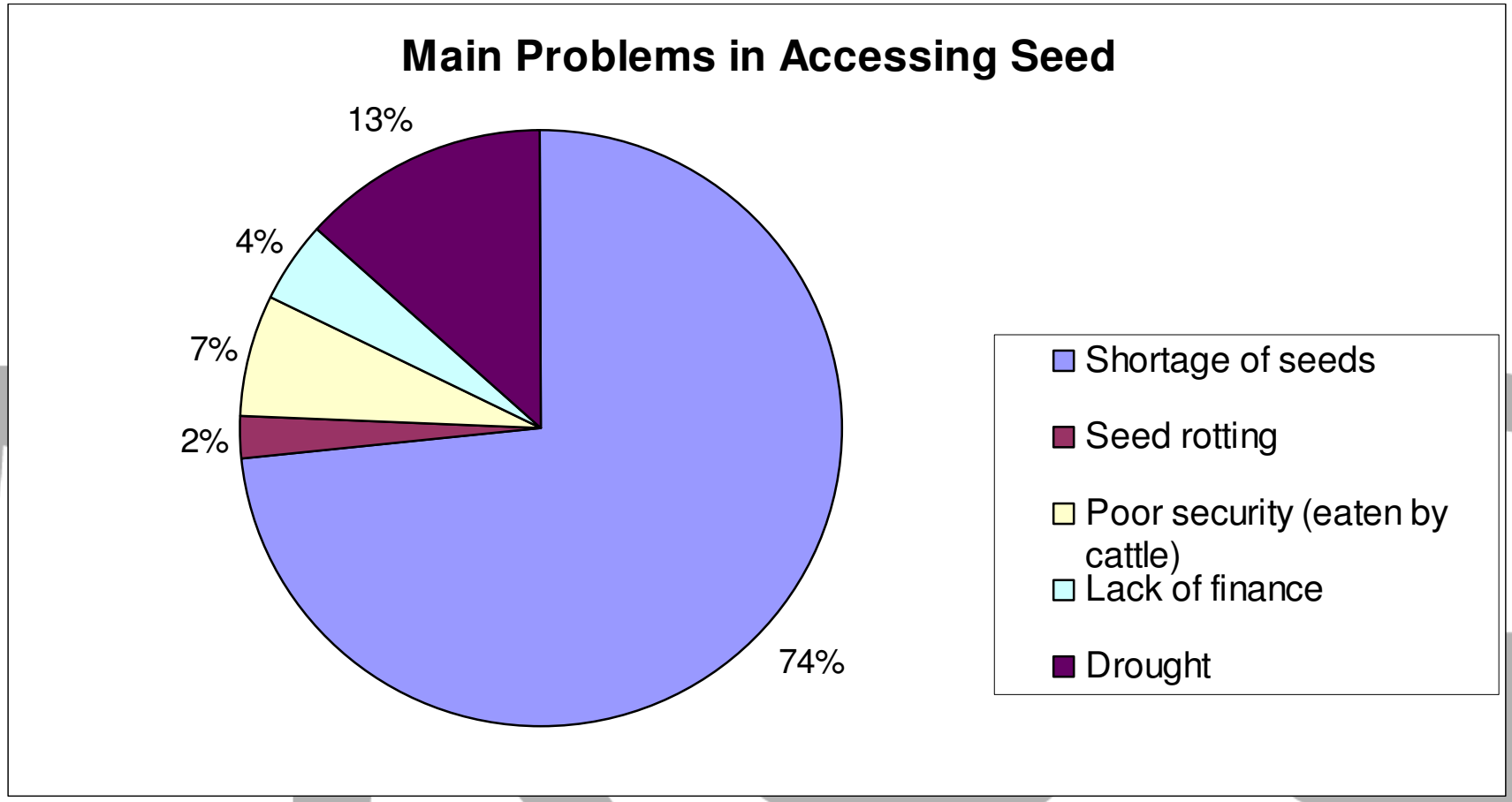
2. To assess the extent to which current national and international legal frameworks protect small-scale farmers' access to and preservation of indigenous seed varieties.

3. To propose recommendations for setting up of policies, systems and structures that encourage indigenous seed production, conservation and marketing as an adaptation strategy to food security

Methodology

- Descriptive Case Study methodology approach
  - Two sites were purposively chosen for the case study, Murehwa (Wards 13 and 14)and Uzumba Maramba Pfungwe,UMP (Wards 1 and 3) districts.
- Methods for data collection
  - Document review [Local Legislation and Policies (Plant Breeders Act;Seed Act); international instruments (UNCBD;UNFCCC)]
  - Key Informant Interviews [local government, government departments, seed companies, NGOs and donors, research and policy organisations]
  - Household surveys [60 respondents]
  - Focus group discussions [10 people per group = 40]
- Data management and analysis
  - Debriefing session, statistical validation of data, coding of qualitative data

Challenges for Obtaining Seed



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Adaptation strategies for enhancing seed security

1. Seed selection/preference
   - Use of high breed seed [high yield] for cash crops
   - Use of indigenous seed crops for growing produce for consumption
2. Conservation farming
   - Zero tillage
   - Planting basins
3. Seed fair and voucher system
4. Seed multiplication schemes
5. Community seed banks

GMOs

- No knowledge on the issue of GMOs among the rural farmers.
- 93.2%(56) of respondents in the household survey did not know what GMOs were.
- Farmers understood GMOs to be
  - The Broiler chicken which matures in eight weeks
  - Technology could be useful if applied in crops such as maize so they can mature faster
- Zimbabwe has no clear policy on GMOs

Implications of Climate Change on Seed Security

- The erratic rains mean that farmers have to seed more than in a given a normal rainfall season.
- Prolonged mid-season drought spells and general poor rainfall distribution implies low moisture availability for grain and seed to fill.
- Climate change had moved people from traditional farming to other livelihoods sources including gold panning, work in urban areas, etc.
- Experts interviewed argued that on a national level, a 2℃ increase in temperature would render a large portion of areas currently under maize unsuitable for its production.
- The limited feasibility of maize production in UMP is evidence of this, and shifts in farming systems should encourage more resilient varieties and a shift in culture from maize to sorghum and millets.

Farmers' Rights

- Operationalisation of this concept remains elusive and difficult in Zimbabwe
- Zimbabwe has signed and ratified several international treaties and conventions, there still remains a gap in ensuring that these work for local communities
- 6.8% of respondents were not aware of any form of rights that they had as farmers
- The current legal framework was inherited from a colonial government which promoted large scale commercial crop production ahead of small holder farmers

Legal Framework affecting the realisation of small-scale farmers' rights

- Laws relating to patents for plant genetic resources restricted small farmers from accessing, marketing and preserving them

The Plant Breeders Act

- According to this instrument, only the breeder has the sole right to sell and multiply plant material
- This instrument makes illegal the sell of seed between farmers and thus disrupts local market systems which could work to ensure seed security,
- A small holder farmer who earns 80% of their income from agriculture is legally allowed to multiply and exchange seed. If their total field size is below 10 hectares then they may be allowed to retain their seed.

The Seed Act

- The Act deals with issues of registration of seller of seeds and also regulates the import and export of plant materials.
- Farmers are not allowed, under this Act, to sell seed if they are not registered.
- It sets a quality control system which ensures minimal risk to contaminations of farmers' seed and to enhance preservation and protection of desirable plant genetic resources.

Important Questions

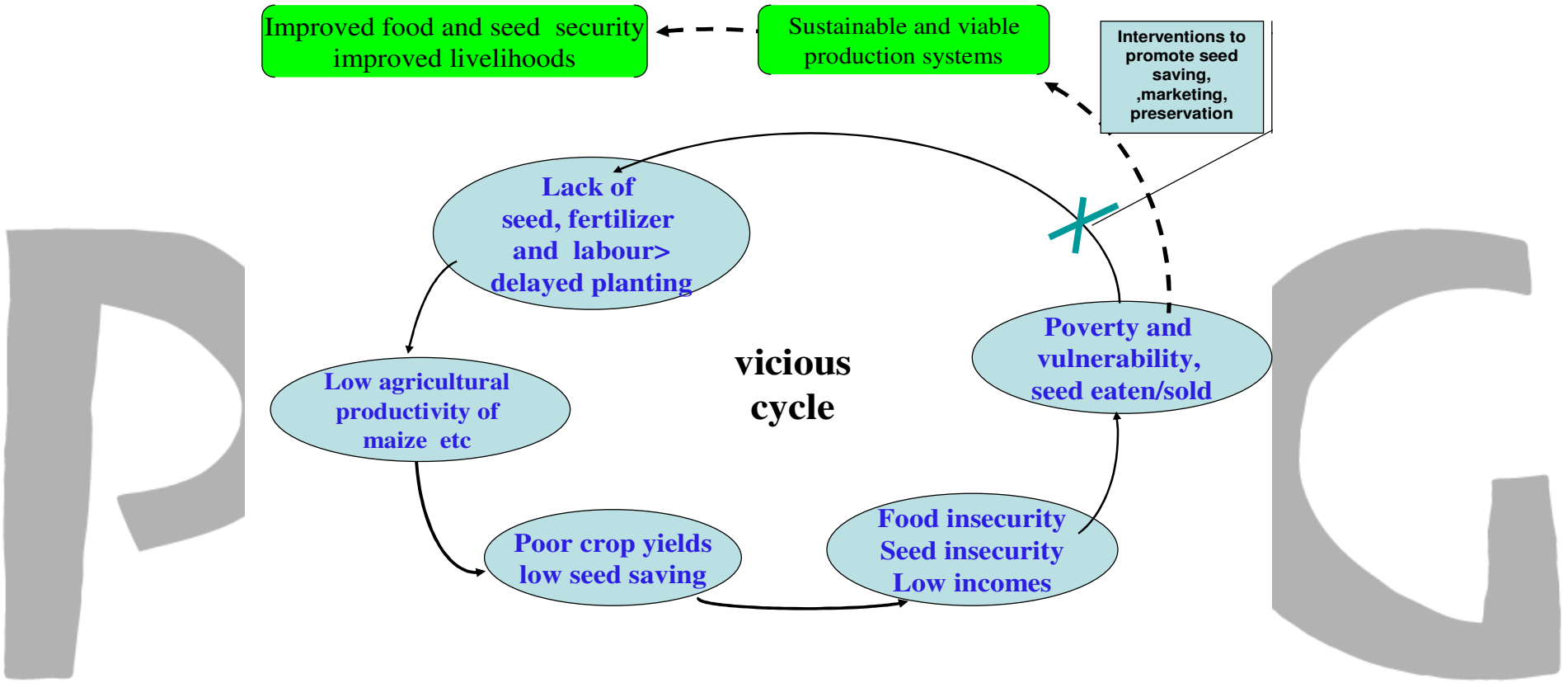
- How would poor farmers cope with impact of Terminator on indigenous varieties and on the culture of seed saving?
- How do we balance the issue of adaptive varieties that have low yields and hybrid, high yield, high cost, bigger markets?
- Are alternative sources of income for small farmers a challenge to continuing the culture of seed saving and devising technologies that are sustainable?

Key Conclusions and Recommendations

- Protracted food shortages/insecurity in Zimbabwe has been largely attributed to seed unavailability /insecurity at household level. There is need for continued financial and material support toward seed preservation technologies due to the critical role of the practices with regards to enhancing food security and small farmer livelihoods.
- The need to have a clear operational strategy for safe utilisation of GMOs, a strategy of which would include awareness building at all levels, and policy advocacy.
- Operationalisation of farmers' rights in the country, through increased registration of farmers' varieties and to officially accredit related indigenous knowledge systems
- The need for international biodiversity protocols to be localised and also to revise local policies and legislation that relate to use of plant genetic resources so as to enhance access and derivation of equitable benefits from their use by small-scale farmers.

Mitigating the Challenges

Cycle of poverty and vulnerability



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