



ZIMBABWE NATIONAL STRATEGY AND ACTION PLAN FOR PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE



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FOREWORD

The National Strategy and Action Plan (NSAP) on Plant Genetic Resources for Food and Agriculture (PGRFA) comes at an opportune time in the history of Zimbabwe, where the issues of resilience and sustainability in agriculture are at the centre stage of food and nutrition security. The strategy provides operational guidelines to promote conservation and sustainable use of plant genetic resources for food and agriculture. It takes into account the contribution made by the indigenous communities, particularly the smallholder farmers, as custodians of genetic resources and indigenous knowledge. The strategy is a response to a series of international and national policies and instruments to which Zimbabwe is party to. These include:

1. International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), which seeks to promote conservation and sustainable use of PGRFA, access and equitable sharing of benefits arising from their utilisation and farmers rights.
2. Convention on Biological Diversity which seeks to promote conservation and sustainable use of biological diversity and access and benefit-sharing
3. The Sustainable Development Goals (SDGs), which calls for the alignment of agricultural policies towards addressing climate change effects, promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources
4. National Development Strategy (NDS 1) and Vision 2030
5. Agriculture Food Systems Transformation Strategy
6. The National Agriculture Policy Framework's Pillar VIII on Resilient and Sustainable Agriculture.

There has been efforts at regional level towards protection of plant varieties, facilitate and expedite regional seed trade through instruments and protocols such as the SADC Harmonized Seed Regulatory System, draft SADC Plant Variety Protection (PVP) Protocol, Africa Regional Intellectual Property Organisation (ARIPO) PVP Protocol and the COMESA Seed Harmonization Regulations. Furthermore, the strategy encompasses six key components which include: (i) PGRFA conservation and sustainable use, (ii) Legal and institutional framework for the management of PGRFA in line with the ITPGRFA, (iii) PGRFA Research and Development, (iv) Capacity Development, Coordination and Communication for PGRFA conservation and sustainable use, (v) Resource mobilization for PGRFA conservation and sustainable use and (vi) PGRFA management under disaster situations. The strategy is grounded on several guiding principles as follows: a) Evidence-based decision making, b) Sustainability, c) Gender, youth, and all vulnerable groups mainstreaming, and d) Participatory and responsive.

Agriculture is multi-sectoral and multi-disciplinary; apart from my Ministry, there are various other Ministries, along with their departments and parastatals that are important to the conservation and sustainable use of PGRFA and eventually to the prosperity of the agriculture sector. In addition to these public sector players, there are other key stakeholders such as local communities, the private sector, development partners, and civil society. This reality dictates that policy processes, such as implementation, monitoring and evaluation, should be well coordinated to leverage on complementarities and avoid discord. The starting point for this is the institutionalization of the PGRFA coordination function. I am very confident that this strategy and action plan will adequately guide the operationalisation and implementation of pillar VIII for the National Agriculture Policy Framework and development plans for increased contribution to food and nutrition security and Gross Domestic Product (GDP).



Honourable Dr A J Masuka

MINISTER OF LANDS, AGRICULTURE, FISHERIES, WATER AND RURAL DEVELOPMENT



EXECUTIVE SUMMARY

Agriculture, amongst other productive sectors, is key to Zimbabwe's prospects of realizing Vision 2030 because of its contribution to Economic Prosperity and National Security. This strategy is part of operationalizing the National Agricultural Policy Framework under pillar VIII on Resilient and Sustainable Agriculture. The Pillar supports and acknowledges the contribution of smallholder farmers in the conservation and sustainable use of genetic resources and recognizes the need to mainstream and protect farmers' rights. The National Strategy and Action plan for Plant Genetic Resources for Food and Agriculture is also an implementing tool for the Agriculture and Food Systems Transformation Strategy (AFSTS) (2020-2025) which seeks to revive, restructure, reform, rebuild and transform agriculture from a USD 5.2 billion sector to USD 8.2 billion sector, contributing 20% to GDP.

PGRFA is an essential resource for strengthening resilience and sustaining smallholder agriculture in Zimbabwe. Smallholder farmers depend on the diversity of cultivated plants adaptable to the adverse climatic conditions that prevail in their communities. These farmers have managed PGRFA on-farm by growing a diversity of crops through seed selection, saving and exchange amongst themselves thus contributing to PGRFA conservation and sustainable use. PGRFA are vital for livelihoods, enhance food and nutrition security, strengthen social cohesion, maintain cultural integrity and build climate resilience. PGRFA forms the foundation for increased crop production, productivity, improved food and nutrition security, income generation and poverty alleviation, however they are under immense pressure from unsustainable utilization and displacement by new and improved varieties leading to genetic erosion.

There is, therefore, need to strengthen the conservation and promote the sustainable use of PGRFA. This calls for a National Strategy and Action Plan for Food and Agriculture which addresses the key components of PGRFA which are;

1. Conservation and sustainable use of PGRFA,
2. Legal and institutional framework for the management of PGRFA in line with the ITPGRFA,
3. PGRFA Research and Development,
4. Capacity Development, Coordination and Communication for PGRFA conservation and sustainable use,
5. Resource mobilization for PGRFA conservation and sustainable use,
6. PGRFA Management under disaster situations.

The Conservation and Sustainable use component addresses the critical challenges underlying PGRFA loss. The loss of PGRFA including the crop wild relatives, indigenous fruits and wild edible plants calls for the nation to establish measures that promote the conservation, sustainable use and also carry out the supporting research and development. Strengthening ex-situ, in-situ and on-farm conservation are priority areas of focus in terms of strengthening human and institutional capacity.

Component 2 targets the establishment of an enabling legal and institutional framework for the management of PGRFA in line with the The Constitution of Zimbabwe (Amendment No. 20) of 2013 and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Supportive policies and legislative frameworks provide clear mechanisms or regulatory frameworks to effectively achieve all elements of farmers' rights as enshrined in the Constitution and ITPGRFA such as preservation of traditional knowledge, domestication of international instruments, food security and



access and benefit-sharing, supportive mechanisms for saving, selling, exchanging and marketing of farmer's seeds at a commercial level, protection of farmer's indigenous knowledge and effective participation in policy and decision-making processes.

The strategy also addresses PGRFA Research and Development under component 3. This entails broadening the scope of research to cover other PGRFA and unlocking their potential value which strengthens sustainable utilization while addressing crop productivity challenges. There is a need to refocus existing crop research development to cover neglected and underutilized PGRFA and promoting participatory research while also promoting joint planning and implementation for agricultural research, education and extension .

Component 4 outlines the strategies for capacity development, coordination and communication for PGRFA conservation and sustainable use. Capacity development can be defined as the building and strengthening of human and institutional resources. Capacity development entails that all resources (human, infrastructure, mobility, and financial) are put in place so that the conservation of plant genetic resources for food and agriculture can be conducted smoothly. There is need for integration of national, regional and international policies on PGRFA and this requires coordination to avoid duplication of activities and wastage of resources. Establishing coordination mechanisms for conservation is vital for cost-effective use of resources and exchange of skills and knowledge transfer among institutions. Communication is a vital component of strategy development and implementation processes. Activities that enhance awareness and promote behavioural change towards conserving PGRFA form part of the communication strategy.

The establishment of an effective resource mobilization strategy under Component 5 ensures the availability of sufficient resources for the implementation of the NSAP.

Component 6 aims to address PGRFA conservation and sustainable utilization in cases of disasters. It focuses on preventing loss of PGRFA through better preparedness, conservation, better coordination, capacity building and knowledge management through advanced disaster emergency response to natural disasters. It comprises strategic actions to respond to the needs of affected communities, minimise the risk, increase response preparedness, improved recovery mechanisms and mitigation of natural disasters.

Given the impact of PGRFA on food and nutrition security and other sectors and vice-versa, the NSAP implementation, monitoring, and evaluation will be multi-sectoral and collaborative. The NSAP will be reviewed after every three years starting in 2024.



ABBREVIATIONS

ABS	Access and Benefit Sharing
ARC	Agricultural Research Council
ARID	Agriculture Research Innovation and Development
ARIPO	Africa Regional Intellectual Property Organization
ART	Agricultural Research Trust
AU	Africa Union
CBD	Convention on Biological Diversity
CGIAR	Consultative Group of International Agricultural Research
CLFPA	Communal Lands Forest Produce Act
COMESA	Common Market for Eastern and Southern Africa
CTDO	Community Technology Development Organisation
CWR	Crop Wild Relatives
EIA	Environmental Impact Assessment
EMA	Environmental Management Agency
FACHIG	Farmers' Association of Community Self Help Investment Groups
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GLIS	Global Information System
GMO	Genetically Modified Organism
GRBI	Genetic Resources and Biotechnology Institute
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information and Communication Technology
IPR	Intellectual Property Rights
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
MLAFWRD	Ministry of Lands, Agriculture, Fisheries, Water and Rural Development
NGBZ	National Genebank of Zimbabwe
NSAP	National Strategy and Action Plan
PELUM	Participatory Ecological Land Use Management
PGR	Plant Genetic Resources
PGRFA	Plant Genetic Resources for Food and Agriculture
PPB	Participatory Plant Breeding
PVP	Plant Variety Protection
PVS	Participatory Variety selection
SADC	Southern Africa Development Community
SAFIRE	Southern Alliance for Indigenous Resources
SDG	Sustainable Development Goals
SI	Statutory Instruments
SPGRC	SADC Plant Genetic Resources Centre
UPOV	International Union for the Protection of New Plant Varieties



DEFINITION OF TERMS

Accession:	A sample of plant genetic material conserved in a gene bank as an ex-situ collection. State accepts the offer or the opportunity to become a party already negotiated and signed by other States.
Active collection:	A collection of accessions maintained for medium-term viability. Usually contains material in the process of being characterized and evaluated..
Agro-biodiversity:	The variety and variability of animals, plants and micro-organisms that are used directly or indirectly for food and agriculture, including crops, livestock, forestry and fisheries (FAO 1999).
Biodiversity:	The variation of life forms with a given ecosystem, biome on entire Earth.
Breeder:	The person who directs the final breeding of the new variety or who developed or discovered the new variety (Plant Breeders Rights Act [Chapter 18:16])
Characterization:	Is the physical assessment and recording of the basic botanical and morphological characteristics or traits of plant species that can easily be seen by a naked eye or easily measured.
Collection:	The gathering together of germplasm (landraces, old and modern cultivars)
Conservation:	The management and use of known genetic resources so that they may yield the greatest sustainable benefit to the present generation while maintaining their potential to meet the needs and aspirations of generations to come.
Domestication:	To give an international treaty the force of law
Ex-situ:	Conservation of plant germplasm away from its natural habitat like freezers
Farmer:	A person who earn a living by farming (However in this report a farmer refers to the Zimbabwean traditional farmer who produces for household food security and sell surplus).
Farmers' rights:	Rights arising from the past, present and future contributions of farmers in conserving, improving and making available plant genetic resources, particularly those in the centres of origin/diversity.”
Genebank:	A facility where germplasm is stored in the form of seeds, pollen or tissue culture under controlled conditions.
Germplasm:	Genetic material that are maintained for purposes of breeding, preservation or research.
In-situ:	Conservation of plant germplasm whilst in its natural habitat.



- International Treaty:** Convention, treaty, protocol or agreement between one or more foreign states or governments or international organisations.
- Landrace:** Named or un-named population of domesticated and cultivated species, not being produced by the plant breeder. An early-cultivated form of a crop species, evolved from a wild population.
- Multiplication:** Increasing seed quantity based on material from the active collection.
- On-farm Conservation:** Conservation of plant germplasm away from its natural habitat but on-site of naturalization like on farmers' fields.

Pillar VIII on Resilient

and Sustainable Agriculture: Aims to improve farmer resilience, increase productivity through mitigation and adaptation to climate shocks and sustainability of agriculture and food systems.

Plant Genetic Resources: Genetic material of plants, which is of value as a resource for present and future generations of people.

Plant Variety: A botanical variety, cultivar, breeding line or clone which is sufficiently homogeneous and can be differentiated from another of the same kind by one or more characteristics, which are capable of definition and recognition and is reasonably uniform and stable after repeated propagation. (Plant Breeders Rights Act [Chapter 18:16])

Ratification: International act whereby a State indicates its consent to be bound to a treaty if the parties intended to show their consent by such an act

Regeneration: The growing of a sample of seeds (germplasm) from an accession to replenish the viability of the original accession. It is usually done when the viability of the original material drops to less than 80%.

Sustainable use: Means the use of components of biological diversity e.g. food plants or indigenous crops in a way and at a rate that does not lead to long term decline of biological diversity, thereby maintaining its potential to meet the needs and aspiration of future generations.



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INTRODUCTION

Zimbabwe remains a predominantly smallholder-led farming sector, with over a million communal farmers dependent on rain-fed agriculture and almost 70% of these earning a living on less than 2 hectares of land. These smallholder farmers face multiple challenges in their farming activities. A significant proportion of the farmers still rely on low input rain-fed crop production, with a small proportion having access to limited irrigation facilities. It is estimated that 1.8 million smallholder farmers live in the communal areas, which cover 16.4 million hectares; about half of Zimbabwe's agricultural land. The landholding system is on a customary basis whereby local leaders allocate arable land to households and their families on a usufruct basis. This means that households have rights to use, but no rights to rent or sell their land. Another defining feature is that households are entitled to use common property resources, such as genetic resources, water for household use and irrigation, woodlands for firewood and building, and pastures for grazing cattle and other livestock. This customary system is challenged with unprecedented growth in population and livestock numbers, thereby increasing pressure on these resources.

Crop production among smallholder farmers in communal areas has been on a steady decline over the past ten years. Yield trends of the staple crop maize are low but stable at about 1 tonne per hectare (MLAWRD Report, 2018). Farmers have tried to adapt to underlying challenges by relying on traditional agricultural practices which are characterized by low external inputs and include to a large extent, agro-ecological practices. Most smallholder farmers depend on the diversity of cultivated plants adaptable to the adverse climatic conditions that prevail in their communities. These farmers have managed Plant Genetic Resources for Food and Agriculture (PGRFA) on-farms by growing a diversity of crops through seed selection, saving and exchange amongst themselves. PGRFA comprise of modern cultivars, breeding lines, genetic stocks, obsolete cultivars, farmers' varieties/landraces, weedy races as well as crop wild relatives and wild-harvested species. PGRFA are vital for livelihoods; they enhance food and nutrition security, strengthen social cohesion, maintain cultural integrity and build climate resilience. PGRFA is the foundation for increased crop production, productivity, improved



food and nutrition diversity, income generation and poverty alleviation. However, these PGRFA are under immense pressure from unsustainable utilization, being replaced by new and more popular varieties thus eventually being lost. Farmers rely on PGRFA in their production systems, thus substantially contribute to the conservation and sustainable use of crop diversity.

There is therefore, a need to strengthen the conservation and promote the sustainable use of PGRFA.

Zimbabwe does not have a specific strategy and action plan addressing PGRFA, which limits the capability of government and players in promoting PGRFA conservation. In order for Zimbabwe to properly conserve its genetic resources, there is need to establish a well-coordinated and effective strategy which will clearly define priority activities and timeframes for the conservation and use of PGRFA in harmony with the Agriculture Food Systems Transformation Strategy, National Agriculture Policy Framework and other strategies in the agricultural sector. The development of the National Strategy and Action Plans aim to enhance and coordinate national programmes promoting PGRFA conservation and sustainable utilization in Zimbabwe.

1.1 The rationale for the PGRFA National Strategies and Actions Plan (NSAP)

Today's food and farming systems have succeeded in supplying large volumes of foods to global markets. However, they are generating negative outcomes in the form of widespread degradation of land, water and ecosystems, high greenhouse gas emissions; biodiversity losses, persistent hunger and micro-nutrient deficiencies alongside the rapid rise of obesity and diet-related diseases, as well as livelihood stresses for farmers around the world (Horrigan et al., 2002). Global population growth is expected to reach 9 billion by the year 2050, and this puts more pressure on overall agricultural production to feed the growing population, and this industrial-based agriculture production will not be sustainable to feed the rapid population growth (UN, 2015). Industrial agriculture is the major contributor to climate change and destabilization of the global nitrogen cycle. In addition, the global food production is dominated by a narrow range of crop species. In 2014 a total of 9 food crops (maize, sugar cane, oil palm, soybean, sugar beet, rice, wheat, potatoes and cassava) accounted for 66% of the total food production yet there up to 200 other crop species that provide food (FAO, 2014). These few crop species used have limited the capacity of agriculture to effectively cope and adapt to the scourge of climate change and have also limited nutrition security. Therefore, what is required is to integrate food production based on diversifying farms and farming landscapes, reducing chemical inputs, optimizing biodiversity and stimulating interactions between different species, as part of holistic strategies to build long-term soil fertility, healthy agro-ecosystems and secure livelihoods, i.e. 'diversified agro-ecological systems'.

Biodiversity loss has been taking place at alarming rates over the past 50 years (FAO, 2019). Despite global efforts to put measures for conservation as called for by the Convention on Biological Diversity, extinction of species and destruction of ecosystems have continued to take place. The global crisis and economic recessions have limited the global capacity to deal with the loss of biodiversity and its sustainable use. This calls for aggressive measures at the national level to address PGRFA conservation and sustainable use.

Extreme temperatures, erratic and poorly distributed rainfall have created variable climate that have significantly challenged crop production and productivity and have also resulted in the emergence of new pests and diseases with frequent outbreaks. In this context, farmers can leverage on PGRFA, hence the need for conservation and sustainable use of the materials in the face of climate change.



2 BACKGROUND

2.1 PGRFA and Natural flora

Plant Genetic Resources for Food and Agriculture (PGRFA) are crucial for sustainable crop production, providing the biological basis for crop development, food security and livelihoods. PGRFA are the most important input for plant breeders', and researchers need for crop improvement. Indigenous communities are the custodians of PGRFA since the beginning of agriculture. Some of the challenges undermining the role of smallholder farmers in conserving PGRFA include the occurrences of frequent extreme climate events, changes in eating habits, especially amongst young people and the increased livelihoods options pitying smallholder farming subsistence agriculture.

Zimbabwe is endowed with plant diversity estimated to be 4400 plant species comprising of 1500 genera and 200 families. Domesticated plants include cereals, pulses, vegetables, roots and tubers, industrial, horticultural and medicinal plants. Wild relatives of crops like rice, sorghum, millet, cowpeas, bambara nut, and cotton exist in nature. Crop wild relatives are a group of plant species which are more or less closely related to crops and to which they can potentially contribute traits (resistance to stress, disease, drought and other factors) desired by plant breeders and farmers. They are of increasing importance because of the traits they are likely to provide for climate change mitigation; thus they will play a key role in future food and nutrition security. However, there is very little research on crop wild relatives and their conservation.

The Zimbabwean landscape where crop wild relatives are found is characterized by savanna woodland interspersed with open grasslands and the dambos (seasonally water-logged low lying areas) of the central watershed area. Sub-tropical forests occur in the Eastern parts of the country. The country can be divided into three phytogeography regions, namely the Afromontane, the East African coastal, and the Zambesian. The Zambesian region covers over 95% of the country comprising five woodland types - acacia, miombo, mopane, teak, and Terminalia sp in the Combretum family. The Miombo woodlands dominate over 60% of the forest areas in Zimbabwe and are composed primarily of Brachystegia species with Julbernardia globiflora. Many tree species in these woodlands are economically important and are used for timber, poles, firewood, fruit and medicines. The Eastern Highlands are part of the Afromontane region and have the highest level of endemism, particularly in the Chimanimani Mountains.

2.2 National

The Constitution which is the supreme law of the land provides the foundation and legal basis for local community engagement in the conservation and sustainable use of biodiversity by recognizing the rights of local communities to access and benefit from natural resources in their areas.

The following provisions apply to PGRFA:

- Section 13(4) of the Constitution provides that *“the State must ensure that local communities benefit from the resources in their areas”*.
- Section 15 (c) obliges the State to encourage and promote adequate and proper nutrition.
- Section 33 mandates the State to *...take measures to preserve, protect indigenous knowledge systems, including knowledge of the medicinal and other properties of animal and plant life possessed by local communities and people”*.



- Section 34 states that *“the State must ensure that all international conventions, treaties and agreements to which Zimbabwe is a party to are incorporated into domestic law”*.
- Section 27 provides for the domestication of international treaties.

The Environmental Management Act [Chapter 20:27] (hereinafter referred to as EMA) provides for the sustainable management of natural resources and protection of the environment.

Zimbabwe is a party to a number of international convention and treaties including CBD, ITPGRFA and UPOV. The country has made significant strides in aligning its policies with the provisions of the international conventions on conservation and sustainable use of plant genetic resources for food and agriculture. These include the Transitional Stabilization Programme Reforms Agenda (October 2018 – December 2020) and National Development Strategy 1 (2021-2025) which are a reflection of the collective determination and aspiration of the people of Zimbabwe for a Prosperous and Empowered Upper Middle Income Society by 2030.

These Economic Blueprints target protection, restoration and promotion of sustainable use of terrestrial ecosystems, sustainable management of forests and reversing land degradation and loss of biodiversity. The National Strategy and Action Plan for PGRFA is part of the operationalization of the overarching draft National Agriculture Policy Framework under Pillar VIII: Resilient, Sustainable Agriculture. This Pillar supports and acknowledges the contribution of smallholder farmers in the conservation and sustainable use of genetic resources and recognizes the need to mainstream and protect farmers’ rights. The National Biodiversity Strategy and Action Plan (2015-2020) also guides the conservation and sustainable use of biodiversity and associated ecosystems.

2.3 Regional

The African Union (AU) established the agenda 2063, ‘the Africa we want’ which encourages countries to promote conservation and sustainable natural resources management at the regional level. Furthermore, the AU developed the African Model Legislation for the Protection for the Rights of local communities, farmers, breeders and for the regulation of access to biological resources in 2000. In line with the international conventions, the model law aims to ensure the conservation, evaluation and sustainable use of biological resources, including agricultural genetic resources, knowledge and technologies.

Instruments that deal with the utilization of plant genetic resources such as the SADC Harmonized Seed Regulatory System, draft SADC Plant Variety Protection (PVP) Protocol, Africa Regional Intellectual Property Organization (ARIPO) PVP Protocol and the COMESA Seed Harmonization Regulations are also promoted at that level. The instruments and protocols are part of the broader thrust in the region and continent at large to protect plant varieties, facilitate and expedite regional seed trade.

2.4 International Conventions and Treaties on PGRFA

Zimbabwe is a party to a number of international instruments for conservation and sustainable use of PGRFA. The instruments include the United Nations Conventions Agenda 2030 for Sustainable Development Goals, the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), the Second Global Plan of Action on PGRFA, Convention on Biological Diversity (CBD) and the Nagoya Protocol on Access and Benefit Sharing. In general, the instruments acknowledge the threats facing the biological diversity (including PGRFA) and encourages countries to put in place measures that promote conservation and sustainable use of biological diversity.



Zimbabwe ratified the Convention on Biological Diversity (CBD) in 1994, a global and legally binding framework on biodiversity. The objectives of the CBD is to conserve biological species, genetic resources, habitats and ecosystems, to ensure the sustainable use of biological materials, and to provide for the fair and equitable sharing of benefits derived from genetic resources. Zimbabwe ratified the ITPGRFA in 2005, which has three objectives of conservation, sustainable use of PGRFA and the fair and equitable sharing of the benefits derived from their use. Zimbabwe is partially implementing the provisions of the ITPGRFA through the Genetic Resources and Biotechnology Institute which houses the National Genebank of Zimbabwe. The objectives of the CBD and ITPGRFA are in harmony, supported by other international instruments, including the Second Global Plan of Action on PGRFA and Agenda 2030 of the SDGs. Specifically, target 2.7 of the SDGs encourages countries to ensure that the genetic diversity of cultivated plants, wild crop relatives, and culturally valuable species, are maintained.

In 2010 the CBD adopted the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization. The Protocol is a legal framework for the effective implementation of fair and equitable sharing of benefits arising out of the utilization of genetic resources of which Zimbabwe ratified in 2017. Targets 2.5 and 15.6 of the 2030 Agenda on Sustainable Development Goals (SDGs) reinforce the access and benefit-sharing (ABS) principles of the Nagoya Protocol.

2.5 Institutional Arrangements

Plant genetic resources conservation is segmented in various public, parastatals, private institutions and non-governmental organizations. The public and parastatal institutions fall under the various ministries which are Ministry of Lands, Agriculture, Fisheries, Water and Rural Development (MLAWRD), Ministry of Environment, Climate, Tourism and Hospitality Industry, Ministry of Home Affairs and Culture and the Ministry of Local Government and Public Works. The current institutional arrangements, however, do not adequately address the specific issues pertaining to conservation, sustainable use, farmers' rights and the equitable sharing of benefits arising from the use of PGRFA.

2.5.1 Ministry of Lands, Agriculture, Water and Rural Resettlement

The institutions under MLAFWRD fall within the Agriculture Research and Innovation Development Directorate (ARID) (formerly DR&SS) and Parastatals. Within ARID the mandate for the conservation of PGRFA is established under the National Genebank of Zimbabwe (NGBZ), and this includes the collection, conservation, characterization and promotion of on-farm conservation. NGBZ holds an ex-situ collection of 6300 crop accessions from which about 3000 accessions have been shared with farmers through restoration programmes in communities where the crops were lost due to droughts, flooding and local extinction. Other institutes within ARID involved in some aspects of conservation of plant genetic resources includes National Herbarium and Botanic Garden, Horticultural Research Institute and Nyanga Experiment Station, Coffee Research Institute, Cotton Research Institute, Crop Breeding Institute, Grasslands Research Institute, Henderson Research Institute, Matopos Research Institute, Makoholi Research Institute and Chiredzi Research station.

¹ Target 2,5 By 2020, Maintain the genetic diversity of seed, cultivated plants and farmed and domesticated animal and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international level and promote access to and fair and equitable sharing of the benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed

² Target 15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed



The National Herbarium houses at least 500 000 dried plant specimens with more than 3000 type specimens and at least 214 Endemic or near Endemic plant species. The National Herbarium and Botanic Garden is a centre of taxonomic research and information on the plants of Zimbabwe and beyond its borders in order to promote their conservation, development and sustainable use. Horticultural Research Institute and Nyanga Experiment Station have over 120 cultivars of deciduous fruits conserved in field genebanks and a wide range of vegetables. The Coffee Research Institute manages 44 varieties of coffee (Coffee arabica) located in Chipinge, ART Farm and Piringani.

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The parastatals under the Ministry responsible for agriculture that is involved in ex-situ management of germplasm are the Tobacco Research Board (TRB), and Agricultural and Rural Development Authority (ARDA). TRB has over 1100 varieties and cultivars in storage. These include wild type tobacco and the cultivated tobacco.

2.5.2 Ministry of Environment, Tourism and Hospitality Industry

Institutions under the Ministry include Environmental Management Agency, Forestry Commission, Zimbabwe Parks and Wildlife Authority. The Environmental Management Agency (EMA) gives special reference to genetic resources, flora and fauna diversity, with clear goals for conserving, maintaining, and promotion of equity and encourage sustainable development. EMA also administers Statutory Instrument 61 of 2009 on Access to Genetic Resources and Indigenous Genetic Resource-based Knowledge to regulate the utilization of genetic resources and related indigenous knowledge.

The Forestry Commission manages forest genetic resources and regulates activities specifically on protected forests (state forests) and forests on private land. The Communal Lands Forest Produce Act (CLFPA) governs the use of forestry resources in communal areas giving local communities limited rights to exploit the forest resources in their area for subsistence use only. The Forestry Commission has approximately 20 000 accessions for tree species stored at the seed centre. These include over 400 provenances and introductions of exotic species as well as indigenous tree species from seed stands, seed orchards and trials. Some of these, particularly for the indigenous tree species, have not yet been characterized.

Zimbabwe Parks and Wildlife Authority protects six types of areas: national parks, safari areas, sanctuaries, botanical gardens, botanical reserves and recreational parks, each with a specific objective.



2.5.3 Ministry of Home Affairs and Cultural Heritage

The Ministry manages ex-situ collections in the form of herbarium specimens of plant genetic resources mainly through the Department of National Museums and Monuments. The department has two main herbaria in Mutare and Bulawayo.

2.5.4 Ministry of Local Government and Public works

The Ministry administers the Traditional Leaders Act (Chapter 29:17). Traditional leaders help to formulate by-laws to protect natural resources in their areas and educate their communities on the dangers of an uncontrolled harvest of plant genetic resources which destroys the environment. Traditional leaders coordinate development activities in their areas and ensure sustainable use of plant genetic resources.

2.5.5 Private Sector

The major players are seed houses such as Seedco (10 maize accessions), Pannar (12 maize accessions), and National Tested Seeds (25), Telangana, Zimbabwe Sugar Association Experiment Station amongst others..

2.5.6 Non-governmental Organizations

NGOs work with communities in promoting conservation and sustainable use of PGRFA through setting up community seed banks and running seed fairs around the country. These include Community Technology Development Organisation (CTDO), FACHIG Trust, Dabane Trust, Catholic Relief Services, PELUM Network, and Southern Alliance for Indigenous Resources (SAFIRE).

2.6 Situational Analysis

2.6.1 Strengths

Strength	How	Utility	Sustenance
Availability of qualified personnel	Both government and relevant partners have qualified staff for conservation activities	Can be harnessed for ex-situ conservation, in-situ conservation and imparting skills to farmers	Continue enhancing technical capacity and mainstreaming PGRFA conservation into education curricular
Availability of Rich diversity of PGRFA which includes crop genetic resources, crop wild relatives, wild fruits and wild edible plants.	These are a major source of livelihood, rural development and resilience of farming communities.	PGRFA diversity provides food and nutrition security, socio-economic and cultural purposes.	Advancing conservation and sustainable utilization
Smallholder farmers have access to land approximately ranging from 1 acre to about 6 Ha per household.	Provides land under usufruct basis	Provides land for cultivation of PGRFA diversity	Enhancing Security of Tenure



The farmers have indigenous knowledge system on PGRFA production and they have extensive experience growing crop landraces.	Provides a platform for restoring the traditional crops owing to their adaptability to their environment and tolerance to the effects of climate change.	Shared knowledge and experience through traditional systems and willingness to drive the goal for conservation and sustainable use of PGRFA.	Continue documentation activities of indigenous knowledge system and increase the utility value of PGRFA
Gender equity with regards to segregation of roles and responsibilities in crop production.	Enhances the efficient decision-making process at the household level.	The appreciation of gender equity and gender roles played by men and women in crop production.	Awareness of gender equity and gender roles played by men and women in crop production.
Dedicated National genebank	Promotion of conservation and sustainable utilization and focal point for ITPGRFA	Participate in training farmers, restoration, facilitated germplasm exchange, ex-situ conservation and on-farm conservation of PGRFA.	Continue ex-situ and in-situ conservation of PGRFA and foster national regional and international cooperation
Participatory research and development initiatives conservation and sustainable use of PGRFAs in rural farming communities.	Farmer involvement in Participatory Plant Breeding (PPB) and Participatory Variety Selection (PVS)	Recognition of varieties developed through the participatory initiatives and establishment of farmer based community seed companies in Zimbabwe such as Zimbabwe Super Seeds and Champion Seeds.	Increase government support including incentives for scaling up participatory research initiatives
The resilience of the rural folk.	The rural folks are able to self-regulate and reorganise in response to shocks and stresses in a way that sustains PGRFA conservation and use. In addition, the rural folks have robust social structures that underpin the rural food production systems.	Rural folk have diversified options for food production such as livestock production, beekeeping, gold panning, basket weaving, sale of wild fruits, cross border trade, among others.	Increase government support for local food systems and foster management systems that involve local communities.



Custodian communities recognition and protection of sacred natural sites and territories, and functional customary governance system	Custodian communities are working to revive and protect sacred natural sites and territories. Custodian communities inherit the responsibility of protecting sacred natural sites which are sources of water, rivers, crossing points, wetlands, forests, trees, and mountains which are home for plants, animals, birds, insects and all of life	Provides rich biodiversity	Advancing the protection of sacred sites
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2.6.2 Weaknesses

Weakness	How	Impact	Mitigation	Solution Provider
Limited resources to drive the PGRFA conservation initiatives and production.	Limited resources to scaling up PGRFA conservation (infrastructure, mobility, equipment).	Loss of PGRFA diversity with implications on food and nutrition security.	Resources mobilisation for infrastructure, mobility and equipment. Access to affordable financing options.	Government, Private Sector and Developmental partners
Poor coordination of conservation initiatives.	Partial implementation of specific segments at the expense of other conservation activities.	Duplication of activities by some partners and wastage of resources.	Putting in place coordination mechanism.	MLAFWRD
Lack of an effective information management system on PGRFA.	Lack of PGRFA inventories and databases	Low conservation and utility of PGRFA resources in crop development.	Documentation of PGRFA (materials must be well described and characterized, and this information must be readily available and searchable by users, however, this is currently not in place).	Government and Developmental Partners
Limited research and development on neglected and underutilized PGRFA	There is limited research on farmers' varieties, crop wild relatives, wild fruits and wild edible plants.	Low conservation and utility of PGRFA resources in crop development.	Refocusing of existing crop research development to cover neglected and underutilized PGRFA and promoting participatory research.	MLAFWRD and Partners



Weakness	How	Impact	Mitigation	Solution Provider
Unsustainable land-use practices, threatening existence of PGRFA.	Conversion of PGRFA habitats eg wetlands for developmental purposes, deforestation, unsustainable cultivation practices	Loss of PGRFA diversity.	Sustainable land-use planning (PGRFA Inventorying and impact assessments)	Government and Partners
Weakening flow of indigenous knowledge systems from the old to the young.	The limited exchange of indigenous knowledge between the young and the old results	Loss of information on PGRFA conservation and use	Creating social learning platforms for information sharing Documentation of indigenous knowledge	Government and Partners
Weak marketing systems	Weak marketing strategies such as lack of aggregation of produce by smallholder farmers for marketing resulting in unscrupulous middlemen shortchanging farmers	Low production of farmers' varieties.	Market development	Government and Partners
Limited postharvest technologies.	Laborious harvesting, processing, handling and poor storage facilities	Low production of farmers' varieties.	Provide labour-saving technologies for postharvest processing handling and storage	Government and Partners
Low seed quality of farmer varieties	Lack of true to type seed due to contamination.	Low production of farmers' varieties	Inventorying correct reference samples of farmer varieties for conservation and training of farmers on the production of quality seeds	Government and Partners
Lack of farmer-based seed quality standards	There are no documented guidelines on how the production of quality seed for farmer varieties can be done	Poor quality of local seed	Development of standards for local seed quality control	Government and Partners



Weakness	How	Impact	Mitigation	Solution Provider
Weak farmer organisation to advance conservation and sustainable use of PGRFA.	Weak representation of farmers	Exclusion of farmers in PGRFA programs and activities	Strengthen the organisation of farmers	Government and Partners
Limited sensitization and coordination on the importance of PGRFA across line ministries	Low awareness on PGRFA across line ministries leading to poor coordination of programmes	Lack of recognition of PGRFA across ministries	Creation of new interministerial platform or enhance awareness of PGRFA in the existing ones	Government and partners

2.6.3 Opportunities

Opportunity	How	Exploit	Develop
The existence of platforms that are advancing PGRFA conservation activities.	These platforms can be leveraged on to advance PGRFA conservation and use further.	Strengthen existing platforms such as seed fairs, food fairs and the food festivals for exchange of PGRFA and related knowledge	Scaling up of platforms such as community seed banks and seed fairs
The existence of social capital and common cause amongst farmers to conserve PGRFA	Social relations can be leveraged to advance PGRFA conservation and use by fostering social cohesion and shared responsibility.	Strengthen and support social structures that enhance PGRFA conservation and sustainable use.	Build on existing traditions and customs that enhance PGRFA conservation and use
Existing national frameworks and institutions on the conservation of PGRFA.	The existing national frameworks and institutions are mandated to address some specific components of PGR conservation and sustainable use.	Strengthen coordination of institutions and harmonization of frameworks where possible.	Build on existing national frameworks and institutions to adequately conserve PGRFA through establishing a coordination mechanism

2.6.4 Threats

Threat	How	Impact	Contain/Avoidance
Pests and diseases	Outbreak of existing and emerging pests and diseases	Loss of PGRFA	Screen PGRFA for pest and disease tolerance, crop diversification
Climate variability	Droughts, floods, heatwaves, hailstorms and cyclones	Loss of PGRFA	Screen PGRFA for drought and heat tolerance, restoration of lost PGRFA, rescue mission strategy, crop diversification
Cultural erosion	Changes in the beliefs systems and life-styles	Loss of traditional knowledge and the related PGRFA	Documentation of indigenous knowledge and strengthening knowledge-sharing platforms



Threat	How	Impact	Contain/Avoidance
Poverty	Unsustainable land use and harvesting	Loss of PGRFA	Diversification of livelihoods, sustainable land use and incentives for conservation
Population growth.	Pressure on resources and decreasing landholding size	Loss of PGRFA habitats	Promotion of sustainable land use and validation of traditional medicinal PGRFA used in birth control
GMO contamination of PGRFA	Unintentional introduction of genetically modified seed through food aid, seed aid and smuggling of grain	PGRFA contamination	Surveillance and clean up
Land degradation	Gullies, siltation, dongas and drying up of wetlands, deforestation	Loss of PGRFA especially the wild crop relatives, wild fruit trees and edible wild plants	Land reclamation

3 GOAL, OBJECTIVES AND GUIDING PRINCIPLES

3.1 Strategy Goal

To create an enabling legal and institutional environment that promotes management, research and capacity development for conservation and sustainable use of plant genetic resources for food and agriculture.

3.2 Specific Objectives

1. To promote conservation and sustainable use of plant genetic resources for food and agriculture,
2. To establish a legal and institutional framework for the management of PGRFA in line with the provisions of the ITPGRFA
3. To promote research and development of plant genetic resources for food and agriculture with particular emphasis on neglected and underutilized species.
4. To promote farmers and community participation, decision making and contribution to PGR conservation and sustainable use in collaboration with all key stakeholders
5. To develop capacity, coordination, monitoring and communication mechanisms for all national PGRFA conservation and sustainable use
6. To develop mechanisms for resource mobilization for plant genetic resources conservation and sustainable use

3.3 Guiding Principles

Evidence-based decision making

The strategy is supported by facts, research-based data and literature which inform development decisions

Sustainability

To raise awareness of different stakeholders on their responsibilities and contributions, towards conservation and sustainable use of PGRFA.

Gender, youth, and all vulnerable groups mainstreaming

The strategies will mainstream gender, youth, disability, ethnic minorities and vulnerable groups. It involves the integration of all the groups into the preparation, design,



implementation, monitoring and evaluation of policies, regulatory measures and programmes, to promote equality among women, men, youth and vulnerable groups and combating discrimination.

Participatory and responsive

The development and implementation of the strategy is underpinned by the inclusive and active involvement of all partners and is responsive to international, regional and national obligations.

4 COMPONENTS, PRIORITY AREAS, STRATEGIES AND ACTIVITIES

4.1 Component 1: Conservation and Sustainable Use of PGRFA

Biodiversity loss is one of the biggest global threats to the future ecological production systems, which include food production. The loss of PGRFA including the crop wild relatives, indigenous fruits and wild edible plants calls for establishing measures that promote the conservation and sustainable use of PGRFA, as well as supporting research and development.

This component deals with conservation and sustainable use of PGRFA, and it establishes three (3) priority areas to be addressed by the strategy. The priority areas are ex-situ conservation, on-farm conservation and in-situ conservation. These priority areas address the critical challenges limiting the effective conservation and sustainable use of PGRFA in Zimbabwe.

The conservation and sustainable use of PGRFA in Zimbabwe needs to be strengthened in order to reduce the rapid loss of genetic diversity. Strengthening key institutions such as the National Genebank is vital in improving the capacity to conserve PGRFA. Farmers, state institutions and development partners need to be guided through capacity building exercises and efficient resource allocation in order to promote conservation of PGRFA in the country.

Given that Zimbabwe's agriculture is already experiencing changes in rainfall and temperature patterns, the demand for PGRFA adaptable to climate change has been increasing among farmers. Therefore, there is need to broaden research and development of PGRFA in communities. To support the implementation, the following strategies are of utmost importance

4.1.1 Priority 1: Ex-situ Conservation of PGRFA

Strategy 1: Strengthening Ex-situ Conservation of PGRFA

Activities

- 1 *Develop national PGRFA Inventories,*
- 2 *Collection of PGRFA,*
- 3 *Foster national, regional and international collaboration and technology transfer, and*
- 4 *Back up of germplasm at the national level for regional and international base collections*

Strategy 2: Strengthening the Information Management System of the ex-situ collections

Activities

- 1 *Expansion and maintenance of the PGRFA Documentation and Information Management System,*
- 2 *Establish linkages with national, regional and international PGRFA information management systems,*
- 3 *Establishment and maintenance of virtual seedbanks, and*
- 4 *Procurement of ICT infrastructure.*



Strategy 3: Incorporation of PGRFA in national early warning systems and adaptation measures

Activities

1. *Incorporation of PGRFA in national early warning systems,*
2. *Incorporate PGRFA conservation and use in Environmental Impact Assessments (EIA),*
3. *Conduct Rescue Collection missions,*
4. *Restoration of lost PGRFA,*
5. *Stock take PGRFA losses in national disaster risk assessment and management,*
6. *Establishing a mechanism for protecting PGRFA from GMO contamination.*

4.1.2 Priority 2: On-farm Conservation

Strategy 1: Promotion of diversification and production of PGRFA

Activities

1. *Training and awareness-raising on the importance of diversification,*
2. *Strengthen government involvement in the running of seed fairs, food diversity fairs, shows etc*
3. *Development and promotion of value addition technologies that support crop diversification,*
4. *Promotion of crop diversification best practices.*

4.1.3 Priority 3: In-situ Conservation

Strategy 1: Develop a national database for crop wild relatives (CWR), Indigenous fruits and wild edible plants

Activities

1. *Create an inventory of CWRs, indigenous fruits and wild edible plants, and*
2. *Develop a checklist for CWR, Indigenous fruits and wild edible plants*

Strategy 2: Strengthen conservation plan for CWRs, indigenous fruits and wild edible plants

Activities

1. *Establish a network for conservation of CWRs, indigenous fruits and wild edible plants,*
2. *Mapping and protection of PGRFA hotspots for CWRs, indigenous fruits and wild edible plants,*
3. *Collection of CWRs, indigenous fruits and wild edible plants for ex-situ conservation,*
4. *Promotion of domestication and conservation of CWRs, indigenous fruits and wild edible plants.*

4.2 Component 2: Legal and institutional framework for the management of PGRFA in line with the provisions of the ITPGRFA

Zimbabwe requires supportive policies and legislative frameworks that provide clear mechanisms or regulatory frameworks to effectively achieve all elements of farmers' rights such as access and benefit-sharing, supportive mechanisms for saving, selling, exchanging and marketing of farmer's seeds at a commercial level, protection of farmer's indigenous knowledge and effective participation in policy and decision-making processes. Farmers' rights means enabling farmers to realise the right to save, sell or exchange seed, participate in decision-making processes on matters related to the conservation and sustainable utilization of plant genetic resources, protection of traditional knowledge, effective communication, markets and right to choose what type of seed to grow.

Access to PGRFA is key for agricultural development. Benefit-sharing is important as it



provides an important incentive and reward for the conservation and sustainable use of genetic resources.

The country has domesticated the provisions of some of the international agreements relevant to access to genetic resources and put in place various laws and policies to that effect such as Environment Management Act through Statutory Instrument 61 of 2009 on Access to Genetic Resources and Indigenous Genetic Resource-based Knowledge that provides for the regulation of the utilization of genetic resources and the related indigenous knowledge.

The current legal provisions under EMA do not adequately address the specific nature of PGRFA with regards to access and the equitable sharing of benefits arising. The priorities addressed below seek to recognise and protect farmers' varieties, traditional knowledge systems, ensure quality standards and registration of farmers' varieties and put in place policies that support farmers rights and access and benefit-sharing.

4.2.1 Priority 1: Supporting policies and legal instruments which recognize farmers rights

Strategy 1: Develop the legislative framework for the implementation of farmers' rights

Activities

- 1 *Development of position paper on farmer rights*
- 2 *Consultation of stakeholders including farmers in the formulation process*
- 3 *Review and upgrade existing policies to mainstream Farmers' Rights*

Strategy 2: Develop mechanisms and institutions for the implementation of farmers' rights

Activities

- 1 *Facilitation and development of farmer institutions that represents farmers rights*
- 2 *Strengthening of existing farmer representative organizations to effectively represent farmers on farmers rights*
- 3 *Awareness-raising and training on farmers rights*

4.2.2 Priority 2: Recognition and protection of farmer's varieties

Strategy 1: Development of mechanism of recognition and protection of farmers' varieties

Activities:

- 1 *Establish standards for maintenance of farmers' varieties*
- 2 *Registration of farmers' varieties*
- 3 *Development of national catalogue of farmers' varieties*

Strategy 2: Commercialization of farmers' varieties

Activities

- 1 *Promoting seed production of farmers' varieties*
- 2 *Developing markets for farmers' varieties*
- 3 *Develop mechanisms for facilitating partnership on multiplication and commercialization of farmers' varieties.*



4.2.3 Priority 3: Recognition and protection of traditional knowledge systems.

Strategy 1: Documentation of PGRFA related traditional knowledge

Activities

- 1 Create an inventory database of PGRFA traditional knowledge from community and national levels.
- 2 Develop a mechanism for protection of traditional knowledge system

4.2.4 Priority 4: Develop quality assurance standards for local seed production

Strategy 1: Develop a mechanism for seed certification of local seed

Activities

- 1 Development of seed quality assurance standards
- 2 Registration of units and certification of local seed production
- 3 Capacity development of farmers on quality seed production

4.2.5 Priority 5: Develop the provisions for PGRFA Access and Benefit Sharing.

Strategy 1: Development of a legal framework and institutions that implement the ABS provisions of the ITPGRFA

Activities:

- 1 Development of a position paper on ABS for PGRFA
- 2 Development of legal frameworks that implements ABS on PGRFA
- 3 Establishment of an institutional framework for implementation of ABS provisions

Strategy 2: Put in place a Legal framework that separates the ABS of specialized PGRFA and its related traditional knowledge systems from the rest of the Genetic Resources under the SI 61 of 2009

Activities:

- 1 Put in place mechanism for review of SI 61 of 2009
- 2 Engage with relevant stakeholders, Ministries and partners responsible for ABS implementation.
- 3 Harmonize implementation of ABS



4.2.6 Priority 6: Foster broad participation of farmers in decision-making processes relating to their PGRFA and traditional knowledge systems

Strategy 1: Ensure the full and effective participation of farmers and communities in the formulation, development, and implementation of access and benefit-sharing related policies.

Activities:

- 1 *Awareness-raising and training on ABS*
- 2 *Establishment of farmers institutions that facilitate the implementation of the specialised ABS provisions, e.g. on the issue of prior consent.*
- 3 *To build and/or strengthen the capacity of Institutions for farmers to enable them to fully understand ABS issues and effectively participate in the implementation of ABS measures.*

4.3 Component 3: PGRFA Research and Development

Research and development provides an understanding of available PGRFA and extent of diversity. Current research has been focused on major food security crops as defined by the government, but there has been limited research and development on neglected and underutilized PGRFA such as farmers' varieties, crop wild relatives, wild fruits and wild edible plants. There is a need to refocus existing crop research development to cover neglected and underutilized PGRFA and promoting participatory research.

There is a need to implement joint planning and implementation strategy for agricultural research, education and extension. The current set up of institutions responsible for knowledge technology and innovation development and dissemination on PGRFA fall under different organizations within the public and private sector and there is limited interaction. The compartmentalization of these organisations tends to limit interaction and sometimes lead to duplication of activities and wasting of resources. Coordinated research during planning will enhance the use of limited resources; improve relevance, timeliness and effectiveness of knowledge technology transfer and innovation services. The key strategies will cover the promotion of research and development on PGRFA and co-development of traditional knowledge systems and conventional science in crop research and development.

4.3.1 Priority 1: Promotion of Research and Development on PGRFA

Strategy 1: PGRFA Crop Research and Development

Activities

- 1 *Carry out inventories on PGRFA such as farmers' varieties, crop wild relatives, wild fruits and wild edible plants*
- 2 *Conduct participatory research and development of PGRFA*
- 3 *Develop knowledge sharing platforms on farmers varieties research and development*
- 4 *PGRFA morphological and molecular diversity studies including characterization and evaluation*
- 5 *Establish descriptors for farmers' varieties and other PGRFA*
- 6 *Development of PGRFA catalogues*



Strategy 2: Co-development of traditional knowledge systems and conventional science in crop research and development

Activities

- 1 *Validation of traditional knowledge systems through research and development*
- 2 *Create knowledge transfer system between farmers, extension and researchers*
- 3 *Integration of traditional knowledge system into conventional knowledge systems.*

4.4 Component 4: Capacity Development, Coordination and Communication for PGRFA conservation and sustainable use

Capacity development can be defined as the building and strengthening of human and institutional resources. Capacity building initiatives should include a broad range of activities, including legislative advice, administrative support, infrastructure building and human resources development. The main objectives of the capacity building section is to ensure that all resources (human, infrastructure, mobility, and financial) are put in place so that conservation of plant genetic resources for food and agriculture can be conducted smoothly. Whilst Zimbabwe has various public, parastatals, private institutions and non-governmental organizations involved in the conservation of PGRFA, and their efforts are not well coordinated. There is a need for integration of national, regional and international policies on PGRFA, and this requires coordination. Uncoordinated efforts result in the biased implementation of certain segments at the expense of other conservation activities. Furthermore, it results in duplication of activities by some partners and wastage of resources. Establishing coordination mechanisms for conservation is vital for cost-effective use of resources and exchange of skills and knowledge transfer among institutions. Communication is a vital component of strategy development and implementation processes.

The communication strategy comprises activities that need to be fit together with the strategy implementation to enhance awareness and incite the necessary behaviour change towards conserving PGRFA. The main objectives of communication should be to provide information and knowledge on PGRFA to policy-makers, the PGR users and scientific community and the general public, as well as to describe possible ways of synergies in activities and collaborations.

The key priority areas of this section are capacity development, coordination and communication of PGRFA.

4.4.1 Priority 1: Capacity Development for PGRFA conservation

Strategy 1: Strengthening the National Genebank and other partners involved in PGRFA conservation

Activities

- 1 *Procurement of equipment and provisions for seed processing and storage*
- 2 *Expansion of the genebank building*
- 3 *Establishment of a cryopreservation unit*
- 4 *Establishment of a tissue culture unit*
- 5 *Establishment of field genebanks*
- 6 *Establishment of a biotechnology laboratory*



Strategy 2: Capacity development of human resources in National Genebank and partners.

Activities

- 1 *Development of training programs for human resources capacity building*
- 2 *Mainstreaming PGRFA into the national education curriculum*

4.4.2 Priority 2: Coordination of PGRFA conservation and sustainable use initiatives

Strategy 1: Development of markets and market linkages for PGRFA

Activities

- 1 *Improve coordination of farmers on the marketing of PGRFA products*
- 2 *Promote increased consumption and utilization of PGRFA products.*
- 3 *Increase production and productivity of quality PGRFA products.*
- 4 *Collaboration with marketing institutions (private and public) in the creation of markets for PGRFA.*
- 5 *Strengthening of existing marketing institutions.*
- 6 *Establishment of linkages to the private buyers, e.g. food or feed processing companies.*

Strategy 2: Development of coordination mechanisms

Activities

- 1 *Development of networks for PGRFA conservation institutions (community seedbanks, national agricultural research institutions and partners)*
- 2 *Strengthening of institutions that represent farmers.*

4.4.3 Priority 3: Communication and Publicity for PGRFA conservation and sustainable use

Strategy 1: Development of a communication programme for awareness-raising on PGRFA and the National Strategy for PGRFA

Activities:

- 1 *Development of a communication plan which incorporate disaster management*
- 2 *Establishment of an institutional framework for information dissemination*

Strategy 2: Establishment of mechanisms for communication

Activities:

- 1 *Digital communication such as online publications, and links to PGR websites of institutions collaborating with PGR*
- 2 *Physical publications such as pamphlets, manuals, fliers*
- 3 *Reaching out to media: this could involve issuing press releases or radio and TV shows*
- 4 *Organising conferences/workshops on PGRFA and disaster response*
- 5 *Strengthening of platforms for active direct engagement and collaboration arrangements with relevant stakeholders*



4.5 Component 5: Resource mobilization for PGRFA conservation and sustainable use

The main goal of resource mobilization is to establish a mechanism that ensures that sufficient resources are made available for the implementation of the strategy. These resources will directly support the national effort of conserving PGRFA and using them sustainably to strengthen national food security while coping with the impacts of climate change. The resource mobilization mechanism will ensure transparent, efficient and effective utilization of all resources made available. Resource mobilization shall be pursued through the fiscal allocation and donor community, the inclusion of PGRFA conservation in farmer input support programmes, avail agriculture credit schemes to PGRFA conservation initiatives and establish private PGRFA conservation financing mechanisms. The availability of resources is essential to achieve the work of conservation and sustainable use of PGRFA, implementation of farmers' rights and operationalize the access and benefit-sharing of PGRFA as enshrined in this strategy document.

4.5.1 Priority 1: Mobilizing government funds for conservation, management and sustainable use of PGRFA

Strategy 1: Establishing government sources of funding PGRFA

Activities

Establishing a legal provision that directs a proportion of;

- 1 *The budget for crop research and specialist services to be dedicated for conservation and sustainable use of PGRFA,*
- 2 *Crop-based levy to be allocated towards conservation and sustainable use of PGRFA,*
- 3 *The budget for the farmer input support programme (fisp) to support conservation and sustainable use of PGRFA,*
- 4 *Governmental agricultural credit schemes are dedicated to support the conservation and sustainable use of PGRFA.*

4.5.2 Priority 2: Commercial users of PGRFA contribute an equitable share of benefits to the conservation fund and or initiatives.

Strategy 1: Develop a legislative framework that enables user-based payments

Activities

- 1 *Establish conservation tax on PGRFA commercial users*
- 2 *Establish tax incentives for donating non-PGRFA user companies*
- 3 *Collaborate with PGRFA users, on their research and exploration*
- 4 *Establish that a proportion of crop levies to be allocated for conservation of PGRFA*

4.5.3 Priority 3: Donor funding for conservation of plant genetic resources for food and agriculture secured

Strategy 1: Mobilize donor funds to support PGRFA conservation and sustainable use

Activities

- 1 *Project proposals developed for funding through various donor options*
- 2 *Forster cooperation with international donors*
- 3 *Establish endowment fund*



4.5.4 Priority 4: Develop PGRFA revenue sources

Strategy1: Establish funding streams from service fees

Activities

- 1 Gazette PGRFA EIAs fees,
- 2 Gazette PGRFA access fees,
- 3 Gazette registration fees for farmers' varieties,
- 4 Gazette certification fees for certification of local seed production.

4.5.5 Priority 5: Establishment of the national genetic resources fund

Strategy 1: Develop a legislative framework that establishes and operationalize the fund

Activities

- 1 Establish the national genetic resources fund,
- 2 Establish the revenue streams(i.e. from government, donors, PGRFA users and crop levies),
- 3 Establish the Fund's operating procedures.

4.6 Component 6: PGRFA Management under disaster situations

Zimbabwe is exposed to multiple, unpredictable and recurrent natural disasters including droughts, earthquakes, cyclones, floods, pests and disease outbreaks. The environmental, economic and social impacts of these disasters have devastating implications on PGRFA and sustainable development. The lack of a legal and policy framework for PGRFA disaster response has resulted in challenges in coordinating and mobilising resources for the PGRFA interventions. The key elements of PGRFA such as seed varieties, infrastructure, draught power, implements, crop gene pools are normally affected by disasters and need strengthening. Therefore, there is a need for disaster management to be incorporated into the PGRFA strategy.

This component aims to address PGRFA conservation and sustainable utilization in cases of disasters. It focuses on preventing loss of PGRFA through better preparedness, conservation, better coordination, capacity building and knowledge management through advanced disaster emergency response to natural disasters. It comprises strategic actions to respond to the needs of affected communities, minimise the risks, increase response preparedness, improved recovery mechanisms and mitigation of natural disasters.



4.6.1 Priority 1: Preparedness for PGRFA Disaster management

Strategy 1: Incorporate PGRFA issues in National disaster early warning systems

Activities

1. *Forecasting the impact of a disaster on PGRFA using early warning systems/models,*
2. *Broadcasting disaster early warning messages for PGRFA,*
3. *PGRFA Rescue collecting missions.*

Strategy 2: Capacity building on PGRFA disaster management

Activities

1. *Awareness-raising on PGRFA issues in Disaster management structures,*
2. *Training PGRFA disaster management,*
3. *Creation of knowledge management system for PGRFA disaster management.*

4.6.2 Priority 2: Coordination of PGRFA Disaster management

Strategy 1: Strengthening disaster response coordination for PGRFA

Activities

1. *Community participation in disaster management planning committees at all levels.*
2. *Strengthening representation of PGRFA issues in existing disaster response structures.*
3. *Planning, monitoring and evaluation of PGRFA intervention programmes at all levels (provincial, district, ward, village),*
4. *Lobbying for the recognition of PGRFA issues in existing National Disaster management legal structures.*

4.6.3 Priority 3: Rebuilding local seed systems post-disaster

Strategy 1: Restoration of PGRFA

Activities

1. *Assessment of the impact of a disaster on PGRFA.*
2. *Identification and repatriation of PGRFA from seed repositories.*
3. *Identification of potential sources of PGRFA that are suitable for the affected areas,*
4. *Multiplication and distribution of PGRFA.*

Strategy 2: Strengthening local seed exchange systems

Activities

1. *Seed fairs,*
2. *Creation of Innovation platforms that facilitate the exchange of PGRFA (e.g. Information communication technologies),*
3. *Community seed enterprises.*

Strategy 3: Restoration of PGRFA storage infrastructure post disaster

Activities

1. *Construction and rehabilitation of community seedbanks post disaster,*
2. *Construction and rehabilitation of household PGRFA storage facilities post disaster.*



5. MONITORING AND EVALUATION PLAN

The monitoring and evaluation plan is essential to determine the progress of implementation of the PGRFA components, priorities, strategies and activities. This will provide the basis for evaluating the effectiveness of the activities, facilitate early detection of emerging problems, record changes over time, make informed decisions and adjustments and plan ongoing management activities. It helps us to quantify the overall attained results in relation to the planned goals, objectives and performance indicators. The M and E framework will provide practical recommendations, lessons learnt for updating, revising and expansion. The monitoring and evaluation for PGRFA will be reported through annual progress reports using the format attached in the annexe. Midterm review for M and E will also be carried out in 2025 in order to track progress quality and impact of activities undertaken by various partners in the implementation of PGRFA strategy. A final review will also be carried out in 2030.

Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
Component 1: Conservation and sustainable use					
Strengthening Ex-situ Conservation of PGRFA	Weak national inventory of PGRFA	10 National PGRFA Inventories	2022-2032	Number of status reports produced	ARID, FAO
	Weak national collection of PGRFA	10 Collection missions of PGRFA	2022-2032	Number of collection reports produced	ARID, Forestry Commission, ZPWA, EMA
	One regional network SPGRC One international network ITPGRFA	5 networks/ collaborations	2022-2032	Collaborations reports or meeting minutes	ARID, SPGRC, FAO
	Number of accessions duplicated at the 10% National -GRBI, 20% Regional-SPGRC,	Number of accessions to be duplicated, 50% National -GRBI, 80% Regional-SPGRC,	2022-2032	Number of accessions duplicated at the GRBI, SPGRC,	ARID, CGIARs, Civil Society and Development Partners
Strengthening the Information Management System of the ex-situ collections	Information system not updated	Expansion and maintenance of 1 PGRFA Documentation and Information System	2022-2032	Number of entries	ARID, CGIARs, Civil Society, Farmer Organisations and Development Partners
	No linkages established with regional and international PGRFA information systems	Establish linkages with other regional and international PGRFA information systems e.g. GENESYS, GBIF etc	2022-2032	Number of datasets shared	ARID, CGIARs, Civil Society, Farmer Organisations and Development Partners
	Lack of community-based information management system for PGRFA	Establishment and maintenance of 20 virtual seedbanks	2020-2022	Community meetings Set up of virtual seedbanks Number of entries recorded	ARID, Civil Society, Farmer Organisations and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
	Lack of recent ICT infrastructure	Procurement of ICT infrastructure	2022-2023	Progress reports/ minutes Number of orders (adjudication process)	ICT Department, ARID, AGRITEX, Development Partners
Incorporation of PGRFAs in National early warning systems and adaptation measures	No incorporation of other components of PGRFA in early warning systems	Incorporation of other components of PGRFA into early warning systems	2022-2032	Early warning reports	ARID, AGRITEX, Development Partners
	Lack of incorporation of PGRFA in EIAs	Participate in relevant EIAs	2022-2032	Number of conducted EIAs incorporating PGRFA	ARID, EMA, Development Partners
	Lack of PGRFA rescue collection missions in disaster situations or areas earmarked for development	Rescue Collection missions in all disaster situations	2022-2032	Number of rescue collection mission reports	ARID, Civil Society, Private Sector and Development Partners
	PGRFA lost due to natural disasters, climate changes and other factors	Restoration of lost PGRFA	2022-2032	Number of PGRFAs distributed to farmers Number of farmers benefiting	ARID, Civil Society, Private Sector and Development Partners
	PGRFA not incorporated in disaster risk assessment and management	Participate in national disaster risk assessment and management	2022-2032	Number of disaster risk assessments and management programs that incorporate PGRFA	ARID, EMA, FNC, ZIMVAC, AGRITEX
	No mechanism in place for protecting PGRFA from GMO contamination	Establishing a mechanism for protecting PGRFA from GMO contamination	2022-2023	Stakeholder meetings Establishment of operation arrangement	ARID, NBA
Promotion of diversification and production of PGRFA	Limited knowledge and awareness on diversification and production of PGRFA	200 Training and awareness-raising programs on the importance of diversification	2022-2032	Number of farmers made aware	ARID, Civil Society, AGRITEX and Development Partners
	Weak government involvement in coordination of seed fairs and food fairs	Strengthen government involvement in coordination of seed fairs, food diversity fairs, shows etc	2022-2024	Stakeholder meetings	Ministry responsible for Agriculture, Civil Society, and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
	Poor demand for PGRFA and products	Development and promotion of value addition technologies that support crop diversification	2022-2032	Number of value addition technologies that support crop diversification developed and promoted	Private Sector, Departments in Ministry responsible for Agriculture, Civil Society, SAZ, Government Analyst Laboratory, Development Partners
	Poor production and productivity of PGRFA due to climate change	Promotion of crop diversification best practices	2022-2032	Number of farmers reached	Private Sector, ARID, Civil Society, Development Partners
Develop national database for CWRs, Indigenous fruits and wild edible plants	No database and information on CWRs, Indigenous fruits and wild edible plants	Inventories for CWRs, indigenous fruits and wild edible plants	2022-2032	Inventory / Database produced	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners
	Lack of information for easy identification of CWRs, Indigenous fruits and wild edible plants	Develop a checklist for CWRs, Indigenous fruits and wild edible plants	2022-2024	Checklist produced	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners
Strengthen conservation plan for CWRs, indigenous fruits and wild edible plants	Lack of network for conservation of CWRs, indigenous fruits and wild edible plants	Establish a network for conservation of CWRs, indigenous fruits and wild edible plants	2022-2027	Networks established and reports	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners
	Geographic Occurrence of CWRs, indigenous fruits and wild edible plants hotspots not known and not protected	Mapping and protection of PGRFA hotspots for CWRs, indigenous fruits and wild edible plants	2022-2032	Map produced Reports Number of species conserved Collection of data	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners
	A limited collection of CWRs, indigenous fruits and wild edible plants for ex-situ conservation	10 Collection missions of CWRs, indigenous fruits and wild edible plants for ex-situ conservation	2022-2032	Number PGRFAs collected Number PGRFAs conserved	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners
	Lack of awareness on conservation of CWRs, indigenous fruits and wild edible plants	Promotion of domestication and conservation of CWRs, indigenous fruits and wild edible plants	2022-2032	Number of communities reached Meetings conducted with communities	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
Component 2: Legal and institutional framework for the management of PGRFA in line with the provisions of the ITPGRFA					
Develop the legislative framework for the implementation of farmers' rights	No legislative framework for the implementation of farmers rights	1 position paper on farmers' rights developed 5 000 farmers consulted 3 policies developed and reviewed	2022-2026	Number of position papers produced Number of farmers consulted Number of policies reviewed and developed	MLAFWRD, Farmer organisations, Civil Society and Development Partners
Develop mechanisms and institutions for the implementation of farmers' rights	Weak Institutions	Facilitation and development of farmer institutions that represents farmers rights	2022-2032	Number of Institutions	MLAFWRD, Civil Society, Farmer Organisations and Development Partners
	Weak Institutions	Strengthening of existing farmer representative organizations to effectively represent farmers on farmers rights	2022-2032	Number of institutions strengthened	MLAFWRD, Civil Society, Farmer Organisations and Development Partners
	Lack of knowledge and awareness	Awareness-raising and training on farmers rights	2022-2032	Number of farmers reached	ARID, AGRITEX, Civil Society, Farmer Organisations and Development Partners
Recognition and protection of farmer's varieties	Farmers' varieties lack recognition and protection	Document on standards developed 100 farmer varieties registered Development of National catalogue of Farmer's developed	2022-2032	Document on standards Number of farmer varieties registered Number of Catalogues developed	ARID, AGRITEX, Civil Society, Farmer Organisations and Development Partners
Commercialization of farmers' varieties	Limited seed production of farmers' varieties	Promoting seed production of farmers varieties	2022-2032	Number of farmers' varieties promoted	ARID, AGRITEX, Civil Society, Private Sector, Farmer Organisations and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
	Limited markets for farmers' varieties	Developing markets for farmers' varieties	2022-2032	Number of markets developed for farmers' varieties	ARID, AGRITEX, Economics and Markets, AMA, Civil Society, Private Sector, Farmer Organisations and Development Partners
	No partnerships in place	Develop mechanisms for facilitating partnership on multiplication and commercialization of farmers' varieties	2022-2032	Number partnerships established	ARID, AGRITEX, Economics and Markets, AMA, Civil Society, Private Sector, Farmer Organisations and Development Partners
Recognition and protection of traditional knowledge systems	Not recognised and not protected	1 National database for TK developed related to PGRFA	2022-2027	Database developed	ARID, AGRITEX, Civil Society, Farmer Organisations and Development Partners
	Traditional knowledge for PGRFA not protected	Develop a mechanism for protection of traditional knowledge system for PGRFA	2022-2032	Records and any information on traditional knowledge for PGRFA	ARID, AGRITEX, Civil Society, Farmer Organisations and Development Partners
Develop a mechanism for seed certification of local seed	No quality assurance standards for local seed	Development of seed quality assurance standards for local seed	2022-2027	Quality assurance standards for local seed developed	ARID, AGRITEX, Civil Society, Farmer Organisations and Development Partners,
	No registered units and certification of local seed	Registration of units and certification of local seed production	2022-2027	Certification scheme for local seed developed	ARID, Legal Department, Civil Society, Farmer Organisations and Development Partners M
	Limited awareness and training on seed production	Capacity development of farmers on quality seed production	2022-2027	Numbers of farmers trained	ARID, AGRITEX, Civil Society, Farmer Organisations and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
Development of a legal framework and institutions that implement the ABS provisions of the ITPGRFA	No legal framework and institutions to implement ABS provisions of the ITPGRFA	1 position paper on ABS provisions of ITPGRFA Develop legal frameworks that implement ABS provisions of ITPGRFA Develop institutions that implement ABS provisions of ITPGRFA	2022-2032	Number of position papers on ABS provisions of ITPGRFA Number of legal frameworks that implement ABS provisions of ITPGRFA Number of institutions that implement ABS provisions of ITPGRFA	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners
Put in place a Legal framework that separates the ABS of specialized PGRFA and its related traditional knowledge systems from the rest of the Genetic Resources under the SI 61 of 2009	No legal framework that separates ABS of specialized PGRFA from the rest of Genetic resources under SI 61 of 2009	Put in place mechanism for review of SI 61 of 2009 Engage with relevant stakeholders, Ministries and partners responsible for ABS implementation. Harmonize implementation of ABS	2022-2027	Number of mechanisms for review of SI 61 of 2009 Number of stakeholder meetings held and the number of stakeholders engaged Number of mechanisms for harmonizing ABS	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners
Ensure the full and effective participation of farmers and communities in the formulation, development, and implementation of access and benefit-sharing related policies.	Low level of awareness and understanding of ABS	200 Awareness raising and training programs on ABS	2022-2032	Number of awareness-raising and training programs implemented Number of farmers and communities reached	MLAFWRD, Ministry responsible for Local Government, Farmers organisations, Civil Society and Development Partners
	No local institutions facilitating the implementation of ABS	Establishment of 10 farmers institutions that facilitate the implementation of the specialised ABS provisions, e.g. on the issue of prior consent.	2022-2032	Number of local institutions established	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners,



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
	Existing institutions cannot fully understand and participate effectively in the implementation of ABS	To build and/or strengthen the capacity of Institutions for farmers to enable them to fully understand ABS issues and effectively participate in the implementation of ABS measures.	2022-2032	Number institutions strengthened	MLAFWRD, Ministry of Environment, Tourism and Hospitality Industry, Civil Society and Development Partners
Component 3: PGRFA Research and Development					
PGRFA Crop Research and Development	No inventories on PGRFA such as farmers' varieties, crop wild relatives, wild fruits and wild edible plants	Biennial inventories PGRFA such as farmers' varieties, crop wild relatives, wild fruits and wild edible plants	2022-2032	Inventory reports	ARID, CGIARs, ZPWA, Forestry Commission, Private Sector, Civil Society, Parastatals, Universities and Development Partners
	Limited Participatory research programs	200 participatory research programs conducted	2022-2032	Number of Participatory research programs conducted Number of PGRFA developed	ARID, CGIARs, ZPWA, Forestry Commission, Private Sector, Civil Society, Parastatals, Universities and Development Partners
	Limited knowledge-sharing platforms	Number of knowledge sharing platforms on farmers varieties research developed	2022-2032	Number of knowledge sharing platforms developed Number of meeting reports	ARC, ARID, CGIARs, ZPWA, Forestry Commission, Private Sector, Civil Society, Parastatals, Universities and Development Partners
	Few PGRFA morphological and molecular diversity studies conducted	20 studies conducted annually	2022-2032	Technical reports produced	ARID, CGIARs, ZPWA, Forestry Commission, Private Sector, Civil Society, Parastatals, Universities and Development Partners
	No descriptors for PGRFA and farmer's varieties	Establish descriptors for farmers' varieties and other PGRFA	2022-2032	Descriptors lists produced	ARID, CGIARs, AGRITEX, Private Sector, Civil Society, Parastatals, Universities and Development Partners
	No PGRFA catalogues developed	5 Catalogues produced annually of PGRFA catalogues	2022-2032	Number of catalogues produced	ARID, CGIARs, AGRITEX, Private Sector, Civil Society, Parastatals, Universities and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
Co-development of traditional knowledge systems and conventional science in crop research and development	No validation was done	Validation of traditional knowledge systems conducted	2022-2032	Number of validation reports	ARID, CGIARs, AGRITEX, Farmer organisations, Civil Society, Universities and Development Partners
	Weak knowledge transfer system between farmers, extension and researchers	Knowledge transfer system between farmers, extension and researchers strengthened	2022-2032	Meeting reports	ARID, CGIARs, AGRIC Education, AGRITEX, Farmer organisations, Civil Society, Universities and Development Partners
	Little integration of traditional knowledge into conventional knowledge systems.	Traditional knowledge system integrated into conventional knowledge systems.	2022-2032	Technical reports, Scientific publications	ARID, CGIARs, AGRIC Education, AGRITEX, Farmer organisations, Civil Society, Universities and Development Partners
Component 4: Capacity Development, Coordination and Communication for PGRFA conservation and sustainable use					
Strengthening institutions involved in PGRFA conservation	Lack of equipment and supplies constraining capacity for seed storage and processing	Procurement of equipment and provisions for seed processing and storage	2022-2027	Development of specifications Procurement procedures conducted	ARID, CGIARs, AGRITEX, EMA, Forestry Commission, ZPWA, Farmer organisations, Civil Society, Universities and Development Partners
	Limited storage space for accommodating walk-in freezer room and other units	Expansion of the conservation facilities	2022-2024	Development of specifications Procurement procedures and construction works	ARID, CGIARs, AGRITEX, EMA, Forestry Commission, ZPWA, Farmer organisations, Civil Society, Universities and Development Partners
	Lack of capacity to conserve vegetatively propagated PGRFA	Establishment of a cryopreservation unit	2022-2024	Development of specifications Procurement procedures and construction works	ARID, CGIARs, Farmer organisations, Civil Society and Development Partners
	Lack of capacity to regenerate vegetatively propagated PGRFA	Establishment of a tissue culture unit	2022-2024	Development of specifications Procurement procedures and construction works	ARID, CGIARs, Farmer organisations, Civil Society and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
	No conservation strategy for vegetatively propagated species	Establishment and maintenance of 5 field genebanks	2022-2032	Number of PGRFA species sites identified Number of PGRFA species conserved	ARID, CGIARs, AGRITEX, EMA, Forestry Commission, ZPWA, Farmer organisations, Civil Society, Universities and Development Partners
	Duplication gap between national genebank and SADC regional genebank	Improving back up of germplasm at SADC regional genebank	2022-2032	Proportion materials backed up	ARID, SPGRC, FAO
	Lack of facilities for carrying out biotechnology-related research	Establishment of a biotechnology laboratory	2022-2032	Specifications and Standard operating procedures developed Construction works and equipping the laboratory	ARID, CGIARs, TRB, Farmer organisations, Civil Society, Universities and Development Partners
Capacity development of human resources in institutions conserving PGRFA.	Lack of new critical skills	Training of staff on critical skills	2022-2032	Identification of critical skills Identification training partners/ model	ARID, CGIARs, AGRITEX, EMA, Forestry Commission, ZPWA, Farmer organisations, Civil Society, Universities and Development Partners
	Limited coverage of PGRFA in curricula	PGRFA Mainstreamed into the national education curriculum	2022-2032	Number of programs incorporating PGRFA	Universities, Colleges, Vocational training Centers
Development of markets and market linkages for PGRFA	Poor coordination	Improve coordination of farmers on the marketing of PGRFA products	2020-2025	Number coordination platforms	Ministry responsible for Agriculture, Private Sector, Civil Society and Development Partners
	Low consumption and utilization of PGRFA products	Increased consumption and utilization of PGRFA products.	2022-2032	Level of increase in consumption	Ministry responsible for Agriculture, Private Sector, Farmer organisations, Civil Society and Development Partners
	Low production and productivity	Increased production and productivity of quality PGRFA products.	2022-2032	Level of production and productivity (yields)	AGRITEX, ARID, Universities, Private Sector and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
	Limited collaboration	Increased collaboration with marketing institutions (private and public) in the creation of markets for PGRFA.	2022-2032	Number of collaborations	Ministry responsible for Agriculture, Ministry responsible for Environment, Private Sector, Civil Society, Farmer organisations and Development Partners
	Weak Existing Marketing institutions	Existing Marketing institutions Strengthening	2022-2032	Number of Institutions strengthened	SPPBD, AGRITEX, Private Sector, AMA
	Weak linkages	Establishment of linkages to the private buyers, e.g. food or feed processing companies.	2022-2032	Number of linkages	Ministry responsible for Agriculture, Ministry responsible for Environment, Private Sector, Civil Society, Farmer organisations and Development Partners
Development of coordination mechanisms	No national networks	Development of networks for PGRFA conservation institutions (community seedbanks, national agricultural research institutions and partners)	2022-2032	Number of networks created	Ministry responsible for Agriculture, Ministry responsible for Environment, Private Sector, Civil Society, Farmer organisations and Development Partners
	Weak institutions	Institutions representing farmers Strengthened.	2022-2032	Number of institutions strengthened	Ministry responsible for Agriculture, Ministry responsible for Environment, Private Sector, Civil Society, Farmer organisations and Development Partners



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
Development of a communication programme for awareness-raising on PGRFA and the National Strategy for PGRFA	No communication plan	Communication plan Developed	2022-2032	Communication plan in place	Ministry responsible for Agriculture, Ministry responsible for Environment, Private Sector, Civil Society, Farmer organisations and Development Partners
	No institutional framework for information dissemination in place	Establishment of the institutional framework for information dissemination	2022-2032	The institutional framework is in place	Ministry responsible for Agriculture, Ministry responsible for Environment, Private Sector, Civil Society, Farmer organisations and Development Partners
Establishment of mechanisms for communication	Few mechanisms	Digital communication such as online publications, and links to PGR websites of institutions collaborating with PGR	2022-2032	Mechanisms in place	Ministry responsible for Agriculture, Ministry responsible for Environment, Private Sector, Civil Society, Farmer organisations and Development Partners
	Few publications	Physical publications such as pamphlets, manuals, fliers	2022-2032	Number of publications	ARC, TRB, ARID, Universities, Private Sector, Civil Society, CGIARs and Development Partners
	Limited media coverage	press releases or radio and TV shows covered	2022-2032	Number of press releases and shows	ARC, TRB, ARID, Universities, Private Sector, Civil Society, CGIARs and Development Partners
	Limited conferences	conferences/workshops on PGRFA Organised	2022-2032	Number of conference reports	ARC, TRB, ARID, Universities, Private Sector, Civil Society, CGIARs and Development Partners
	Limited platforms	platforms for active direct engagement and collaboration arrangements with relevant stakeholders strengthened	2022-2032	Number of platforms	ARC, TRB, AMA, NBA, ARID, AGRITEX, Universities, Private Sector, Civil Society, CGIARs and Development Partners

Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
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Component 5: Resource mobilization for PGRFA conservation and sustainable use					
Establishing government sources of funding PGRFA	No legal provision	<p>legal provisions established covering the following components;</p> <p>1 the budget for crop research and specialist services to be dedicated for conservation and sustainable use of PGRFA,</p> <p>2 crop-based levy to be allocated towards conservation and sustainable use of PGRFA,</p> <p>3 the budget for the farmer input support programme (FISP) to support conservation and sustainable use of PGRFA,</p> <p>4 government agricultural credit schemes are dedicated to support the conservation and sustainable use of PGRFA.</p>	2022-2032	4 Legal provisions in place	Ministry responsible for Agriculture and Ministry responsible for Environment, Ministry responsible for finance
Develop a legislative framework that enables user-based payments	Limited funding options	<p>Funding options established with the following components;</p> <p>1. Conservation tax on PGRFA commercial users</p> <p>2. Tax Incentives for donating non PGRFA user companies</p> <p>3. Collaborate with PGRFA users, on their research and exploration</p> <p>4. A proportion of crop levies to be allocated for conservation of PGRFA</p>	2022-2032	4 funding options established	Ministry responsible for Agriculture and Ministry responsible for Environment, Ministry responsible for Justice
Mobilize donor funds to support PGRFA conservation and sustainable use	Few project proposals funded	Project proposals funded	2022-2032	Number of project proposals funded	ARC, TRB, AMA, NBA, ARID, AGRITEX, Universities, Private Sector, Civil Society, CGIARs and Development Partners
	Little cooperation	Forster cooperation with international donors	2022-2032	Number of funded projects and the amount of funding made available	ARC, TRB, AMA, NBA, ARID, AGRITEX, Universities, Private Sector, Civil Society, CGIARs and Development Partners
Establish funding streams from service fees	No funding streams from service fees	<p>Funding streams established as follows:</p> <p>1. PGRFA EIAs fees</p> <p>2. PGRFA access fees</p> <p>3. Registration fees for farmers' varieties</p> <p>4. Certification fees for certification of local seed production</p>	2022-2032	4 funding streams established	ARID, Parastatals, Private Sector, Civil Society and Farmer organisations



Strategic actions	Baseline	Targets	Time Line	Indicators	Management responsibilities
Component 6: PGRFA Management under disaster situations					
Incorporate PGRFA issues in National disaster early warning systems	Lack of forecasting for the impact disaster on PGRFA using early warning systems/models	1 forecast annually	2022-2032	Number of forecast reports	ARID, EMA, Universities, Private and Public research institutions
	Lack early warning messages for PGRFA	Messages broadcasted to cover at least 80% of the potentially affected population	2022-2032	Population coverage	MLAFWRD, CPU, Private sector
	Limited PGRFA Rescue collecting missions	At least 2 rescue collection mission prior to or after every disaster	2022-2032	Number of germplasm materials rescued/ collected	ARID Civil Society, Farmer Organisations
Capacity building on PGRFA disaster management	Lack of awareness on PGRFA issues in Disaster management structures	Atleast 5 awareness raising campaing for PGRFA issues in disaster management anually	2022-2032	Number people reached	ARID,Civil Protection Unit, Civil Society, Farmer Organisations, Private Sector and Development partners
	Training PGRFA disaster management	At 5 trainings annually	2022-2032	Number of people trained	ARID,CPU, Civil Society, Farmer Organisations, Private Sector and Development partners
	Creation of knowledge management system for PGRFA disaster management	1 knowledge management system created	2022-2032	Number of beneficiaries	ARID, Civil Society, Farmer Organisations, Private Sector
Strengthening disaster response coordination for PGRFA	Low community participation in disaster management planning committees at all levels	At least 50% representation in membership from community members participating in commitees at all levels	2022-2025	Number of community participants involved	ARID, Civil Society, Farmer Organisations, Private Sector
	Strengthening representation of PGRFA issues in existing disaster response structures	At least 1 organisation with PGRFA expertise represented in existing structures	2022-2025	Number organisations representin PGRFA in disaster management structures	ARID, Civil Society, Farmer Organisations, Private Sector



	Lack of planning, monitoring and evaluation of PGRFA intervention programmes at all levels (provincial, district, ward, village)	PGRFA action planning, monitoring and evaluation of PGRFA intervention programmes in place at all levels	2022-2025	Number of monitoring and evaluation plans in place	SPPBD, ARID, Civil Society, Farmer Organisations, Private Sector
	Lack of recognition of PGRFA issues in existing legal structures for Disaster management	PGRFA recognised in existing legal framework for disaster management	2022-2025	Reports produced, white papers, policy briefs, drafting	Legal services department, SPPBD, ARID, Civil Society, Farmer Organisations, Private Sector,
Restoration of PGRFA	Lack of the impact assessment of disasters on PGRFA	At least 1 annually	2022-2025	Number of reports produced	ARID, Universities, Private and Public research institutions
	Low utilization of PGRFA in genebank for repatriation	Materials identified, and repatriated	2022-2025	Number of beneficiaries, reports	ARID, Civil Society, Farmer Organisations, Private Sector
	Low utilization of PGRFA from other sources of that are suitable to the affected areas	Number of sources of materials identified and materials mobilised	2022-2025	Number of beneficiaries, reports	ARID, CGIAR centers
	Low seed quantities of available materials for restoration programmes	Materials multiplied and distributed	2022-2032	Reports, Number of beneficiaries	ARID, Civil Society, Farmer Organisations, Private Sector
Strengthening local seed exchange systems	Few seed fairs conducted post disaster	At least 100 seedfairs held annually	2022-2032	Number of beneficiaries	ARID, AGRITEX, Civil Society, Farmer Organisations, Private Sector
	Lack of platforms for innovation for access to local seed	At least 5 platforms developed	2022-2032	Number beneficiaries	ARID, AGRITEX, Civil Society, Farmer Organisations, Private Sector, Universities
	Few community seed enterprises	At least 5 community seed enterprises developed	2022-2032	Number of beneficiaries	ARID, AGRITEX Civil Society, Farmer Organisations, Private Sector, Universities
Restoration of PGRFA storage infrastructure after a disaster	15 seedbanks currently active in the country	At least 2 seed banks constructed and rehabilitated annually	2022-2032	Number of beneficiaries	ARID, AGRITEX Civil Society, Farmer Organisations, Private Sector, Development Partners
	Poor household seed storage structures	At least 1000 household storage structures constructed and rehabilitated annually	2022-2032	Number of beneficiaries	ARID, AGRITEX Civil Society, Farmer Organisations, Private Sector, Development Partners



6. IMPLEMENTATION MATRIX

Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
Component 1: Conservation and sustainable use								
Ex-situ Conservation of PGRFA	Strengthening Ex-situ Conservation of PGRFA	National PGRFA Inventories	100000	Output: Inventory Indicator: Number of status reports produced	Outcome: Enhanced conservation status Indicator: Increased ex-situ collections	2022-2032	ARID	Civil Society, CGIARs, Farmer Organisations, AGRITEX and Development Partners
		Collection of PGRFA	100000	Output : Ex-situ collections Indicator: Number of collections conserved		2022-2032	ARID	Civil Society, CGIARs, Farmer Organisations, AGRITEX and Development Partners
		Foster national, regional and international collaboration and technology transfer	150000	Output: Collaborations fostered Indicator: Number of collaborations fostered		2022-2032	ARID	SPGRC, Civil Society, CGIARs, Farmer Organisations, AGRITEX and Development Partners
		Back up of germplasm at the national level for regional and international base collections	50000	Output: Accessions backed up Indicator: Number of Accessions backed up		2022-2032	ARID	SPGRC, Crop Trust, CGIARs
	Strengthening the Information Management System of the ex-situ collections	Expansion and maintenance of the PGRFA Documentation and Information System	80000	Output: Documentation system expanded and maintained Indicator: Number of entries		2022-2032	ARID	ICT-MLAFWRD, SPGRC, FAO
		Establish linkages with national, regional and international PGRFA information systems	55000	Output : Linkages established Indicator: Number of datasets shared		2022-2032	ARID	ICT-MLAFWRD, SPGRC, FAO, CGIARs, GLIS
		Establishment and maintenance of virtual seedbanks	150000	Output: Virtual seedbanks established Indicator: Community meetings Number of virtual seedbanks established Number of entries recorded		2022-2032	ARID	AGRITEX, Civil Society, Private Sector, Farmer organisations, Development Partners
		Procurement of ICT infrastructure	200000	Output : Infrastructure procured Indicator:Progress reports/minutes Number of orders (adjudication process)		2022-2032	ICT-MLAFWRD	ARID, SPGRC, Civil Society and Development Partners
	Incorporation of PGRFAs in national early warning systems and adaptation measures	Incorporation of PGRFAs in national early warning systems	20000	Output: PGRFA early warning system operationalized Indicator: Number of early warning system reports	Outcome: Increased preparedness in PGRFA conservation Indicator: Decreased loss of PGRFA	2022-2032	ARID	FNSC, ZIMVAC, AGRITEX
		Participate in EIAs	45000	Output: PGRFA EIAs done Indicator: Number of EIAs		2022-2032	ARID	EMA, ZPWA, Forestry Commission



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
		Rescue Collection missions	300000	Output: Rescue collection missions done Indicator: Number of collection missions	Outcome: Increased preparedness in PGRFA conservation Indicator: Decreased loss of PGRFA	2022-2032	ARID	EMA, ZPWA, Forestry Commission, AGRITEX, Civil Society, Private Sector and Development Partners
		Restoration of lost PGRFA	300000	Output: PGRFA restoration programs done Indicator: Number of PGRFA distributed to farmers and the number of beneficiary farmers		2022-2032	ARID	EMA, ZPWA, Forestry Commission, AGRITEX, Civil Society, Private Sector and Development Partners
		Participate in national disaster risk assessment and management	30000	Output: National disaster risk assessment and management done Indicator: Number of national disaster risk assessment and management done		2022-2032	ARID	EMA, ZPWA, Forestry Commission, AGRITEX, Civil Society, Private Sector and Development Partners
		Establishing a mechanism for protecting PGRFA from GMO contamination	50000	Output: Mechanism for protection of PGRFA from GMO contamination Indicator: Number of stakeholder meetings held to establish a mechanism		2022-2032	ARID	NBA, EMA, ZPWA, Forestry Commission, AGRITEX, Civil Society, Private Sector and Development Partners
On-farm Conservation	Promotion of diversification and production of PGRFA	Training and awareness-raising on the importance of diversification	300000	Output: Training and awareness done Indicator: Number of Training and awareness done	Outcome: Diversified crop production for food and nutritional security	2022-2032	ARID	AGRITEX, NGOs
		Strengthen government involvement in the running of seed fairs, food diversity fairs, shows etc	250000	Output: Seed fairs, food fairs conducted with government involvement Indicator: Number of Seed fairs, food fairs conducted with government involvement	Indicator: Improved crop production and resilience for food and nutritional security	2022-2032	AGRITEX	GRBI, NGOs, CBOs
		Development and promotion of value addition technologies that support crop diversification	500000	Output: Value addition technologies developed and promoted Indicator: Number of value addition technologies developed and promoted		2022-2032	Department of Agricultural Engineering	EMA, ZPWA, Forestry Commission, AGRITEX, Civil Society, Private Sector and Development Partners
		Promotion of crop diversification best practices	120000	Output: Crop diversification Best practices promoted Indicator: Number of crop diversification best practices promoted		2022-2032	AGRITEX	ARID, Civil Society, Private Sector and Development Partners



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
In-situ Conservation	Develop national database for crop wild relatives (CWR), Indigenous fruits and wild edible plants	Inventorying CWRs, indigenous fruits and wild edible plants	100000	Output: Database produced Indicator: Number of databases	Outcome: Enhanced conservation status Indicator: Increased in-situ collections	2022-2032	ARID	EMA, ZPWA, Forestry Commission, AGRITEX, Civil Society, Private Sector and Development Partners
		Develop a checklist for CWR, Indigenous fruits and wild edible plants	30000	Output: Checklist developed Indicator: Number of checklists		2022-2032	ARID	NHBG, ZPWA, Forestry Commission, EMA
	Strengthen conservation plan for CWRs, indigenous fruits and wild edible plants	Establish a network for conservation of CWRs, indigenous fruits and wild edible plants	120000	Output: Network established and reports Indicator: Network established and reports produced		2022-2032	ARID	NHBG, ZPWA, Forestry Commission, EMA
		Mapping and protection of PGRFA hotspots for CWRs, indigenous fruits and wild edible plants	350000	Output: Maps and reports produced Indicator: Number of species		2022-2032	ARID	ZPWA, Forestry Commission, EMA
		Collection of CWRs, indigenous fruits and wild edible plants for ex-situ conservation	100000	Output: Collection missions done Indicator: Number of PGRFA collected and conserved		2022-2032	ARID	ZPWA, Forestry Commission, EMA
		Promotion of domestication and conservation of CWRs, indigenous fruits and wild edible plants	100000	Output: Meetings conducted with communities Indicator: Number of communities reached		2022-2032	ARID	ZPWA, Forestry Commission, EMA, AGRITEX

Component 2: Legal and institutional framework for the management of PGRFA in line with the provisions of the ITPGRFA

Supporting policies and legal instruments which recognize farmers rights	Develop the legislative framework for the implementation of farmers' rights	Development of position paper on farmer rights	80000	Output: Position paper developed Indicator: Number of Stakeholders meetings and reports	Outcome: Farmers recognized and legally protected Indicators: Number of legal provisions or policies protecting farmers rights	2022-2032	GRBI	SPPBD, Legal Services Department, NGOs,
		Consultation of stakeholders including farmers in the formulation process	60000	Output: Farmer consultation conducted Indicator: Number of consultative meetings conducted		2022-2032	GRBI	Legal Services Department, SPPBD, NGOs, CBOs
	Develop mechanisms and institutions for the implementation of farmers' rights	Review and upgrade existing policies to mainstream Farmers' Rights	60000	Output: Policy review and upgrade conducted Indicator: Number of policies reviewed and upgraded	Outcome: Farmers recognized and legally protected	2022-2032	Legal Services Department	SPPBD, GRBI, NGOs
		Facilitation and development of farmer institutions that represents farmers rights	50000	Output: Mechanisms and Institutions developed Number of Institutions and mechanism developed	Indicators: Number of legal provisions or policies protecting farmers rights	2022-2032	SPPBD	NGOs, CBOs, GRBI, Legal Services Department
		Strengthening of existing farmer representative organizations to effectively represent farmers on farmers rights	50000	Output: Farmer representative organizations strengthened Indicator: Number of Farmer representative organizations strengthened		2022-2032	SPPBD	GRBI, NGOs
		Awareness-raising and training on farmers rights	300000	Output: Training and awareness of farmers rights conducted		2022-2032		



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
Recognition and protection of farmer's varieties	Development of mechanism of recognition and protection of farmers' varieties	Establish standards for maintenance of farmers' varieties	80000	Output: Standards for maintenances of farmers varieties established Indicator: Number of standards established	Outcome: Farmers varieties recognized and protected Indicators: Increase in production of farmers varieties	2022-2032	ARID	GRBI, Public and Private seed producers
		Registration of farmers' varieties	100000	Output: farmers varieties registered Indicator: Number of registered farmers varieties		2022-2032	ARID	AGRITEX, Civil Society, Private Sector and Development Partners
		Development of national catalogue of farmers' varieties	200000	Output: Farmers varieties catalogues produced Indicator: Number of catalogues of farmers varieties produced		2022-2032	ARID	AGRITEX, Civil Society, Private Sector and Development Partners
	Commercialization of farmers' varieties	Promoting seed production of farmers' varieties	500000	Output: Production of farmers varieties promoted Indicator: Increase in the seed produced for farmers varieties		2022-2032	AGRITEX	ARID, Civil Society, Private Sector and Development Partners
		Developing markets for farmers' varieties	300000	Output: Markets developed Indicator: Number of markets developed		2022-2032	SPPBD and AMA	ARID, AGRITEX, Civil Society, Private Sector and Development Partners
		Develop mechanisms for facilitating partnership on multiplication and commercialization of farmers' varieties	50000	Output: Mechanisms for facilitating partnership on farmers varieties commercialization and multiplication Indicator: Number of mechanisms developed		2022-2032	SPPBD and AMA	ARID, AGRITEX, Civil Society, Private Sector and Development Partners
Recognition and protection of traditional knowledge systems.	Documentation of PGRFA related traditional knowledge	Create an inventory database of PGRFA traditional knowledge from community and national levels.	300000	Output: Database for traditional knowledge created Indicator: number of databases created Number of farmer meetings conducted	Outcome: Traditional knowledge is recognized and protected Indicator: Number of provisions for recognizing and protecting traditional knowledge	2022-2032	ARID	EMA, Legal Services Department, Local Government, AGRITEX, Civil Society, Private Sector and Development Partners
		Develop a mechanism for protection of traditional knowledge system	200000	A mechanism for the protection of traditional knowledge developed Indicator: Number of mechanisms developed		2022-2032	ARID	EMA, Legal Services Department, Local Government, AGRITEX, Civil Society, Private Sector and Development Partners
Develop quality assurance standards for local seed production	Develop a mechanism for seed certification of local seed	Development of seed quality assurance standards	200000	Output: seed quality assurance standards produced Indicator: Number of seed quality assurance standards	Outcome: Increased production of local seed Indicator: Quantity of seed produced	2022-2032	ARID	AGRITEX, Civil Society, Private Sector and Development Partners
		Registration of units and certification of local seed production	500000	Output: Units registered and local seed production certified Indicator: number of registered units and increase in the quantity of local seed that is certified.				



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
		Capacity development of farmers on quality seed production	530000	Output: Farmers capacitated Indicator: Number of farmers capacitated on quality seed production		2022-2032	ARID	AGRITEX, Civil Society, Private Sector and Development Partners
Develop the provisions for PGRFA Access and Benefit Sharing.	Development of a legal framework and institutions that implement the ABS provisions of the ITPGRFA	Development of a position paper on ABS for PGRFA	25000	Output: Position paper produced Indicator: Number of stakeholder meetings	Outcome: Increased access to and the sharing of benefits arising from the utilization of PGRFA	2022-2032	ARID	Legal services department, SPPBD, EMA
		Development of legal frameworks that implement ABS on PGRFA	100000	Output: Legal frameworks on ABS developed Indicator: Number of legal frameworks developed	Indicator: Number of legal provisions for ABS that are put in place	2022-2032	ARID	GRBI, SPPBD, EMA, Legal Services Department
		Establishment of an institutional framework for implementation of ABS provisions	100000	Output: Institutional framework established Indicator: Number of legal frameworks developed		2022-2032	ARID	EMA, Legal services department, AGRITEX, Civil Society, Private Sector and Development Partners
	Put in place a Legal framework that separates the ABS of specialized PGRFA and its related traditional knowledge systems from the rest of the Genetic Resources under the SI 61 of 2009	Put in place mechanism for review of SI 61 of 2009	50000	Output: Mechanism put in place Indicator: Number of Stakeholder meetings		2022-2032	ARID	SPPBD, EMA, Legal services department
		Engage with relevant stakeholders, Ministries and partners responsible for ABS implementation.	50000	Output: Stakeholders engaged Indicator: Number of stakeholder meetings		2022-2032	ARID	EMA, SPPBD, Legal Services Department, Ministry of Environment, Tourism and Hospitality Industry, Forestry Commission, ZPWA
		Harmonize implementation of ABS	50000	Output: ABS implementation harmonized Indicator: Number of stakeholder meetings		2022-2032	ARID	EMA, SPPBD, Legal Services Department, Ministry of Environment, Tourism and Hospitality Industry



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
Foster broad participation of farmers in decision-making processes relating to their PGRFA and traditional knowledge systems	Ensure the full and effective participation of farmers and communities in the formulation, development, and implementation of access and benefit-sharing related policies.	Awareness-raising and training on ABS	300000	Output: Training and awareness-raising conducted Indicator: Number of training and awareness-raising programs conducted, number of farmers trained and made aware	Outcome: Farmers participation in decision-making processes increased Indicator: Number of farmers participating in decision-making processes	2022-2032	DR&SS	Legal Services Department, EMA, Farmer Organisations, Local Government, AGRITEX, Civil Society, Private Sector and Development Partners
		Establishment of farmers institutions that facilitate the implementation of the specialised ABS provisions, e.g. on the issue of prior consent.	120000	Output: Farmer institutions established Indicator: Number of farmer institutions established		2022-2032	ARID	Legal Services Department, EMA, Farmer Organisations, Local Government, AGRITEX, Civil Society, Private Sector and Development Partners
		To build and/or strengthen the capacity of Institutions for farmers to enable them to fully understand ABS issues and effectively participate in the implementation of ABS measures.	120000	Output: Capacity of institutions strengthened Indicator: Number of institutions strengthened		2022-2032	ARID	Legal Services Department, EMA, Farmer Organisations, Local Government, AGRITEX, Civil Society, Private Sector and Development Partners

Component 3: PGRFA Research and Development

Promotion of Research and Development on PGRFA	PGRFA Crop Research and Development	Carry out inventories on PGRFA such as farmers' varieties, crop wild relatives, wild fruits and wild edible plants	300000	Output: Research inventories on farmers varieties, crop wild relatives, wild and edible fruits promoted Indicator: Number of inventories carried out	Outcome: Improved crop research and development on PGRFA Indicator: Increased reports on research in PGRFA	2022-2032	ARID	Universities, Parastatals, Colleges, Farmer Organisations, AGRITEX, Civil Society, Private Sector, ARC, CGIARs and Development Partners
		Conduct participatory research and development of PGRFA	1500000	Output: Participatory Research promoted Indicator: Number of Participatory research programs conducted		2022-2032	ARID	Universities, Parastatals, ARC, Colleges, Farmer Organisations, AGRITEX, Civil Society, Private Sector, CGIARs and Development Partners
		Develop knowledge sharing platforms on farmers varieties research and development	200000	Output: Knowledge sharing platforms on farmers varieties developed Indicator: Number of platforms developed Number of meetings reported		2022-2032	ARID	Universities, ARC, Parastatals, Colleges, Farmer Organisations, AGRITEX, Civil Society, Private Sector, CGIARs and Development Partners
		PGRFA morphological and molecular diversity studies including characterization and evaluation	800000	Output: studies including characterization and evaluation carried out Indicator: Number of reports of studies carried out		2022-2032	ARID	Universities, Colleges, Civil Society, Parastatals, Private Sector, CGIARs and Development partners
		Establish descriptors for farmers' varieties and other PGRFA	250000	Output: Descriptors for farmers varieties produced Indicator: List of descriptors produced		2022-2032	ARID	Universities, Colleges, Civil Society, Parastatals, Private Sector, CGIARs and Development partners
		Development of PGRFA catalogues	150000	Output: PGRFA catalogues produced Indicator: number of catalogues produced		2022-2032	ARID	Universities, Colleges, Civil Society, Parastatals, Private Sector, CGIARs and Development partners



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
	Co-development of traditional knowledge systems and conventional science in crop research and development	Validation of traditional knowledge systems through research and development	750000	Output: Validation of traditional knowledge systems conducted Indicator: Number of validation reports produced	Outcome: Enhance co-development between Traditional Knowledge system and science on research Indicator: Increased reports on research in PGRFA	2022-2032	ARID	Universities, Colleges, Civil Society, Farmer Organisations, AGRITEX, Private Sector, CGIARs and Development partners
		Create knowledge transfer system between farmers, extension and researchers	100000	Output: Knowledge transfer system between farmers, extension and researchers strengthened Indicator: Number of meetings conducted		2022-2032	ARID	Universities, Colleges, Civil Society, Farmer Organisations, AGRITEX, Private Sector, CGIARs and Development partners
		Integration of traditional knowledge system into conventional knowledge systems	100000	Output: Traditional knowledge system Integrated into conventional knowledge systems Indicator: Number of technical reports and publications produced		2022-2032	ARID	Universities, Colleges, Civil Society, Farmer Organisations, AGRITEX, Private Sector, CGIARs and Development partners

Component 4: Capacity Development, Coordination and Communication for PGRFA conservation and sustainable use

Capacity Development for PGRFA conservation	Strengthening the institutions involved in PGRFA conservation	Procurement of equipment and provisions for seed processing and storage	1500000	Output: equipment and provisions for seed processing and storage procured Indicator: Number of equipment and provisions for seed processing and storage procured	Outcome: the capacity for PGRFA conservation strengthened Indicator: a strengthened capacity for the National Genebank and other partners involved in PGRFA conservation	2022-2032	ARID	Universities, Colleges, Parastatals, Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners
		Expansion of the ex-situ storage facilities	600000	Output: genebank building expanded Indicator: The number of genebank buildings expanded		2022-2032	ARID	Ministry of Finance, Parastatals, Private Sector, CGIARs and Development partners
		Establishment of a cryopreservation unit	800000	Output: cryopreservation unit established Indicator: Number of cryopreservation units expanded		2022-2032	ARID	Development Partners, Parastatals, Ministry of Finance, Development Partners
		Establishment of a tissue culture unit	850000	Output: tissue culture unit established Indicator: number of tissue culture units established		2022-2032	ARID	Development Partners, Ministry of Finance
		Establishment of field genebanks	300000	Output: Field genebanks established Indicator: Number of field genebanks established		2022-2032	ARID	Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners
		Establishment of a biotechnology laboratory	250000	Output: biotechnology laboratory established Indicator: number of biotechnology laboratories established		2022-2032	ARID	Universities, Colleges, Civil Society, Farmer Organisations, Private Sector, Parastatals, CGIARs and Development partners



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
	Capacity development of human resources in institutions dealing with conservation of PGRFA.	Development of training programs for human resources capacity building	12000	Output: training programs for human resources capacity building developed Indicator: number of training programs for human resources capacity building developed		2022-2032	ARID	Development partners and Research Institutions
		Mainstreaming PGRFA into the national education curriculum	500000	Output: PGRFA mainstreamed into the national education curriculum Indicator: number of national education curriculum where PGRFA is mainstreamed		2022-2032	Ministry of Education	Universities, Colleges, Civil Society, ARID, Private Sector, CGIARs and Development partners
Coordination of PGRFA conservation and sustainable use initiatives	Development of markets and market linkages for PGRFA	Improve coordination of farmers on the marketing of PGRFA products	300000	Output: coordination of farmers on the marketing of PGRFA products improved Indicator: number of platforms for coordination of farmers on the marketing of PGRFA products developed	Outcome: coordination of PGRFA conservation and sustainable use initiatives improved Indicator: number of coordination platforms for PGRFA conservation and sustainable use initiatives established	2022-2032	Economics and Markets	ARC, ARID, AGRITEX, Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners
		Promote increased consumption and utilization of PGRFA products.	150000	Output: increased consumption and utilization of PGRFA products Indicator: number of platforms for the promotion of increased consumption and utilization of PGRFA products developed		2022-2032	AMA	AMA, ARID, AGRITEX, Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners
		Increase production and productivity of quality PGRFA products.	150000	Output: production and productivity of quality PGRFA products increased Indicator: Increased production and productivity of quality PGRFA products		2022-2032	AGRITEX	AMA, ARID, ARC, Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners
		Collaboration with marketing institutions (private and public) in the creation of markets for PGRFA.	200000	Output: Collaboration with marketing institutions (private and public) in the creation of markets for PGRFA established Indicator: number of collaborations with marketing institutions (private and public) in the creation of markets for PGRFA	Outcome: coordination of PGRFA conservation and sustainable use initiatives improved Indicator: number of coordination platforms for PGRFA conservation and sustainable use initiatives established	2022-2032	Economics and Markets	AMA, ARID, ARC, Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners
		Strengthening of existing marketing institutions.	100000	Output: existing marketing institutions strengthened Indicator: number of existing marketing institutions strengthened		2022-2032	Economics and Markets	AMA, ARID, ARC, Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners
		Establishment of linkages to the private buyers, e.g. food or feed processing companies.	200000	Output: linkages to the private buyers, e.g. food or feed processing companies established Indicator: number of linkages to the private buyers, e.g. food or feed processing companies established		2022-2032	AMA	Economics and Markets, ARID, ARC, Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
	Development of coordination mechanisms	Development of networks for PGRFA conservation institutions (community seedbanks, national agricultural research institutions and partners)	150000	Output: networks for PGRFA conservation institutions (community seedbanks, national agricultural research institutions and partners) developed Indicator: number of networks for PGRFA conservation institutions (community seedbanks, national agricultural research institutions and partners) developed		2022-2032	ARID	Economics and Markets, EMA, ARID, ARC, Civil Society, Farmer Organisations, Private Sector, CGIARs and Development partners
		Strengthening of institutions that represent farmers.	200000	Output: institutions that represent farmers strengthened Indicator: number of institutions that represent farmers strengthened		2022-2032	Economics and Markets	AMA, EMA, ARID, ARC, Civil Society, Farmer Organisations, Private Sector and Development partners
Communication and Publicity for PGRFA conservation and sustainable use	Development of a communication programme for awareness-raising on PGRFA and the National Strategy for PGRFA	Development of a communication plan	250000	Output: communication plan for PGRFA conservation and sustainable use developed Indicator: number of communication plans for PGRFA conservation and sustainable use developed	Outcome: PGRFA aconservation and sustainable use publicized and communicated Indicator: number of mechanisms for publicity and communication of PGRFA conservation and sustainable use established	2022-2032	ICT - MLAFWRD	AMA, EMA, ARID, ARC, Civil Society, Farmer Organisations, Private Sector and Development partners
		Establishment of an institutional framework for information dissemination	80000	Output: an institutional framework for information dissemination established Indicator: number of institutional frameworks for information dissemination established		2022-2032	Agricultural Research Council	AMA, EMA, ARID, Civil Society, Farmer Organisations, Private Sector and Development partners
	Establishment of mechanisms for communication	Digital communication such as online publications, and links to PGR websites of institutions collaborating with PGR	350000	Output: Digital communication such as online publications, and links to PGR websites of institutions collaborating with PGR established Indicator: number of Digital communication such as online publications, and links to PGR websites of institutions collaborating with PGR established		2022-2032	ICT-MLAFWRD	ARID, ARC, Civil Society, Farmer Organisations, Private Sector and Development partners



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
		Physical publications such as pamphlets, manuals, fliers	250000	Output: Physical publications such as pamphlets, manuals, fliers developed Indicator: Number of Physical publications such as pamphlets, manuals, fliers developed	Outcome: PGRFA conservation and sustainable use publicized and communicated Indicator: number of mechanisms for publicity and communication of PGRFA conservation and sustainable use established	2022-2032	ARID	ARC, Civil Society, Farmer Organisations, Private Sector and Development partners
		Reaching out to media: this could involve issuing press releases or radio and TV shows	200000	Output: information disseminated through media Indicator: number of media platforms utilized for communication and number of shows or press releases	Outcome: PGRFA conservation and sustainable use publicized and communicated Indicator: number of mechanisms for publicity and communication of PGRFA conservation and sustainable use established	2022-2032	ARID	AGRITEX, ARC, Civil Society, Farmer Organisations, Private Sector and Development partners
		Organising conferences/workshops on PGRFA	300000	Output: conferences/workshops on PGRFA organised Indicator: number of conferences/workshops on PGRFA organised		2022-2032	ARID	AGRITEX, ARC, Civil Society, Farmer Organisations, Private Sector and Development partners
		Strengthening of platforms for active direct engagement and collaboration arrangements with relevant stakeholders	150000	Output: platforms for active direct engagement and collaboration strengthened Indicator: number of platforms for active direct engagement and collaboration strengthened		2022-2032	Agricultural Research Council (ARC)	AGRITEX, ARID, Civil Society, Farmer Organisations, Private Sector and Development partners

Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
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Component 5: Resource mobilization for PGRFA conservation and sustainable use

Mobilizing government funds for conservation, management and sustainable use of PGRFA	Establishing government sources of funding PGRFA	Establishing a legal provision that directs a proportion of; 1 the budget for crop research and specialist services to be dedicated for conservation and sustainable use of PGRFA, 2 crop-based levy to be allocated towards conservation and sustainable use of PGRFA, 3 the budget for the farmer input support programme (FISP) to support conservation and sustainable use of PGRFA, 4 government agricultural credit schemes are dedicated to support the conservation and sustainable use of PGRFA.	30000	Output: Legal provisions put in place Indicator: Number of legal provisions	Outcome: Government funds availed for PGRFA conservation and sustainable Indicator: Amount of government funds mobilized for conservation and sustainable use	2022-2032	MLAFWRD	Ministry of Finance
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Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
Commercial users of PGRFA contribute an equitable share of benefits to the conservation fund and or initiatives.	Develop a legislative framework that enables user-based payments	Establish conservation tax on PGRFA commercial users	25000	Output: Funding options established Indicator: Number of funding options that are established	Outcome: Funds secured from commercial users of PGRFA Indicator	2022-2032	MLAFWRD	Ministry of Finance
		Establish tax incentives for donating non-PGRFA user companies	10000	Output: Funding options established Indicator: Number of funding options that are established	Outcome: Funds secured from commercial users of PGRFA Indicator	2022-2032	Ministry of Finance	MLAFWRD, Civil Society, Farmer Organisations, Private Sector and Development partners
		Collaborate with PGRFA users, on their research and exploration	100000			2022-2032	ARID	Private and Public research institutions
		Establish that a proportion of crop levies to be allocated for conservation of PGRFA	10000			2022-2032	MLAFWRD	Ministry of Finance
Donor funding for conservation of plant genetic resources for food and agriculture secured	Mobilize donor funds to support PGRFA conservation and sustainable use	Project proposals developed for funding through various donor options	10000	Output: Project proposals developed Indicator: Number of funded project proposals	Outcome: Donor funds secured Indicator: Amount of donor funds secured funds	2022-2032	ARID	Civil Society, Farmer Organisations, Private Sector and Development partners
		Forster cooperation with international donors	10000	Output: Cooperation arrangements fostered Indicator: Number of cooperation arrangements fostered		2022-2032	ARID	Civil Society, Farmer Organisations, Private Sector and Development partners
Develop PGRFA revenue sources	Establish funding streams from service fees	Gazette PGRFA EIAs fees	10000	Output: PGRFA revenue sources developed Indicator: Number of PGRFA revenue sources developed	Funds from revenue sources secured Indicator: Amount of funds secured from PGRFA revenue sources	2022-2032	MLAFWRD	Min of Finance, EMA
		Gazette PGRFA access fees	15000			2022-2032	MLAFWRD	Min of Finance, EMA, ZPWA, Forestry Commission
		Gazette registration fees for farmers' varieties	10000			2022-2032	MLAFWRD	Ministry responsible for finance, Ministry responsible for Justice
		Gazette certification fees for certification of local seed production	25000			2022-2032	MLAFWRD	Ministry responsible for finance, Ministry responsible for Justice
Development of the national genetic resources fund	Develop a legislative framework that establishes and operationalize the fund	Establish the national genetic resources fund	25000	Output: National genetic resources fund established Indicator: Number of PGRFA funds established	Outcome: Funds secured for PGRFA conservation and use Indicator: Amount of funds secured for conservation and use	2022-2032	MLAFWRD	Ministry responsible for finance, Ministry responsible for Justice, Civil Society, Farmer Organisations, Private Sector
		Establish the revenue streams (i.e. from government, donors, PGRFA users and crop levies)	25000	Output: Revenue streams established Indicator: Number of revenue streams established		2022-2032	ARID	SPPBD and Partners (NGOs, CBOs, Seed houses)
		Establish the operating procedures	30000	Output: Operating procedures established Indicator: Meetings, operating procedures document.		2022-2032	Min of Finance	MLAFWRD

Component 6: PGRFA Management under disaster situations



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
Preparedness for PGRFA Disaster management	Incorporate PGRFA issues in National disaster early warning systems	Forecasting the impact of a disaster on PGRFA using early warning systems/models	120000	Output: Forecast reports Indicators: Number of reports, meetings	Outcome: Impact of disaster to PGRFA reduced Indicators: Number of households seed insecure	2022-2032	MLAFWRD,	Private and Public research institutions
		Broadcasting disaster early warning messages for PGRFA	200000	Output: Messages broadcasted Indicator: Number of people reached		2022-2032	CPU	MLAFWRD,
		PGRFA Rescue collecting missions	300000	Output: Missions conducted Indicator: Number of materials collected		2022-2032	ARID	Civil Society, Farmer Organisations, Private Sector and Development partners
	Capacity building on PGRFA disaster management	Awareness-raising on PGRFA issues in Disaster management structures	200000	Output: Awareness raising campaigns conducted Indicators: Number of people or structures reached, reports, meetings	Outcome: Impact of disaster to PGRFA reduced Indicators: Number of households seed insecure	2022-2032	MLAFWRD	Civil Society, Farmer Organisations, Private Sector and Development partners
		Training PGRFA disaster management	350000	Output: Trainings conducted Indicator: Number of people trained, reports		2022-2032	MLAFWRD	CPU, Civil Society, Farmer Organisations, Private Sector
		Creation of knowledge management system for PGRFA disaster management	150000	Output: Knowledge management system in place Indicator: Meetings, reports		2022-2032	MLAFWRD	CPU, Civil Society, Farmer Organisations, Private Sector
Coordination of PGRFA Disaster management	Strengthening disaster response coordination for PGRFA	Community participation in disaster management planning committees at all levels	100000	Output: Number of committees Indicators: Meetings held, community members participating, reports, minutes	Outcome: Impact of disaster to PGRFA reduced Indicators: Number of households seed insecure	2022-2032	CPU	Civil Society, Farmer Organisations, Private Sector
		Strengthening representation of PGRFA issues in existing disaster response structures	300000	Output: Proportion of membership representing PGRFA issues		2022-2032	MLAFWRD	CPU, Civil Society, Farmer Organisations, Private Sector
		Planning, monitoring and evaluation of PGRFA intervention programmes at all levels (provincial, district, ward, village)	200000	Output: PGRFA action plans in place Indicators: Meetings, reports		2022-2032	MLAFWRD	CPU, Civil Society, Farmer Organisations, Private Sector
		Lobbying the recognition of PGRFA issues in existing National Disaster management legal structures	80000	Output: Lobbying workshops and meetings held Indicator: Reports, white paper, policy brief		2022-2032	MLAFWRD	CPU, Civil Society, Farmer Organisations, Private Sector
Rebuilding local seed systems post-disaster	Restoration of PGRFA	Assessment of the impact of a disaster on PGRFA	400000	Output: Impacts assessments conducted Indicator: Number of reports produced	Outcome: Household seed security strengthened Indicator: Number of households seed insecure	2022-2032	MLAFWRD	Private and Public research institutions
		Identification and repatriation of PGRFA from seed repositories	500000	Output: Materials identified and repatriated Indicator: number of beneficiaries, reports		2022-2032	MLAFWRD	Civil Society, Farmer Organisations, Private Sector



Priority	Strategies	Activities	Budget	Expected Output and indicators	Expected Outcome and Indicators	Duration	Responsible Institution	Partner Agencies
		Identification of potential sources of PGRFA that are suitable for the affected areas	100000	Output: Sources of materials identified and materials mobilised Indicators: Reports	Outcome: Household seed security strengthened Indicator: Number of households seed insecure	2022-2032	MLAFWRD	Private and Public research institutions
		Multiplication and distribution of PGRFA	500000	Output: Materials multiplied and distributed Indicators:		2022-2032	MLAFWRD	Private and Public research institutions Civil Society, Farmer Organisations, Private Sector
	Strengthening local seed exchange systems	Seed fairs	500000	Output: Number of seed fairs conducted Indicators: number of beneficiaries		2022-2032	MLAFWRD	Civil Society, Farmer Organisations, Private Sector
		Creation of Innovation platforms that facilitate the exchange of PGRFA (e.g. Information communication technologies)	150000	Output: Innovation platforms created Indicators: Number of beneficiaries		2022-2032	MLAFWRD	Civil Society, Farmer Organisations, Private Sector
		Community seed enterprises	200000	Output: Number of community seed enterprises put in place Indicators: Number of beneficiaries		2022-2032	MLAFWRD	Civil Society, Farmer Organisations, Private Sector
	Restoration of PGRFA storage infrastructure after a disaster	Construction and rehabilitation of community seedbanks after a disaster	1500000	Output. Number of seedbanks constructed and rehabilitated Indicator: Number of beneficiaries		2022-2032	MLAFWRD	Civil Society, Farmer Organisations, Private Sector
		Construction and rehabilitation of household PGRFA storage facilities	1500000	Output. Number of household structures Indicator: Number of beneficiaries		2022-2032	MLAFWRD	Civil Society, Farmer Organisations, Private Sector



