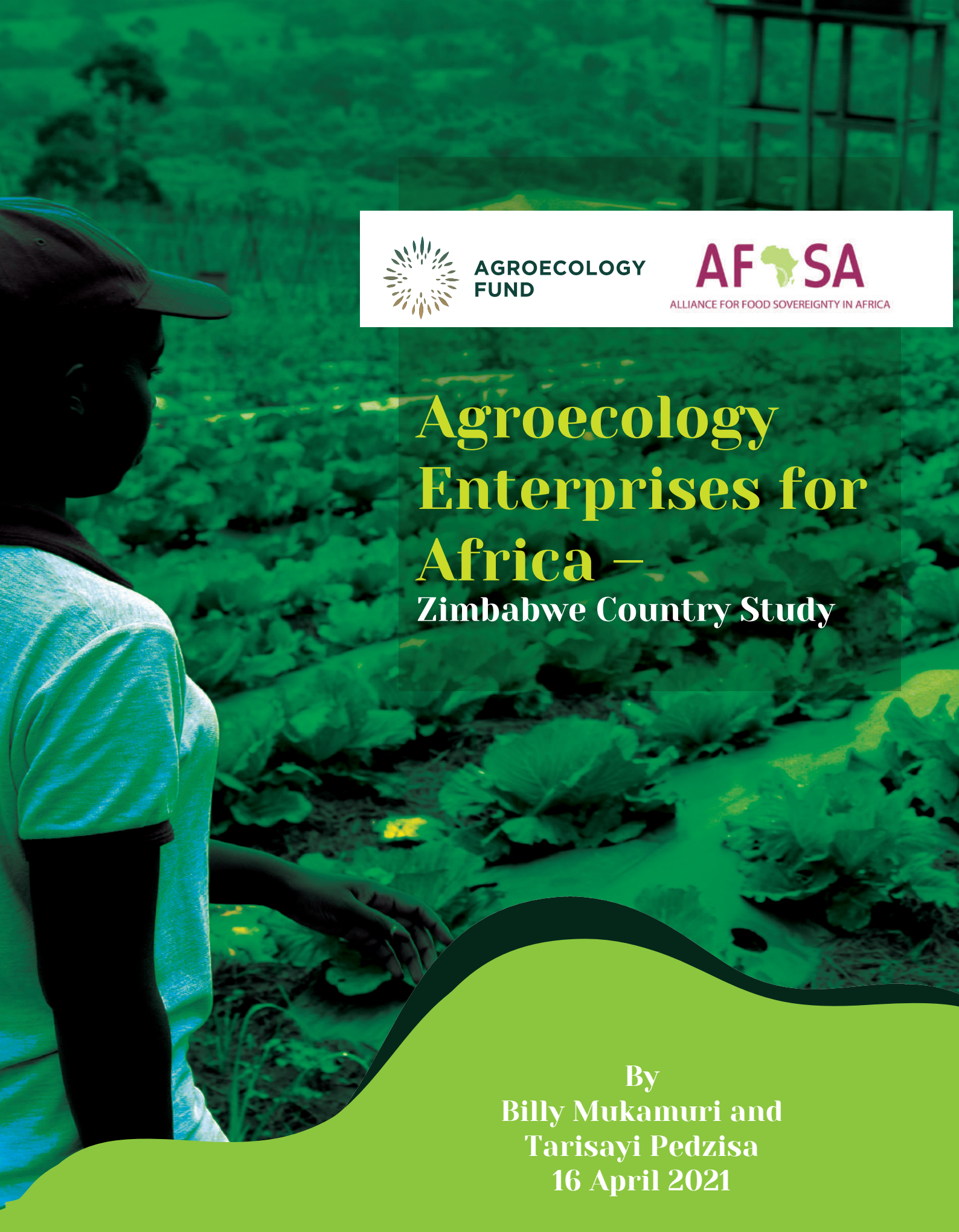

AGROECOLOGY FUND

AFSA
ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA

Agroecology Enterprises for Africa –
Zimbabwe Country Study

By
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1.0 Introduction

The study assessed the roles of AEEs, service providers and policy experts and institutions. The main focus was on the above AE stakeholders' relationship to the Agroecology Movement, market and policy at country level, in this case, Zimbabwe. The study also identified selected enterprises and the environment they are operating under and institutions that are creating an enabling policy environment. In brief, specific objectives of this assignment were centred on the following thematic areas:

a) Current status and effectiveness of agroecology enterprises / businesses and service providers in Zimbabwe;

b) Context (or ecosystem) and forces affecting the businesses and investment environment for agroecology in Zimbabwe

c) Generalizing on how to promote agroecology enterprises in Zimbabwe

2.0 Research Approach

The study was largely qualitative in nature and the initial interviews were targeted to participants of the AEE survey conducted in Zimbabwe in October 2020. Sampling for subsequent interviews was through snowballing, whereby an interviewed person suggested a name/or names of other AE participants. Combined with restricted movements due to the COVID-19, snowballing created a major bias in favour of urban based AEEs. However, considerable effort was made to reach out to some rural participants, especially those residing outside Harare, the country's capital city. Detailed personal interviews

were conducted with farmers and in most of the cases these were coupled with farm visits to observe the practices on the ground. Out of the 12 planned AEE interviews, all were conducted with two in excess.

The study intended to interview 10 service provides ranging from NGOs, financial institutions, input suppliers and the market. In this category, a response rate of 90% was achieved. Interviews with two targeted Key Informants, Agriculture Bank of Zimbabwe (Agribank) and Gava Restaurant (a major food vending outlet in Harare which specialises in organic foods, especially small grains and traditional chickens) were abandoned because informants continued evading scheduled interviews and some of the provided answers were limited in answering the study's research objectives. Lastly, of the four interviews planned with government officials/policy experts, the response rate was 100 percent. A list of participants of the survey is provided in Table 3.

3.0 Typologies, Current Status and Effectiveness of Agroecology Enterprises / Businesses and Service Providers in Zimbabwe

Our assessment from this study indicates that Zimbabwe has only advanced as far as Level 3 of the agroecology tool or framework. There are already healthy signs for the transitioning of the agricultural system from the industrial to agroecology, not so much due to collective consciousness but largely driven by circumstances, poverty and climate included, as well as huge government intervention such as the Pfumvudza and price parity between maize and small grains. The following section presents the identified six categories of AEEs in Zimbabwe (refer to Table 1 for examples):

3.1. Urban Backyard Producers

Urban backyard AAEs were identified to rely on no chemicals, except for high incidences of pests and diseases; target market is the urban market for fresh vegetables; activities are highly experimental; most of them are retirees looking for a livelihood source and there is normally a complementary poultry project which is the main source of manure for the crops.

The main limitation faced by urban backyard AEEs is land as they heavily rely on producing on small or limited residential land. Their activities are characterised by limited to no co-sharing of knowledge among agroecology entrepreneurs because their findings are not documented and shared. Threat from thieves is also a major challenge.

Investment on the plot varies with individual, ranging from green houses, drip irrigation and borehole water because municipal water is erratic in supply.

The optimal initial investment to have a viable enterprise is around $8,000-10,000 which can be repaid over a year through crop production which happens throughout the year. Average cropped area is 2-4 acres and labour is limited to the plot owners and casual labour hired on a per need basis. Agroecology based enterprises located in wasteland are facing the challenge from urbanisation which is fast expanding, driven by both private and public investment/policy. The latter is characterised by the case of Four Seasons, a private agroecology farming enterprise which had its two farms taken over by government because of the land reform exercise which started in 2000 and the other one acquired to enable the construction of the new city, surrounding the new parliament building just outside Harare. On the other hand, land reform has opened huge opportunities for AE in rural Zimbabwe where there is abundant land for medium to large scale production, an opportunity recognised by private players in AE.

3.2 High-End Organic Producers

High-end Organic producers are commercial producers specialising in herbs and species which have a ready market, especially in most urban supermarkets. Organic certification was also reported to offer opportunities in lucrative markets such as high-end and health conscious organic food consumers. These entrepreneurs specialise in crop production only, with animal manure and compost, a major input coming from outside the farm. The optimal land size is 5-8 hectares otherwise if the area becomes too big managing the crop becomes problematic since most field operations are manual. The initial investment required is well over $20,000 depending on the type of crops produced.

3.3 Large Scale Commercial Farmers Transitioning to Agroecology in a Bid to Provide Safe Food

Large scale commercial farmers participation in AE is now a fast-growing movement. This is largely associated with large scale commercial farmers who are environmentally conscious and also part of their stewardship values. The group's stewardship values are centred on a landscape approach. Community members aim to act collectively in order to preserve the environment, as well as reduce the carbon foot print. The land holdings are in excess of 300 hectares within the mixed farming system. Livestock forms an integral part of the systems including cash cropping such as commercial maize, tobacco and soybeans. Some of the agroecology practices involve grazing management, recycling through rotation of the livestock kraals, planting of forage legumes, strip and alley cropping as well as agro forestry. The practice is characterised by strong farmer networks and presents opportunities for sharing information generated through 'individual-driven' experiments. As commercial enterprises, their investment

requirements for each farm are variable, often in excess of $100,000. The key advantage is that these commercial farmers have access to funding from commercial banks because of private title of land and availability of collateral. The repayment period is in around five years since this is a long-term investment with a landscape approach.

3.4 Smallholder Small Grains Farmers in Semi-Arid Rural Areas

Rural based small scale mixed organic farmers represent a mixture of dryland farming, small home-based gardens which rely on organic inputs from poultry and small livestock enterprises. There is biodiversity in terms of the practices which include maggot farming and use of indigenous seeds for cropping. There is agroforestry and production of jam from wild fruits expanding the scope of activities. Organic certification is mainly based on group participation and the activities are mainly donor driven. The optimal size of the farm is 3 hectares which includes dryland farming and the main source of water is a shallow well. An investment of about $5,000 is optimal for operation of such an enterprise with payback period of two years. Labour is mainly family based and information is shared among group members. Currently the groups are no longer operational and it's only the individuals doing the farming.

3.5 Small Scale Rural Farmers Supported Through NGO Programs Promoting Agroecology and Related Practices

Smallholders working with NGOs have been trained and supported through provision of inputs and at times market linkages and coordinated farmer networks or field school for learning and sharing information. This group of farmers is referred to as project beneficiaries who are undertaking agroecology in its various forms and are widespread in Zimbabwe's rural areas. The funding mechanism for these projects is mainly through the supporting NGOs. Farmers are selected to participate using defined vulnerability indicators. Some of these farmers have developed into agroecology entrepreneurs producing for the market on their own. The farmers work in groups to provide labour for their farming activities, at times they have a common plot for the project especially if it's a garden where vegetables are produced organically.

3.6 Commercial Farmers Reverting Back to Chemical Agriculture as a Result of Low Productivity Under Agroecology

Study results also show significant back tracking or completely dropping out of AE activities. This is largely associated with fresh vegetable farming units within the urban set up which are highly commercialized and tend to rely heavily on chemicals and imported seed. The farms produce for local retail shops which implies that production is centred on a market place. Earlier efforts to practice organic farming have been abandoned because of reduced productivity, high incidence of pests and disease as well as failure to gain a price premium for organic produce because of lack of certification. The farms produce compost as a by-product from the crop residues which is then sold to backyard farmers who produce vegetables without chemicals.

Table 1. Summary of AEEs Interviews Based on Study Typologies

Typology	Interviews conducted	Participants	Remarks
Urban backyard producers	5	Mr. and Mrs. Kamabarami; Mrs. Shamiso Ncube; Mr. Tichafunga Chakurira, Mrs. Jerry Vimbai , D&N Organic Produce	Pomona Urban Farming association gave insights on these type of farmers
High-end organic producers	4	Perrisos Farm, Four Seasons, Mrs. Tendayi Misirembwa	Different form of organic certification (EU, Zimbabwe standards of organic farming)
Urban commercial producers reverting to industrial agriculture	1	Honey Dew	Farmer abandoned organic farming because of high incidence of pests and very low yield when fertilisers are not applied. Typically farmers revert to chemical agriculture on a temporary basis when there is a problem of pests and disease.
Large scale commercial farmers transitioning	4	Colleta Farm, Perissos Farm, Tryfine Farm Life, Tonderai Farm, D & N Organic Produce, Sadomba Farm	Efforts to move towards agroecology is driven by the need to maintain soil health and stewardship. Livestock based commercial faming systems operating on a large scale.
Smallholder small grains farmers in semi –arid rural areas	none	GMB as key informant CTDT	Interviews with GMB informed the study coupled with experience. CTDT promoting farmers to produce small grain seed
Smallholder rural farmers supported through programs	1	Mrs. Beauty Katsenga, FAO, COSPE, Fambidzanai, ROL, CTDT	Various activities ranging from livestock value chains, agroforestry, crop production through agroecology are implemented by beneficiary households in different rural areas.

4.0 Drivers and Status of AAEs in Zimbabwe

Our assessment shows that there are number of drivers or reasons for individuals and groups to participate in AE. Key among them are as follows:

4.1 Poverty Driven

Offshoot of conservation agriculture and supported by NGOs as a safety net for food insure households with no draft power for tilling the land. Efficient use of soil amendments (manure and chemical fertilizers) is driven by the need to maximize on the available resources. No attention paid to seed, chemical use and food sovereignty, community engagement. Focus is on tillage systems with labour and weed management as the greatest challenges.

4.2 Labour Saving

Mechanization of processes – solar drying systems for post-harvest management to avoid food wastage. No attention paid to production processes (includes food produced by smallholder irrigation schemes using chemicals, inefficient irrigation systems (such as sprinkler). Community participation in mechanised enterprises is evident and is largely driven by NGOs who prefer supporting group ownership of donated infrastructure, including solar driers, dehullers and gardens.

4.3 Limited Land

Urban agriculture, backyard farming in response to the urban demand for fresh vegetables. Maximizing on the available land. Efficient irrigation systems being used such as bucket system, hose pipe and drip irrigation. Land is major limitation and dictates the farming system (intensive systems with limited mechanization). Chemical usage is restricted to pesticides and organic fertilizers mainly used for soil health. No community engagement as this is done at individual level. Major challenge is that the market is not aware of the safety of the food and hence little willingness to pay a premium.

4.4 Adaptation to Climate Change

The need to adapt to changing climate by growing crops which are adaptable to the local environment (the drive for small grains at a national scale). No attention paid to tillage systems and use of chemical fertilizers because this is practiced at a large scale especially in very dry areas where maize has high chances of crop failure. Production challenges include very low yield potential, crop destruction by Quelea birds and limited mechanization for post-harvest management.

4.5 Food Safety and Health Consciousness

With increasing health consciousness among the consumers, food which is free from chemicals is preferred as a preventative measure against such conditions as cancer. The main driver of organic farming is meeting the growing consumer need for wholesome foods.

4.6 Stewardship

The Regenerative Agriculture group largely comprises large scale commercial farmers who are aimed at restoring the natural ecosystems in view of climate change, land degradation, water and soil pollution, the need for safe foods as well as building soil carbon through the natural process- it's a long term strategy requiring conscious effort. Practiced by the environmentally sensitive farmers, is characterised by more holistic systems approach and very low profitability in the short-term. Includes reduced tillage systems, intercropping, relay cropping and organic farming though pest management is still a challenge. Well-resourced farmers are self-sponsoring BUT there is greater need for community engagement to capture the benefits at watershed and landscape level because the environmental effects are not localized. There are a lot of spill over effects which can benefit non-participating farmers. Major challenge is lack of documented evidence – farmers are mainly experimenting and building a knowledge data base which is not scientifically proven.

4.7 Beliefs in Indigenous Technical Knowledge Systems

This category of AE practitioners relies heavily on indigenous knowledge systems mainly based on the need to go back to traditional ways of farming. Lack of documented information on how the traditional systems worked is a major challenge and unavailability of technologies which are compatible with the traditional systems incorporating indigenous crops, organic manure and organic pesticides, minimum tillage systems, intercropping and relay cropping.

4.8 Systems and Holistic Farming

This is the last stage of agroecology which includes most aspects of agroecology from Level 1 and 2. Includes the use of indigenous crops, focus on improving the local diets, production uses most of the principles including organic farming. Community engagement and farmers working in groups, consumers not well represented because focus is on production, local governance issues not well illustrated especially land tenure issues. Approach focusing on smallholder farmers who own land under communal ownership. Livestock production and agro-forestry are not well incorporated in to the system.

5

Enabling Factors for Practicing AE in Zimbabwe

• Stewardship	• Availability of land in Urban Areas	• Climate Change
• Demand for food	• Deteriorating Macro Environment	• Poverty

5.0 Current Status of Agroecology Practices in Zimbabwe

5.1 Enabling Factors for Practicing AE in Zimbabwe

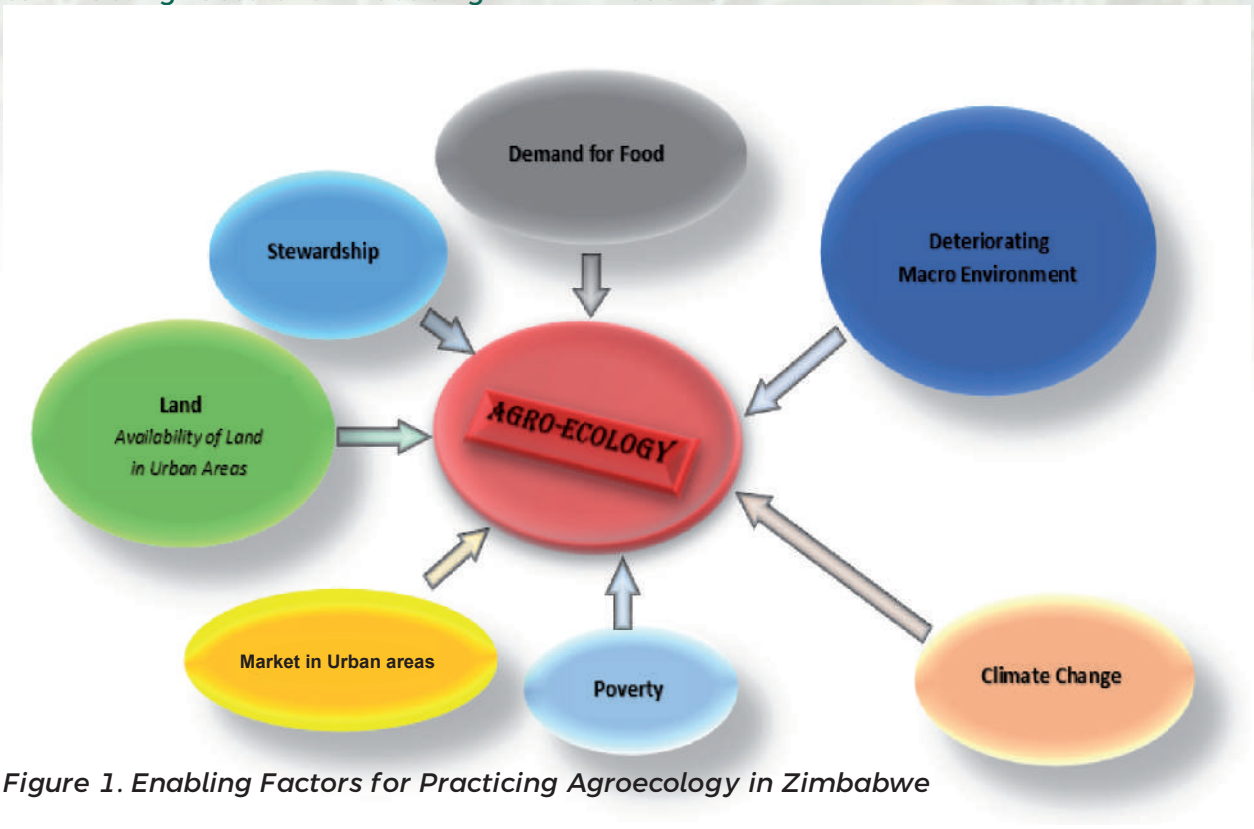


Figure 1. Enabling Factors for Practicing Agroecology in Zimbabwe

5.1.1 Limited Land for Farming and a High Demand for Food in Urban Areas

In Zimbabwe urban farming is largely characterized by limited land for farming and a

high demand for food provides a conducive environment for agroecology. The market for fresh vegetables is abundant because of high population density. Smallholder farmers operating on small pieces of land, less than 5 hectares are better positioned to intensify their production through AE. The study found out that urban farmers with small land holding and lack of draft power practice both intercropping and reduced tillage, respectively. In addition, both limited and high cost of resources such as chemical fertilizers encourage AE through reduced use of external inputs and cost.

5.1.2 Low Input Organic Farming

The practice of organic farming in Zimbabwe is enhanced by the use of low external inputs which makes farming cheaper with high prospects of capturing high value markets which are in search of safe foods or chemically free produce. However, there is no major distinction between organically produced foods and those which are not which makes the need for organic certification a very important market requirement but comes at a cost.

5.1.3 Climate Change and Stewardship

The use of agroecology has been facilitated by the need to grow crops and livestock which are adaptable to the changing climate like small grains and small livestock. Agroecology is being used in Zimbabwe as part of Climate Smart Agriculture (CSA) which is helping communities to improve their resilience to climate variability especially reduction in rainfall.

5.1.4 Deteriorating Macro- Economic Environment

Zimbabwe has since 1991 experienced severe economic hardships characterised by unemployment and reduced government expenditure especially provision of agricultural subsidies on chemical fertilisers and other inputs. This situation has led to many farmers in rural Zimbabwe to adopt agroecology practices such as use of retained seed, OPVs, local landraces, manure composting and use of indigenous practices for animal health and pest control.

5.2 Constraints to Increased Uptake of AE by Stakeholders in Zimbabwe

The study identified three major constraints to the increased uptake or scaling up of AE in Zimbabwe. These constraints are related to production challenges faced by farmers, the market dynamics and regulatory requirements and policy issues.

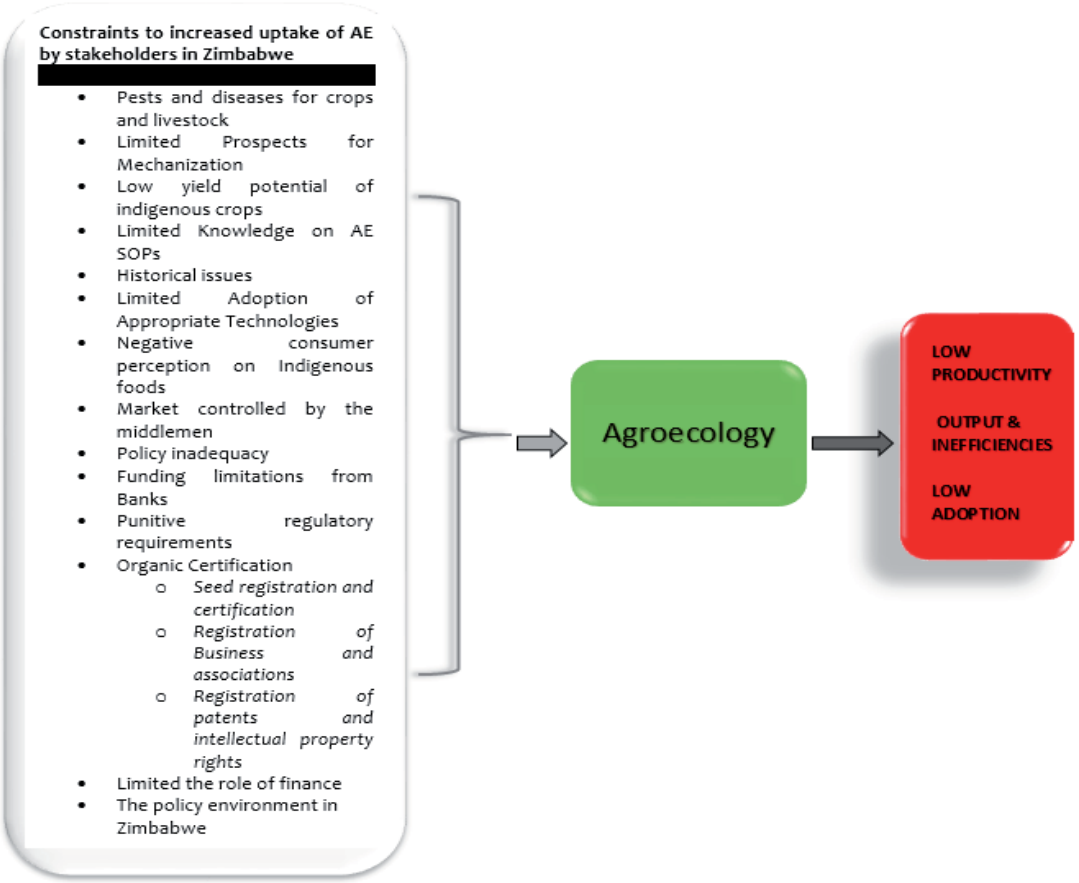


Figure 2. Constraints to Increased Uptake of AE by Stakeholders in Zimbabwe.

5.2.1 Pests and Diseases Management

Key among the challenges faced by AEEs are management of pests and diseases. Uptake of AE is a stepwise process since investment in nature does not yield immediate results. Farmers reported that practicing AE requires patience thus it becomes difficult to upscale since a farmer has to wait to see the results before expanding on the area. Building up soil carbon which is an important part of soil health is a process which takes 3-5 years before an increase in yield can be attained and such is the nature of AE which acts as a barrier to up scaling.

5.2.2 Limited Prospects for Mechanization

In Zimbabwe, the labour demand associated with agroecology is higher than that of industrial agriculture. This is because there is limited scope for mechanization in the field. The crop arrangement in the field makes it difficult to mechanize operations, such as weeding and harvesting without destroying the other crop. As a result, AE cannot be practiced on a large scale with the optimal land size being 10-12 hectares since all operations are manual.

5.2.3 Low Yield Potential of Indigenous Crops

The argument for green revolution type of agriculture is on the genetic potential of most indigenous crops such as pearl millet and cowpeas which are believed to be very low compared to the hybrids and genetically modified varieties of maize and soybeans. The low yields would keep farmer incomes at the lowest levels since they do not have a say on the price. The green revolution led to many years of neglect towards research and support for innovation in small grains and indigenous crops especially vegetables which has resulted in poor crop husbandry by rural farmers. This neglect has led to the country not realising the improved genetic potential of these crops. The current scenario is characterised by serious genetic erosion and limited application of manure and pesticides on these crops, all combined resulting in poor yields and food insecurity.

5.2.4 Limited Knowledge on AE SOPs

There is limited knowledge on the standard operating practices for agroecology for lack of documented evidence. Most practitioners are still experimenting and discovering different ways of solving some of the challenges associated with agroecology such as weed and pesticide management. Agroecology is largely based on experiential learning and some of the practices are area specific as the farmer seeks solutions from the immediate environment to deal with pests and diseases.

5.2.5 Historical Issues

Extensive or large-scale farming along the principles of the green revolution is in direct contradiction to agroecology. The latter has been perceived as anti-progressive or backward or primitive, a view largely associated with the introduction of the ox-drawn plough in Zimbabwe in 1923. This marked the beginning of regimented farming practices in the country characterized by mono cropping (in straight lines) and complete de-stumping of fields. Such farming became conditional for African farmers to get master farmer certificates which acted as licenses to buy small scale private farms in prestigious Native Purchase Areas and to sell crops to the government. The farming regime which has been in place in the country for a century undermined both agroforestry and mixed farming, key principles of AE.

5.2.6 Limited Adoption of Appropriate Technologies

Small grains are largely known to promote food security because of their high nutritional values, resistance to pests such as weevils and adaptability to climate change. However, limited consumption was observed as emanating from labour demands, especially for women who culturally are tasked with post-harvest processing. In Zimbabwe, this led to the introduction of the Dehuller Machine meant to reduce labour especially associated with dehusking in the early 1990s. High levels interviews revealed the technology is now being used for de-hulling maize instead of sorghum and millet as originally envisaged. The study also identified high cost of post-harvest management

technologies such solar dryers as limiting the potential of excess vegetables to contribute to food security. In the end, most excess vegetables end up donated or wasted, with only a few AE practitioners composting them.

5.2.7 Negative Consumer Perception on Indigenous Foods

There is limited consumption of indigenous foods because of the high prices associated with restricted production. Small grains and traditional vegetables are priced well above the affordability of an average person. The crops end up being targeted to high end consumers and the elite who also tend to be health conscious. On the other hand, the urban poor perceive production and consumption of traditional food crops as a sign of backwardness.

There are very thin markets for indigenous crops in the rural areas since most households produce these crops to meet their subsistence requirements. Generally rural households do not participate in food markets at the local level as food is given either as gifts by other locals or donated by donors or given in exchange for labour by the government. In addition, all surplus grain is sold either to GMB or private buyers. (see Table 2).

5.2.8 Market Controlled by the Middlemen

The presence of the middlemen known as “makoronyera” (criminals) in the market makes it difficult for farmers to capture benefits from selling their produce. The gap between the price offered to farmers and the prices paid by the consumers is too high and this tends to discourage farmer from increasing production especially for fresh produce.

5.2.9 Policy Inadequacy

Agroecology is not acknowledged as a concept at policy level and most agricultural extension workers do not support AEEs because of contradicting technical advice. Intercropping was one practice discouraged by AGRITEX, a government department responsible for agricultural extension, which has over the last 100 years advocated for monoculture as a standard practice for farmers.

5.2.10 Funding Limitations from Banks

Also disturbing in Zimbabwe is that most banks or financial institutions do not directly fund small holder farmers or agroecology enterprises. What they fund are viable business proposals supported by collateral a requirement that eludes poorer farmers. This aspect is also controversial as most informants argue that too much financial resources have the potential for elopement by AEEs and other actors from AE. This is largely because of the natural tendency to venture into the obvious and faster routes for loan repayment.

5.2.11 Punitive Regulatory Requirements

The study found out nearly all categories of AE practitioners have challenges with both certification and registration, which also affect protection of Intellectual Property Rights (IPRs). The following are the critical areas or procedures AEEs and service providers undergo to be fully compliant and also benefit from better prices and access to more lucrative international markets:

Organic Certification

The cheapest form of organic certification was reported to be $500 for a year but only working for a group, which was also reported to be problematic in terms of local capacity for group monitoring. On the other hand, Eco certification which is more complicated is associated with contract farming and access to the export market.

Seed Registration and Certification

To sell their own seed beyond a limited radius, farmers must go through a complicated and yet inexpensive registration and certification process which costs US$20. They have to prove that the variety in question is novel and distinct, uniform and true to type, and stable over a number of seasons. This requirement was developed for large-scale and well established seed producers, but is a major barrier for small-scale farmers.

Registration of Business and Associations

Those in the low end of the market find it unrewarding to be registered as most of their competitors prefer not to register. This in turn makes it difficult for retailers especially to access loans and even formalize their businesses, which again limits their capacity to organize collectively and negotiate for cleaner spaces and proper infrastructure to house their merchandise. Reported also from this sector is that high level customers shun the filthy environment most vendors of vegetables and small grains operate in. In the end most AE actors remain unregistered and unprotected.

Registration of Patents and Intellectual Property Rights

Registration of patents is very expensive, reported to be ranging from USD 5,000 to even 20,000. Apart from revenue losses associated with not benefiting from patents, farmers reported huge losses in terms of traditional knowledge.

5.2.12 The Role of Finance

Our assessment found that funding is a major limitation for AEEs and service providers. Most of the urban activities are self-funded while rural activities are either non-funded for indigenous crops like small grains or donor funded for targeted project activities such as nutrition gardens, community seed banks and livestock pass on projects. Private funding is only available for contracted crops such as sesame and red sorghum for the brewing industry. As mentioned above, commercial banks are not key players in agroecology funding. More important government subsidies for agriculture are very limited, and even less so for agroecology.

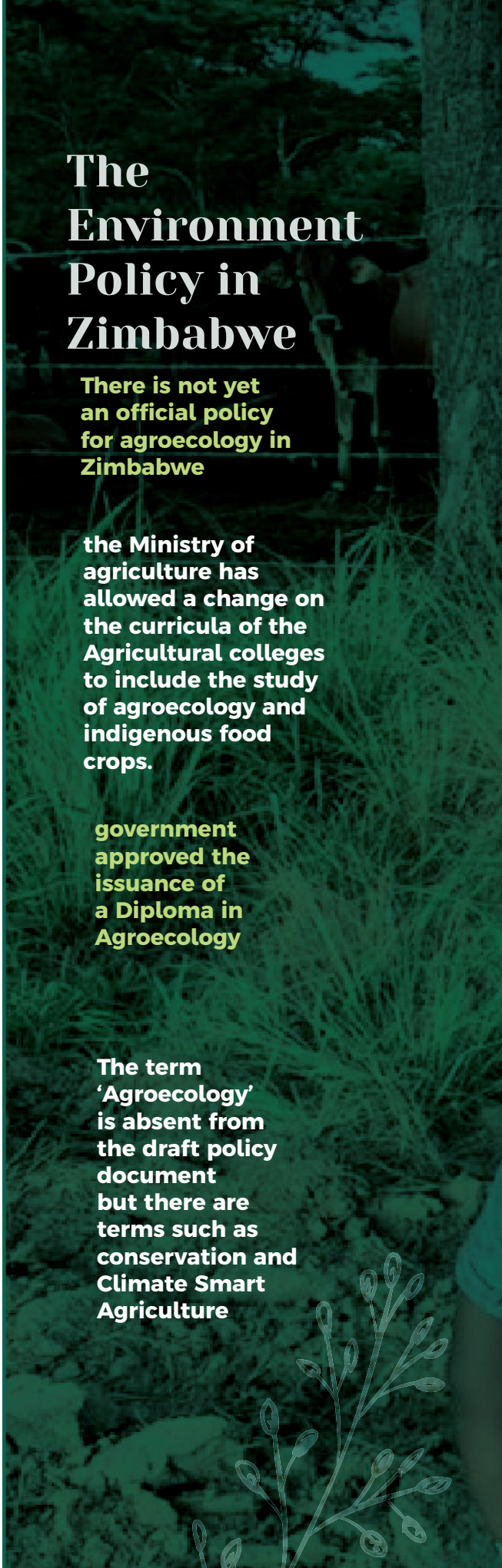
Survey results show that there is no preferential treatment in terms of access to finance and markets among women, youths and men. Enterprises that are jointly owned and worked by couples with children providing labour are common.

5.2.13 The Policy Environment in Zimbabwe

There is not yet an official policy for agroecology in Zimbabwe. What exists are the draft form of the policy documents, traditions and practices that are sanctioned by government as if there were official policy. The term 'Agroecology' is absent from the draft policy document but there are terms such as conservation and Climate Smart Agriculture (CSA) which encompass most of the practices of agroecology.

Through advocacy and lobbying there has been some shift in policy in a move to support AE. Major policy achievements include the public funding for Pfumvudza program at a national scale and this incorporates some Stage 1 elements of AE. In addition, the government has adopted a pricing system which allows the producer price of traditional grains which are more climate resilient to be at par with maize. This move will promote the production of traditional grains because of higher producer prices and there is an expected increase on the consumption side.

There has been an acceptance of agroecology as a stand-alone concept and government approved the issuance of a Diploma in Agroecology through Fambidzanayi Centre of Permaculture. On the same note, the Ministry of agriculture has allowed a change on the curricula of the Agricultural colleges to include the study of agroecology and indigenous food crops. This will result in a major shift in extension advice to farmers which will see the incorporation of indigenous knowledge as part of the acceptable farmer practices.



6.0 Forces Affecting the Business and Investment Environment for Agroecology in Zimbabwe

6.1 Negative Factors

Apart from the absence of a clear agroecology policy in Zimbabwe, several factors influence both the business and investment environment for agroecology in Zimbabwe. Key among the factors or forces identified include the following:

- Apart from creating dependency, government involvement in Pfumvudza project is encouraging the use of inorganic fertilisers, hybrid seeds and pesticides which undermines farmers to reach level 3 of agroecology
- Lack of a clear Public-Private-Partnership policy undermines contract enforcement between contractors and farmers thereby encouraging side marketing and unilateral changing of producer prices by buyers
- Zimbabwe does not have secure land tenure systems and this discourages investment in AE practices which are long term in nature and have a longer payback period.
- Absence of carbon tax credits similar to those offered under the UN REDD+ arrangements discourages long term investments in forestry that could benefit agroecology in the form of agroforestry and carbon sequestration
- Zimbabwe does not have a critical mass of agroecology food eaters for small grains and indigenous vegetables and fruits which undermines appetite for investment from business people
- By and large the business environment does not offer a corresponding price premium for ecologically produced food and products because the certification and monitoring system is not yet in place
- In Zimbabwe, there is little appetite for donors to fund resettled farmers which might also influence business investment in such areas

6.2 Positive Factors

Positive forces promoting the business and investment environment for agroecology in Zimbabwe include the following:

- Despite absence of a huge critical mass of consumers the country still offers a significant niche market particularly among the urban elite and health conscious individuals, prepared to pay extra

- Zimbabwe's abundant land and genetic resource has potential to drive agroecology
- Agriculture is the backbone of the Zimbabwean economy and tradition and hence only needs advocacy towards agroecology and policy support

- Climate change is now widely recognised and offers opportunities for investment in climate proof agricultural practices such as small grains

- Emergency of chronic diseases offers investment opportunities in production of healthy foods of which indigenous crops are central

- The market for agroecology products is readily available and there is potential for high profits because of the low input costs.

- Policy discussions are already in place which point to a better socio-economic and political environment for agroecology, a necessity for investment

> "Despite absence of a huge critical mass of consumers the country still offers a significant niche market particularly among the urban elite and health conscious individuals, prepared to pay extra....."

7.0 Recommendations

Recommendations for Promoting Agroecology Enterprises in Zimbabwe

The broad recommendation emerging from the study is that Zimbabwe must capitalise on the strengths and opportunities supportive of AEEs, service providers and other stakeholder such as NGOs and government to participate in agroecology. In addition, a lot of effort needs to be done to ensure that agroecology is successful and to this end we recommend the following:

- Fund identification, registration and capacity building of AEEs
- Invest in development of a clear Public-Private-Partnership policy that encourages and enforces contracts between contractors and farmers
- Support development of a secure land tenure system that promotes long term investment in AE practices
- Develop an incentive system that guarantees benefits from investment in AE
- Support public awareness that changes current attitudes on consumption of traditional foods
- Promote establishment of an easily accessible and affordable certification and monitoring system for ecologically produced food and products
- Encourage dialogue among donors and government to influence business investment in resettlement areas
- Support national programs such as look and learn exchange visits by AEEs and service providers
- Support mainstreaming of agroecology's 13 complements at all levels of the sector
- Support evidence based research in agroecology
- Invest in inclusive platforms for sharing information and networking such as the Food festival which bring together consumers, producers and processors of AE products.
- Provide technical support services such as solar dryers which are used for food preservation using renewable energy
- Support patenting for innovations like solar dryers and other indigenous knowledge based innovations
- Invest in incubation plots which serves as learning centres for urban agroecological farming
- Support nationwide research in consumption of organic and indigenous foods by the ordinary consumer who drive the production of AEEs.

Annex 2

Table 2. Major Institutions Creating an Enabling Policy Environment for AE in Zimbabwe

Name Of Institution	Area of Focus	Coverage
FAO	Support CA, seed systems research and funding Policy advocacy	Rural Zimbabwe
ICRISAT	Small grains research and policy advocacy	
CTDT	Small grains community seed banks; policy advocacy	Rural Zimbabwe
UNDP/ ZRBF and partners	Promoting Climate Smart Agriculture	18 Rural Districts
CIMMYT	Conservation, tillage research and advocacy	Rural Zimbabwe
Ministry of Agriculture and the Grain Marketing Board (GMB)	Policy, extension, research in CSA, supporting 1.8 Purchases small grains and controls producer and input prices for small grains	Countrywide
HIVOS	Funding and policy advocacy	National
Dan Church Aid	Funding, training and advocacy	National
Fambidzanayi	Training, policy advocacy, community outreach	National
COSPE	Funding of organic livestock value chains	Rural Zimbabwe
Bio- Vision	Promoting the development, dissemination and application of sustainable ecological agricultural practices,	Countrywide
RegeneAg Zimbabwe (Savory Institute)	Networking, training, policy advocacy, research and resource mobilisation	Zimbabwe and Southern Africa
Pomona Urban Agriculture Association	Advocacy, community outreach , market centred agroecology, demonstration plots, mobilisation and training	Harare Urban

Muonde Trust	Promoting water harvesting and CSA technologies, advocacy	Midlands Province
ZIMSOFF	Registration, organises field days, seed and food fairs, organic food festivals and exchange visits. Policy advocacy and public awareness towards agroecology	Rural Zimbabwe
Practical Action	Promoting CSA technologies, solar technologies such solar dryers, solar powered irrigation systems	Countrywide
World Vision	Promoting CSA technologies, training, community gardens, vermiculture	
Universities	Research, teaching, training and information dissemination	Countrywide
ARIPO	Support registration of patents by resource constrained individuals	Countrywide and Africa
ZOPPA Trust	Advocacy, coordinating activities of members, sourcing and providing information on markets and certification.	Zimbabwe
CBOs and NGOs	Training, advocacy, fund raising, value chain development and market linkages	Zimbabwe
Commercial Banks	Provide general loans for agricultural activities as long as their funding criteria is met but not specific for agroecology.	Zimbabwe

Table 3. List and Contacts of Participants

AAEs (10-12)			
ENTREPRISE NAME	**MAIN ACTIVITY**	**Suggested Informant (NAME)**	**Contact Details**
D & N Organic Produce	Herbs, pepper, maize, sunflower, ducks, cowpeas, goats, cattle	Mrs. Ntando Ndlovu	0772590935
Beauty Katsenga	Farming vegetables and small grains, aquaculture, goats, cattle	Mrs. Beauty Katsenga	
Tryfine Farm Life	Cattle, cowpeas, forage legumes, maize, groundnuts	Mac Roberts	j.macrobert@gmail.com 0776404044
Honey Dew Farm	Producing vegetables using chemicals and honey dew compost from vegetable waste	Florence Dell	Visit
Colleta Farm	Livestock, maize , soybeans, forage legumes	Albert Mugabe	0773665855
Four Seasons	Producing spices and herbs organically using retained seeds and manure	Mulamgari Alphonce (Farm manager)	Visit
Perisos Farm	Cattle, goats, rabbits, poultry, seedlings, ginger and garlic	Mrs. Josephine Toro	0772545457
Urban Farmer	Urban farming of tomatoes, pepper, lettuce, fruit trees and egg production	Mr. and Mrs. Kambarami	Lavenum Road, Westgate/ Westgate 0712231665
Urbas	Farming	Mrs. Beauty Misrimirembwa	0772232937
Shamiso Chabata	Vegetables and mushrooms		079169921
	Cattle, maize, orchard and vegetables	Mrs. Desideria Tonerai	072042437
Tichawanda Chakurira	Sweet potatoes	Tichawanda Chakurira	0713927361

Vimbai Mbire	Horticulture and mushrooms	Vimbai Mbire	0774055496
SERVICE PROVIDER (10/10)			
COSPE	NGO- livestock value chains	Joseph Matiza	joseph..matiza@cospe.org
Solar Dryers P/L	Processing equipment	Newton Spicer	zimbabwesolardryers@gmail.com
Fambidzanai	Training and extension	Lewis Mashinagaize	jerry@fambidzanai.org.zw
CTDT	Input supply and policy lobbying	Andrew Mushita	andrewmushita@gmail.com 0712868638
River of Life	Training and extension	Pastor Mwenda	0772874600
Mbare	Farmers' market	Pedzisayi	0778757201
GMB	Buyer of small grains	Tafadzwa Hungwe	0736844581
Urban Farming Association	Demonstration plots	Mike Davis	07722499430 urbanfarmingzimbabwe@gmail.com
Four Seasons Factory	Processing and packaging Bulk buying from smallholder farmers	Mrs. De Witt	0772572892
AGRIBANK	Financing	Mr. Clever Mpofu	0773732709
PUBLIC POLICY EXPERTS (5/4)			
University of Zimbabwe	Research on traditional farming methods for beef and rapoko	Dr. Sadomba UZ	wzsadomba@gmail.com 0772 996 372
National Gene Bank Curator	Research plant genetic resource	Onisimous Chipfunde	ochipfunde@gmail.com
FAO	Global Policy	Obert Maninimini	0716027515 obertmaminimini@fao.org
CTDC	Policy Advocacy	Andre Mushita	0712868638
Fambidzanyi	Policy Advocacy	Mashingaidze	lewis@fambidzanai.org.zw

8.0 REFERENCES

Selected References Reviewed for the AE Study (Zimbabwe Case Study)

1. AGRITEX FAO. 2021. Current Crop Production Output in Zimbabwe for the year 2020/2021 Agricultural season. Harare. Zimbabwe.
2. CIAT, CRS, World Vision, Care, AGRITEX and CIMMYT. 2009. Seed System Security Assessment, Zimbabwe. A study funded by the United States Agency for International Development. Office of Foreign Disaster Assistance, Rome: International Center for Tropical Agriculture.
3. FAO (2018) *Scaling up Agroecology Initiative: Transforming Food and Agricultural Systems in Support of the SDGs*, Rome: Food and Agriculture Organization of the United Nations
4. FAO 2015 Voluntary guide for national seed policy formulation. Available at *http://www.fao.org/publications/card/en/c/272c15fb-0949-479d-aba9-72d918891fc5/*
5. Gliessman, S.R. (2015) *Agroecology: The Ecology of Sustainable Food Systems*, 3rd ed., Boca Raton FL: CRC Press/Taylor and Francis Group
6. Gliessman, S.R. (2016) '*Transforming Food Systems with Agroecology*', *Agroecology and Sustainable Food Systems* 40.3: 187–89 (accessed 20 March 2021)
7. GoZ. 2000. Seed Regulations and Seeds (Certification Scheme) Notice 2000
8. Muzerengi, T and Tirivangasi. 2019. Small grain production as an adaptive strategy to climate change in Mangwe District, Matabeleland South in Zimbabwe. Jamba: Jamba Journal of Disaster Studies. 11(1):1-9.
9. Oxfam International (2016), Policy Briefing. Our seeds: lessons from the drought Voices of farmers in Zimbabwe
10. Page, S and Page, H.E. 1991. Western hegemony of African Agriculture in Southern Rhodesia and its continuing threat to food security in independent Zimbabwe. Agriculture and Human Values. Vol. 8: 3-18 (1991).
11. Phiri, K et al., 2019. Small grains "resistance"? Making sense of Zimbabwean smallholder farmers' cropping choices and patterns within a climate change context. Taylor and Francis. Article: 1622485. Published On-Line: 05 June 2019.

12. Scones, I.C. 2021. Can the Pfumvudza conservation agriculture programme deliver food security in Zimbabwe? Zimbabweland
13. Report of the High-Level Expert Committee to the Leading Group on Innovative Financing for Agriculture, Food Security and Nutrition. 2012.
14. GoZ. 2018. Draft Zimbabwe Agriculture National Policy Framework (2018-2030) http://www.livestockzimbabwe.com/Updates/Draft-%20Zimbabwe%20Agriculture%20National%20Policy%20Framework.pdf

9.0 Images capturing Practices in Zimbabwe

Agroecology Farming