

Agroecological understanding, practice and advocacy in South Africa

November 2022



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development
and Cooperation SDC

This research project was co-funded by the Swiss Agency for Development and Cooperation (SDC) of the Federal Department of Foreign Affairs (FDFA). Fastenaktion is solely responsible for its content.



Table of contents

Acronyms	iii
Executive summary	iv
1. Introduction / background.....	1
1.1 Methodology.....	1
1.1.1 Online survey	2
1.1.2 Field visits.....	3
2. Overall picture of agroecology in South Africa	5
3. Understandings of agroecology	7
3.1 A common frame for agroecology	7
3.2 Mainstreaming agroecology	9
4. Agroecological practices	12
4.1 Comments on environmental sustainability	13
4.2 Comments on social justice and redress.....	21
4.3 Comments on economic fairness and participation	22
4.4 Gender	24
4.5 Youth.....	25
5. Advocacy and policy engagement	27
6. Challenges and opportunities	33
7. Recommendations	33
Annex 1: HLPE 13 agroecological principles	40

Acknowledgements

Research, writing and photos by Stephen Greenberg.

Huge thanks to all participants who shared their time and insights, without which the research would not have been possible.

Particular thanks to Rose Williams, Vanessa Black, Lawrence Mkhalihi and Mpho Ncube from Biowatch; Bigboy Mkhabela, Thembhani Mabunda and Derick du Toit from AWARD; Nicky McLeod from Environmental and Rural Solutions, and Mzimasi Ndongeni from Embo Regenerative Agriculture Cooperative for field assistance and organisation, and for opening spaces for engagement.

Thanks to Sinegugu Zukulu for translation assistance in Matatiele.

Thanks also to Claudia Fuhrer and Mervyn Abrahams from Fastenaktion for direction and guidance.

Acronyms

AESA	Agroecology South Africa
CA	Conservation agriculture
CFS	Committee on World Food Security
CPSP	Comprehensive Producer Support Programme
CSO	Civil society organisation
CVC	Cape Vulture Conservancy
DDM	District Development Model
EMG	Environmental Monitoring Group
ERS	Environmental and Rural Solutions
FAO	Food and Agriculture Organisation of the United Nations
FPM	Fresh produce market
GM	Genetically modified
GMO	Genetically modified organism
HLPE	United Nations' Committee on World Food Security (CFS) High Level Panel of Experts on Food and Nutrition Security
K2C	Kruger to Canyons Biosphere Reserve
KZN	KwaZulu-Natal
LED	Local economic development
M&E	Monitoring and evaluation
MDF	Mahlathini Development Foundation
MoU	Memorandum of Understanding
NEMA	National Environmental Management Act
NGO	Non-government organisation
NRM	Natural resource management
PGS	Participatory Guarantee Systems
PGS SA	Participatory Guarantee Systems South Africa
QCTO	Quality Council for Trades and Occupations
SAOSO	South African Organic Sector Organisation
SMMEs	Small, medium and micro enterprises
SPP	Surplus People Project
TA	Traditional authority
TAFS	Transitions to Agroecological Food Systems
TMiA	The Movement in Africa
UCP	Umzimvubu Catchment Partnership
UNDROP	United Nations Declaration on the Rights of Peasants

Photo Front Page:

Farmer Agroecology Site, Mtubatuba

Executive summary

This research was conducted for Fastenaktion's International Programme on Food Justice with the objective of gaining insight into the extent and state of agroecological understanding, practice and advocacy in South and Southern Africa. A key question for the research was whether agroecology is the right entry point in South Africa towards a climate-resilient alternative agricultural model. The report is based on an online survey of 35 agroecology organisations, together with information from field visits conducted with Biowatch in KwaZulu-Natal, a Hoedspruit cluster of organisations in Limpopo via the Association for Water and rural Development (AWARD), and an Umzimvubu cluster in the Eastern Cape via Environmental and Rural Solutions (ERS). The research is framed using the 13 principles of agroecology as developed by the United Nations' Committee on World Food Security (CFS) High Level Panel of Experts (HLPE) in 2019.

The research shows that agroecology farmers are mainly backyard and small-scale producers, and are typically elder African women who are marginalised in the wider society. Farmers and organisations promoting agroecology are confronted with a dominant agricultural paradigm that focuses on conventional agriculture and commercial integration of smallholders into corporate value chains. To a large extent, they are excluded from subsidies, extension services and research, which is mainly directed towards conventional agriculture.

Most organisations surveyed indicate they use the term agroecology to describe their work. Agroecology is often used interchangeably with a number of related terms, and indigenous and traditional practices are also often interchanged with agroecology. More marginal producers mostly practice low external input agriculture and cultural practices of *ubuntu* (humanity) and sharing, indicating strong resonances between agroecology and longstanding and rooted productive and cultural practices. The main reasons for organisations adopting agroecology are its integration of environmental, social and economic dimensions, and its use in framing work on climate change and biodiversity. Farmers emphasised traditional practices, healthy and accessible food at local level, reduction of input costs, and necessity for survival.

The HLPE's 13 principles of agroecology align well with the central dimensions of agroecology defined by research participants, namely environmental sustainability, social justice and redress, and economic fairness and participation. The research indicates significant adherence to agroecological practices across the principles. This is especially the case when organisations are working together so that they can contribute elements to a whole rather than trying to cover every base themselves. Soil and water management, biodiversity, indigenous crops and knowledge, and participation are core principles being applied by many organisations. The weakest elements in practice are around economic and wider food systems transitions, as organisations tend to work with small groups of farmers in specific localities with relatively limited interaction with wider food system actors.

Organisations participating in the discussions tend not to have systematic gender programmes, but women form the core of the constituencies they work with. In all areas, women mostly do cropping, and have the responsibility for family nutrition at household level. Men tend not to assist in reproductive functions, which includes agriculture for homestead use, and are only interested in those aspects of agriculture which generate income, e.g. cash crops, cattle, at which point they assume control. Men tend not to contribute income to the household. The general impression is that youth are not interested in agriculture. Amongst both farmers and organisations, there was a widespread perception of youth as lazy, unmotivated, and simply looking for a handout or a quick buck. However, these charges of laziness are not necessarily a fair reflection on the youth. Lack of interest is compounded by decades of denigration of agricultural labour. On the other hand, youth

are tech savvy, are keen and have ideas and energy which they can use to boost farming groups. But they need information, mentorship and to be given responsibility.

Close to three-quarters of survey respondents indicated they are actively involved in advocacy on agroecology, and just over 40% of respondents were involved directly in policy work. Advocacy is mainly at local level, gradually lessening up to global level. Research and capacity building are the main forms of advocacy, with policy tracking and engagement the least practiced. Organisations have been involved in some national policy engagements which have also led to some success, e.g. securing exemptions for smallholder producers in the commercial seed laws, expanding support for backyard and smallholder agroecological producers in the Covid disaster relief grant, and reference to agroecology (albeit fragmented) in producer support policy. Organisations have attempted to engage with government over the years at multiple levels, but have expressed general frustration at the weak response. Participants considered whether policy engagement is worth the effort. There are some differences in views but ultimately most agree on the need to develop actions beyond the state but also to try to engage wherever possible. Few surveyed organisations engage systematically at global level. 60% of respondents were aware of the United Nations Declaration on the Rights of Peasants (UNDROP), with more than two-thirds saying they plan to use the Declaration in advocacy activities. The South African government was a champion of UNDROP, but national policies and programmes are not yet informed by the Declaration.

Is agroecology the right entry point towards a climate-resilient alternative agricultural model? While there is some traction on agroecological understanding and practices, which are not specifically labelled as agroecology, they can be used (seen) as the basis for alternatives to conventional and corporate-industrial agriculture in South Africa. However, they are very marginal and fragmented at present. A key question is whether agroecology is being marginalised and reduced by its association with backyard and subsistence production. Some organisations remain locked into this orientation, working with people who have been abandoned by formal politics and economy. This narrative also suits corporations and political elites, who are satisfied for agroecology to be channelled into a welfarist orientation. "Agriculture" is then understood as large-scale commercial agriculture, while agroecology is about subsistence. Significant work is needed to clarify, coordinate, identify key priorities and issues, and mobilise resources in support of practitioners and organisations adopting agroecological principles. Hence the main recommendations of the study are:

- Support networks of practice and local agroecology hubs where organisations contribute their skills to a wider network of food system actors which is needed to stimulate food systems transitions.
- Support learning and sharing through farmer-to-farmer exchanges and agroecology curriculum development and implementation throughout the education system to bring youth into agriculture and agroecology.
- Develop and implement multi-dimensional agroecological indicators for research, monitoring and evaluation of agroecological performance in order to prove the evidence for the diverse benefits of agroecology and make it more visible.
- A multi-pronged strategy for a joint policy engagement on an agroecology strategy and programme is needed. Approaches should support and strengthen responses local farmers are already adopting.
- Use agroecology as a frame to better understand activities in the commercial sector on a continuum of practices from conventional to agroecological in wider food systems transitions.
- Identify sources of financing to support the development of agroecological approaches and remuneration of key roles in network coordination at multiple levels.

1. Introduction / background

The Fastenaktion (formerly Fastenopfer) International Programme on Food Justice is an international policy programme that has as its transformative long-term focus the promotion of sustainable food systems in the Global North and South, which are based on the principles of the Right to Food and agroecology. The long-term impacts the programme works towards are:

- Small-scale farmers and indigenous people – women and men – take a central role in the food systems and have regained control over natural resources.
- Seeds are acknowledged as a common good and biodiversity is protected.
- Agroecology is accepted as a climate-resilient alternative agricultural model.

The programme includes partners in Switzerland, Philippines, South Africa, and Guatemala and the partners use the implementation of UNDROP as the overarching political and legal process. While numerous actors use the term agroecology or describe their work as such, experience has shown differences in the practice on the ground. This has raised a problematic between theory and practice.

The purpose of this research was to gain insight into the extent and state of agroecological understanding, practice and advocacy in South and Southern Africa. The research aims to generate knowledge that will be useful to the Fastenaktion International Programme on Food Justice to inform its strategies and work at a global policy level as well as in Southern Africa, and to contribute to reflection and learning on agroecology in Southern Africa.

This report combines a scan of current organisations supporting practical work on agroecology with farmers based on responses to an online survey in February-March 2022, together with information from field visits conducted with selected organisations in June-August 2022. It delves into agroecological practices, and why organisations have decided to focus on agroecology. It draws out key challenges and opportunities according to respondents. An overarching guiding question was whether agroecology is an appropriate entry point into South African and regional farmer support towards a climate-resilient alternative agricultural model. The report shows that there is an active set of organisations working on agroecology in South Africa, with varying local and provincial networking but limited national coordination. Respondents highlight the ecological but also the health, social justice and redress dimensions of agroecology, as well as strong resonances with indigenous knowledge and adaptation of agroecology as a concept to the specific contexts of its application.

1.1 Methodology

An initial desktop scan of organisations was conducted in January, drawing on existing knowledge and networks with some internet research to get further information. On this basis organisations were identified which are specifically working on some form of ecological production directly with smallholder farmers¹. Other organisations focusing on policy or research alone were not included in this survey as we wanted to emphasise the practical component. The survey was also not sent to the many grassroots organisations who nevertheless have a very small footprint e.g. in one community or just a single cooperative, especially those tending to focus primarily on practice but without

¹ Throughout the report, the terms backyard and household producers are used interchangeably, as are those of smallholder and small-scale, just because different people use different terms. In line with official definitions in the draft National Comprehensive Producer Support Policy, these categories loosely align with the household and smallholder producer categories which in combination refer to producers with an annual turnover of ZAR1 million or less (approximately USD54,000 at the time of writing).

significant networking or advocacy dimensions. This is not to say these organisations and initiatives are unimportant, but the intention of the scan is to focus on organisations with some reach in both practical and advocacy work. The focus was on South Africa, but some organisations in the region were also invited to participate (although ultimately with a low response rate).

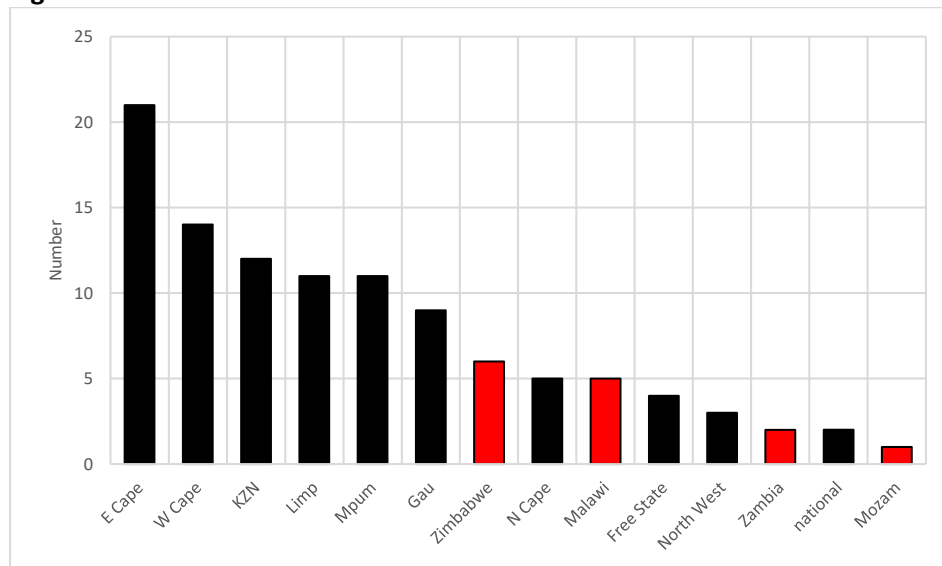
1.1.1 Online survey

A rapid online survey was designed with sections on basic organisational information, types of support to farmers, practices, and policy engagement and advocacy. The survey was mostly quantitative, with a few qualitative questions on key elements and views about agroecology, challenges and opportunities. The core of the survey was on organisations’ active engagement on the 13 principles of agroecology² as developed by the HLPE in 2019. The HLPE principles build on and incorporate the UN Food and Agriculture Organisation’s (FAO’s) 10 elements of agroecology³, but more directly embracing the social and political dimensions of agroecology. These are both fairly widely accepted frameworks. The consolidated 13 principles, aligned with the FAO’s 10 elements, are shown in Annex 1.

The survey was sent to a total of 61 identified organisations in February, from which we received responses from 35 organisations (57% response rate). The results of the survey gave a broad overview of views and key practices of the selected and responding organisations.

Most respondents (69%) were from NGOs / Section 21 organisations, non-profit organisations, or social enterprises. Another 26% were from membership-based organisations including farmer associations, cooperatives, social movements and community action networks. The remaining 5% were academic / research institutions.

Figure 1: Location of work



Sixty three percent of respondents worked in more than one province or country. Provinces with the largest number of respondents working there were the Eastern Cape and Western Cape, followed by

² HLPE 2019. “Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High-Level Panel of Experts on Food Security and Nutrition”, <https://www.fao.org/3/ca5602en/ca5602en.pdf>

³ Food and Agriculture Organisation (FAO). 2018. “The 10 elements of agroecology: Guiding the transition to sustainable food and agricultural systems”, <https://www.fao.org/3/i9037en/i9037en.pdf>

KwaZulu-Natal (KZN), Limpopo and Mpumalanga (Figure 1). All of these provinces had more than 10 respondents working in them. North-West, Free State and Northern Cape had lower numbers of respondents. Only one respondent was not based in South Africa. This indicates a number of South African organisations working in the region, notably in Zimbabwe and Malawi amongst respondents. From the survey, specific organisations were identified for field visits for more in-depth investigation into views and practices, including organisational staff and farmers. Selection was based on the following criteria:

- Completion of the survey and expressed interest in follow up
- Actively involved in both practical work with farmers as well as advocacy/policy level work on agroecology
- Advocacy beyond the local level, with active advocacy in the region an advantage
- Participatory approaches in practical and advocacy work
- Active involvement and leadership of black Africans, women and youth in practical and advocacy work
- Explicitly working with an agroecology / food sovereignty framing, and with a clear conceptualisation of agroecology
- Use of a human rights / right to food framework
- Active in agroecology networks at any level, and playing a leading role in such networks an advantage

In addition, field visits were selected for a diversity of locations (geographical, ecological zones) to get a spread of experiences and views.

On the basis of these criteria, we identified Biowatch in KZN, AWARD and a cluster of organisations in Hoedspruit in Limpopo, and ERS and a cluster of organisations in the Umzimvubu Catchment in the Eastern Cape.

1.1.2 Field visits

Field visits were conducted from June to August 2022, with a total of 16 organisations, and 47 farmers and youth participating in 6 locations.

Biowatch⁴ staff were interviewed in eThekweni and Mtubatuba in uMkhanyakude District in Northern KZN and a focus group with 8 farmers (90% women) from Zimele group was facilitated in kwaHoho, Mtubatuba. Biowatch is an environmental justice NGO, established in 1999. The organisation works with smallholder farmers, other CSOs and government to ensure that people have control over their food, agricultural processes and resources, and other natural resources, within a biodiverse, agroecological and sustainable system. Biowatch conducts advocacy and research, promotes agroecology and has hosted the regional Seed and Knowledge Initiative (SKI) for the past 9 years.

Biowatch provides practical support to smallholder farmers in Northern KZN from their office in Mtubatuba. The organisation is facilitating the KZN Agroecology Platform, which started with CSOs and currently has 63 people on a WhatsApp group. The focus for now is on learning exchanges, and there is interest in expanding to include more farmers, and to extend into advocacy work as a network. In KZN organisations are well networked, but there are also some siloes. Biowatch initiated discussions towards building a national platform named Agroecology South Africa (AESA). This

⁴ <https://biowatch.org.za/>

emerged following the Agroecology in the 21st Century conference held in Cape Town in 2019⁵. A couple of initial meetings with a range of active CSOs were held, but the Covid pandemic and lockdown and less funding presented obstacles. Although AESA was able to function online in 2020, the platform has essentially stagnated and is more of an occasional online information sharing platform. According to Biowatch staff, many organisations work in a completely different way, and a thinktank over the internet is not the best model for coordinating and bringing people together. AESA had mixed reactions, with some people appreciating the space but others less convinced of its value. AESA revealed that there is a group of organisations working on agroecology, but currently there is no-one to take a network forward. This needs a group process.

AWARD⁶ facilitated a group discussion in Hoedspruit in Mopani District in Limpopo including AWARD, Mahlathini Development Foundation (MDF), Hoedspruit Hub, Zingela Ulwazi Trust, Cape Vulture Conservancy (CVC), and Kruger to Canyons Biosphere Reserve (K2C). This was followed by a group discussion with 27 farmers and youth (two third of participants were women). AWARD is a non-profit organisation specialising in multi-disciplinary, participatory, research-based project implementation aimed at addressing issues of sustainability, inequity and poverty. Informing the work are the values of trust, dignity for all, justice, fairness, non-discrimination, unity and learning through practice. The organisation was established in 1998, emerging from earlier work on village water projects in Limpopo. AWARD mainly works in catchments in the north-east of the country, such as the Olifants River Basin. Focus areas are integrated water resource management and water access; natural resource management (NRM) incorporating ecosystem services, biodiversity and livelihoods in strategic ecosystems; climate change literacy, adaptation and planning; and institutional support with municipalities, education institutions and CSOs.

AWARD worked with African Centre for Biodiversity (ACB) in 2019 to facilitate a gathering of agroecology organisations in Limpopo. This resulted in a nascent Limpopo Agroecology Network, which produced a vision statement, some engagement with the provincial Department of Agriculture and some learning exchanges. However, Covid and funding coming to an end have made progress difficult in the past 2-3 years. Organisations located in and around Hoedspruit have continued to network and have established various activities (discussed more below). Mahlathini Development Foundation operates in Limpopo, Eastern Cape, Mpumalanga, and KZN and plays an important role in linking activities and organisations across these provinces in particular localities.

Environmental and Rural Solutions (ERS)⁷ hosted a group discussion in Matatiele in Alfred Nzo District in the Eastern Cape with ERS, Amadiba Crisis Committee (ACC), Sustaining the Wild Coast (SWC), Lima Rural Development Foundation, The Movement in Africa (TMiA), Embo Regenerative Agriculture Cooperative, Wana Johnson Learning Centre, Xhamla Mzantsi and SaveAct, followed by a meeting with 12 Embo Cooperative / PGS farmers in KwaBhaca (former Mount Frere). ERS is a non-profit organisation established in the early 2000s following the closure of the Environmental and Development Agency which had been working in the area since the 1980s. ERS offers environmental and tourism planning services in the northern part of the Eastern Cape, Southern KZN and Lesotho. The focus of the support is on providing customized guidance that respects local, natural and cultural environments while providing a professional service and realistic recommendations. Projects include community capacity building, landscapes for livelihoods (erosion, alien vegetation, stewardship), NRM (ecosystem services, water stewardship, water source areas) and youth development in the green economy.

⁵ <https://agroecologyconference.bio-economy.org.za/>

⁶ <http://award.org.za/>

⁷ <https://enviros.co.za/>

ERS functions as the Secretariat for the Umzimvubu Catchment Partnership (UCP)⁸. The UCP was formed in 2013 on the basis of a Memorandum of Understanding (MoU) drawn up by Conservation South Africa and ERS which other organisations were invited to sign on to. The MoU elaborates on the objective of integrating sustainable natural resource restoration, conservation, management and use and equitable economic development for local people. It is a voluntary collective and organisations share a vision but do a range of diverse activities (e.g. spring protection, Working for Water, rangeland management) individually or in partnerships. The UCP offers a community of practice, and gives a collective voice, as well as facilitating learning exchanges for members and others from outside the area. Thirty-five partners initially signed on, including government departments and agencies at municipal, provincial and national levels; traditional authorities (TAs); NGOs; co-operatives; and conservancies and trusts. To date the UCP has focused mainly on the Upper Catchment but with linkages to others in the catchment and with interest to expand participation in the middle and lower catchment. In recent times, efforts are being made to offer some more structure, with the idea of forming working groups (including one of agroecology) to take the lead on specific topics and activities.

2. Overall picture of agroecology in South Africa



Diversified agroecological production in a homestead plot, Mtubatuba

Recent work under the auspices of the Transitions to Agroecological Food Systems (TAFS) project has provided an overview of agroecological discourses, actors and policies in South Africa⁹. This

⁸ <https://umzimvubu.org/>

⁹ Greenberg, S. and Drimie, S. 2021. "The state of the debate on agroecology in South Africa: A scan of actors, discourses and policies", Transitions to Agroecological Food Systems (TAFS) phase 1 report, https://www.southernafricafoodlab.org/wp-content/uploads/2022/07/TAFS-South-Africa_step-1-final-report_13-July-2021.pdf

highlighted some of the structural and discursive constraints to adopting agroecology in South Africa, but also showed an active group of organisations working on agroecology in the country, a range of agroecological practices on the ground, and policy spaces (albeit fragmented) that open pathways for agroecological support. Responses to the online survey and discussions in the field reinforced the overall picture presented in that report.

Farmers that agroecology organisations are working with are mainly backyard and small-scale producers, and are typically elder African women. These are people who are mostly marginalised in the society, with limited resources to fall back on. Secure access to land and water are concerns for many, but this is uneven across the country. Farmers and organisations promoting agroecology are confronted with a dominant agricultural support system that focuses on conventional agriculture, although some respondents did indicate this is starting to change as people are confronted with a range of external shocks and stresses which necessitate own food production for survival. This new interest is not necessarily “pure” agroecology, but more about an interest in growing food as a result of lockdown and various other deprivations especially in KZN (e.g. riots, floods). Although there is not always clarity about what agroecology is, there is growing interest and energy. This was the case in all sites, and a perception amongst both farmers and support organisations.

Participants raised the issue of commercial domination of the food production system and the difficulties this poses for smallholder farmers to be able to produce. It is not really in the interest of the powers that be to diversify crops and what people are consuming. Orientations are locked into big money-spinning systems on seed production, chemicals etc, according to Hoedspruit participants. The introduction of monoculture came with principles of individual work, competition etc, using heavy machinery. This has created social and environmental problems as historical systems of production and distribution have dwindled in the face of individualist rationality.

Across the board, participants also highlighted the government push on subsistence farmers to adopt chemicals. Extension systems have pushed people into becoming emerging commercial farmers. The current South African government tends to do things for people rather than supporting people to do things themselves. In some cases, farmers have stopped farming and indigenous knowledge and local practice are under threat because extension services are not supporting or wanting to learn about it.

There is also a political element to this as agriculture departments procure bulk supplies which include dumping of genetically modified (GM) seed, with cheap seed flooding into the Mopani district in Limpopo, for example. Communal farmers are receiving these seeds underpinned by questionable tenders. The use of GMOs is also a national challenge. Umzimvubu participants say that government has chosen to partner with Monsanto to promote planting of GMOs and the use of chemicals that go with them. Synthetic chemical use is a big problem, whether weed killers, pesticides, or Blue Death¹⁰. The elderly are still passionate for farming but do not have the energy. In Umzimvubu participants say RoundUp is seen as the saviour because it saves effort, with elders saying at least they are farming. Although agroecology can compete on price because of lower input costs, what is effectively a government subsidy for adoption of conventional agriculture undermines this benefit. Agroecology farmers are thus not on a level playing field, according to Hoedspruit participants.

So backyard and smallholder farmers face serious structural constraints to adopting agroecology. This is reinforced by the necessity to also adapt to worsening external conditions. Covid 19 was a real disruption to work for the past two years. In KZN, the impact of Covid and the social unrest in

¹⁰ The active ingredient is carbamate, with similarities to organophosphates. See Silberman, J. and Taylor, A. 2022. “Carbamate toxicity”, National Library of Medicine, <https://www.ncbi.nlm.nih.gov/books/NBK482183/>

July 2021 has taken out a whole layer of small businesses and opened the space for new corporates to come in. People have been badly hit with challenges just to get transport to towns to get food or draw pensions. Biowatch indicated that all market gardeners along the river were wiped out during the flood, with no stocks at the Durban Fresh Produce Market (FPM), which usually has abundance.

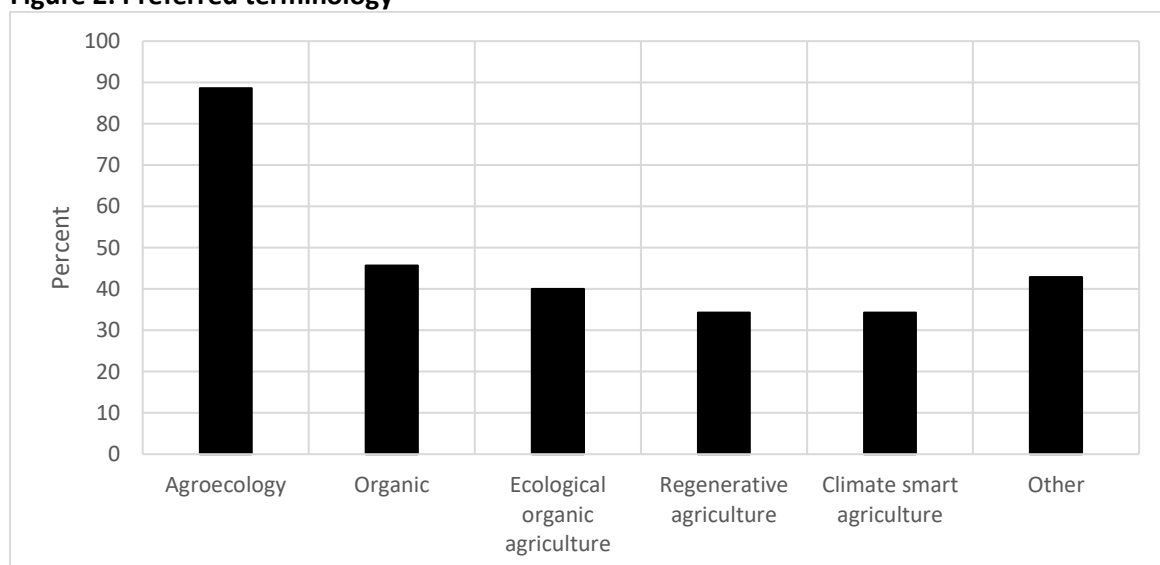
The physical impacts of climate change are also evident. KZN has been the most obvious example, with major flooding in eThekweni and elsewhere along the coast in April 2022. Some people have argued there has always been extreme flooding in Durban, although previously there were big events with gaps but in the last while there were big floods every year if not more often. South Durban is an example. These effects are exacerbated because of increasing development with hard surfaces, container storage in wetlands etc. Farmers have reported a lot of incidence of extreme wind, although this is anecdotal. In the past 10 years, KZN farmers faced a protracted drought, followed by heavy weather events.

It is not simple to unpack the different things impacting on the landscape. These include poor development and development in the wrong places. Deforestation for firewood, population pressure, mining, timber, sugar, and alien plant infestation are all interconnected. Changes in CO₂ levels favour woody plants, resulting in woody shrub including alien invasives spreading through the grasslands. Farmers in KZN say they have experienced a lot of changes in the climate. They mention that the province used to get rain at a certain time, and farmers would then plant at a certain time in relation to the rain. However, now when they expect rain there is drought and now in winter, they are getting floods instead of no rain. Farmers said that the last good rains were around 2010 but since then there was more extreme weather. Water access is a major issue in Hoedspruit, with communities currently sometimes going weeks without water. In Umzimvubu, organisations and farmers have noted the impacts of climate change especially in the past two years. Some farmers lost their crops as a result of drought, floods and Covid. There is less snow on the mountains, which ultimately means less water availability for farmers. Poultry and livestock as well as human diseases and chronic sickness have increased, with participants in Umzimvubu suggesting this is a result of warmer weather and the multiplication of viruses and bacteria.

3. Understandings of agroecology

3.1 A common frame for agroecology

Figure 2: Preferred terminology



Survey respondents were asked which terminologies they used in referring to their farmer support activities (multiple responses). Almost 90% of respondents said they used the term 'agroecology' to describe their work. Forty to forty five percent indicated the use of organic and ecological organic agriculture (EOA). Just over a third of respondents refer to regenerative or climate smart agriculture. A number of other terms are also used, including natural farming, permaculture, and climate resilient agriculture. Indigenous practices and traditional agriculture are also sometimes used interchangeably with agroecology. Biowatch indicates that "most rural people are working on agroecology even though they don't know the term. They have been farming like this all their lives."

Field visits confirmed the diversity of terminology used. We may propose that it is not too important to get stuck on one label or another, as people arrive from different backgrounds. As participants from Hoedspruit noted, "the key thing is how people can farm sustainably in the local context" and that it may not necessarily be agroecology that is being practiced, and more "farming with what you've got". Participants in Hoedspruit said they never go out and start giving their own definitions or principles. It is preferable to start with a baseline and see what the challenges are, and then respond appropriately from there.

Agroecology as a term has become international with extraordinary momentum over the past 10 years, although this also poses a threat of co-option. Nevertheless, according to Biowatch, they will hold onto the term as it is worth keeping a principled and clear view on it. Hoedspruit participants felt that agroecology is not well understood, with a suggestion that permaculture may be the best overarching approach as it is a design system. At the same time, agroecology is rooted in integration of principles. Rather than being locked down into one term or another, a better approach may be to identify core principles and practices which a range of organisations with a range of approaches have in common. In this regard, the survey revealed a number of widely agreed elements (Table 1). At the base, organisations generally refer to environmentally sustainable practices, social justice and redress, and economic fairness and participation. In practice in field sites, the emphasis is on soil and water conservation and management, building organic matter in soil, agricultural biodiversity, participation, and indigenous knowledge. The weakest elements in practice are around food systems transitions, as organisations tend to work with small groups of farmers in specific localities with relatively limited interaction with wider food system actors.

As indicated in Table 1, the HLPE principles are easily aligned with the overarching principles arising from the survey and discussions with local organisations. Organisations did indicate that the FAO/HLPE frameworks are difficult to use in the field, and the discussions with farmers confirmed this. Principles and terminology need simplification and translation into local languages e.g. there is no direct Zulu term for diversity. Each of the concepts themselves are contested and debated, with different views. There is no easy explanation and still it is an interpretation, then the principle gets translated and then there is more interpretation. The HLPE principles need to be localised.

The overarching principles in Table 1 present a possible common framing. There are bound to be variations and differences of emphasis within these, but as broad categories or areas of focus, they are widely held in common and are mostly fairly intuitive. Some organisations and practitioners may place more or less emphasis, for example, on economic redress and how this might happen (e.g. through compulsory rapid and widespread redistribution of resources, or through improving access to opportunities for marginalised individuals to participate in the existing economic system). These discussions have not been engaged with explicitly amongst agroecology proponents to date. There is a tendency amongst some organisations to adopt purist positions and refuse to work with others who do not agree to every point in organisational positions. However, a broad and common framing as above may allow for inclusion and variance rather than exclusion and standardisation.

Table 1: A common frame for understanding agroecology

Overarching principle	Key elements from survey	HLPE principles
Environmental sustainability	Working with nature Emphasis on soil health and fertility, water (access, health / quality, recycling, rights), seed (saving and exchange, local and indigenous seed), biodiversity within and beyond the farm, sustainable natural resource conservation and use, and ecosystem goods and services No synthetic pesticides or fertilisers, no GMOs Climate change adaptation and resilience (household and smallholder producers), mitigation (dominant food system)	Recycling, input reduction, soil health, animal health, biodiversity, land and natural resource governance, synergy (production)
Social justice and redress	Harmonious relationship with nature Central role of women Agency and organisation Peer to peer learning and sharing Local / indigenous knowledge Land redistribution and secure access Individual, household and local food security, nutrition, health and wellbeing	Co-creation of knowledge, social values and diets, participation
Economic fairness and participation	Food sovereignty, resistance to corporate-industrial agriculture, building popular alternatives Response to breakdown of dominant agro-food system Local markets, local small, medium and micro enterprises (SMMEs), economic diversification Land redistribution and secure access	Economic diversification, fairness, connectivity, synergy (economic)

Biowatch emphasised that agroecology is context-, culture- and area-specific, and practitioners must use what they have. This builds on *ubuntu* (humanity and mutual aid) and traditional approaches to sharing labour, food and resources and is directly counter to the individualistic competition imposed by neoliberal capitalism. Food systems approaches are required as an individual household doing agroecology may be negatively affected by practices of neighbours and others in the landscape.

Participants in discussions and on the survey indicated some core basic reasons for adopting agroecology as their frame of reference. The concept was first promoted in South Africa in 2009 when Surplus People Project (SPP) sought to ‘domesticate’ the findings of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)¹¹. Organisations highlighted the value of agroecology as integrating social, environmental and political dimensions and how the concept can also assist in framing related work on climate change and biodiversity in the context of the industrial food system. Farmers emphasised traditional practices, healthy and accessible food at local level, reduction of input costs, and necessity for survival.

3.2 Mainstreaming agroecology

A number of important discussions haven’t yet been entered into. One is about constituency, and another is about mainstreaming of agroecology and commercial production. As major proponents of agroecology in South Africa, social justice NGOs have historically come to agricultural support from a survival perspective. These organisations mainly work with marginalised individuals and communities and the focus is on supporting production of food mainly for own household use and for sharing in the community for those in need. These are highly important interventions, and these organisations are working with people who have been abandoned by formal politics and economy. However, over the years, this equation of agroecology with backyard and subsistence production has

¹¹ <https://wedocs.unep.org/handle/20.500.11822/7862>

become somewhat entrenched. Such narratives also suit corporations and political elites, who are very satisfied for agroecology to be channelled into a welfarist orientation. This allows government, for example, to allocate homestead gardens support to the Department of Social Development or the Department of Health rather than the Department of Agriculture. "Agriculture" is then understood as large-scale commercial agriculture, while agroecology is about subsistence.

Some organisations remain locked into this orientation, often as a result of the base of producers they are working with. For elderly women with limited resources to mobilise, production primarily for household use makes a lot of sense. Few of these producers are in a position to produce consistent surpluses for sale. As such, a focus on markets is not an easy fit, says Biowatch. However, this association between agroecology and subsistence or backyard production does not attract the youth into farming and keeps agroecology on the margins. According to TMiA in the Eastern Cape, it may be better to talk about market gardens, and to develop integrated systems that can support the youth to practice agroecology that allows them to generate a consistent income stream. This points to a real challenge around values, as mutual aid and solidarity clash with profit making / income generation. But generating an income from farming is an important incentive for continuing production and it also seems very strange to expect people to work and then distribute the products of their labour for free (especially when these people are also amongst the most marginalised) while others in other areas of the economy earn incomes that they can retain for their own uses without any expectation that they give away the services or goods they produce for free. Transferring the realisation of the right to food onto the most resource-poor in the society without any support is an abdication of the state's responsibility to realise this right.

Mainstreaming of agroecology in the wider agro-food system faces a number of discursive / ideological and material constraints. As the TAFS report states, the convergence between new sustainable agricultural practices and the possibility of cost reduction in a very competitive context facilitate the awareness of sustainability issues in commercial agriculture. This indicates a shift towards greater environmental sustainability, but within a conventional production and profit-driven orientation, a limited change in mindset and within relatively unchanged corporate-industrial value chains. Entry points into the discussion here are CA, integrated pest management, diversification, soil health and water use efficiency. However, piecemeal shifts to get the environment back to some kind of ecological integrity will be difficult, and these efforts are adaptive rather than transformative¹². Nevertheless, the significance of CA and other sustainability initiatives lies in the fact that they are being made in large-scale commercial agriculture which has by far the largest ecological impact in the agricultural sector and occupies by far the largest land area. As such it can be considered one, albeit partial, process directing South African agriculture towards greater ecological, if not social, sustainability.

Of the three sites visited during the research for this paper, commercial agriculture is most evident in Hoedspruit, with very large citrus farms producing for export. It is not surprising, then, that Hoedspruit participants feel strongly about the need to engage with commercial farmers. They do indicate both that CA has some elements of agroecological practice (focusing mainly on the environmental sustainability dimensions) and also that there is some interest amongst some commercial farmers to embracing greater environmental sustainability.

Biowatch argues that the starting point must be that big landholdings are a problem. Significant agricultural sectors such as sugar are highly damaging to the environment and to human health but are entrenched within South Africa's agro-food system. However, citing a statement by Professor

¹² Ingram, J. 2015. "Framing niche-regime linkage as adaptation: An analysis of learning and innovation networks for sustainable agriculture across Europe", *Journal of Rural Studies*, 40, pp.59-75.

Ben Cousins¹³, Biowatch suggest that maybe at the start the small group of large-scale core producers who are producing the majority of the food in the country should be set aside, and initial efforts can look at other commercial farmers to negotiate a shift which encompasses both environment and social dimensions. Some commercial farmers are also struggling in a highly concentrated environment and may be open to negotiating.

This all suggests that an agroecology agenda cannot ignore large-scale commercial farming or sustainability initiatives arising from there, however attenuated. If we consider agricultural production as a continuum from backyard production through to large-scale commercial farms, we can then think about differentiated strategies towards agroecology across the spectrum. On the large-scale commercial side the entry point will be what farmers are already doing and then seeking to integrate missing elements, in particular social and economic justice, that would bring practices closer to a comprehensive agroecological approach step by step, through specific individual actions and initiatives. This requires moving away from purist positions where every element must be in place already otherwise initiatives are rejected. As Hoedspruit participants stated: “Rome was not built in a day. Small things can be done to transition. Some commercial farmers are taking steps to adapt because they are seeing the environmental impacts. Money is crucial but there are also smaller things they could be supported with, e.g. don’t use red list chemicals, and here are alternatives. If there were more synergies with smaller producers, it could work. It can’t be too tightly defined”. Terminology is also important. Participants have noted that a term like organic tends to alienate commercial farmers and it may be better to refer to conservation compatibility or sustainability transitions (where encompassed practices can still be clearly defined) that indicate support for everyone in farming, not only a few in niche markets.

However, a big gap remains between the motivations of large-scale commercial farmers, who are driven primarily by profitability by the very nature of commercial production in late capitalism on the one hand, and an agenda based on ecological restoration, social justice, solidarity, and economic redistribution on the other. Materially, agroecology at a wider scale would look very different to current commercial agriculture. Commercial agriculture is based on monocultures, standardisation of synthetic inputs and outputs, and simplification, whereas agroecology is based on high levels of diversity, use of more directly natural inputs, and complexity. There is a lack of detailed data from larger agroecological or organic farms that can provide evidence of viability on yields from diversified systems etc. But this cannot be a straight comparison between agroecological and conventional production, as the entire production and distribution system will be different.

Comprehensive agroecological production faces physical challenges in scaling. Even if practitioners have access to sufficient land and water, once the farm size goes over one hectare, quantities of manure, biopesticides, biomass etc may not be sufficient to cover the entire area. Hand planting, spreading of manure or compost, pest management through spraying or hand picking may become unviable. Agroecology is also highly knowledge intensive and complex, and most farmers and support organisations don’t know, say Hoedspruit participants. Conventional agriculture is easier simply because inputs are available. Conventional agriculture is subsidised in numerous ways including direct input subsidies for smallholder producers and wider systemic subsidies through the structuring of trade relations, self-regulation in the agrochemical and seed industries, laws and regulations which facilitate supermarket expansion and concentration, the orientation of research and development, and many others that underpin the success of conventional agriculture. However, different models can be considered. Instead of thinking of agroecology on large commercial farms, networked small farms could be embraced so that sizes are not too large for households to manage, but with appropriate support systems, aggregation etc to combine

¹³ At the Institute for Poverty, Land and Agrarian Studies (PLAAS) at the University of the Western Cape prior to retirement.

production and marketing. However, this requires significant agrarian restructuring to redistribute land for more diversity in landholdings and sizes. Agroecological inputs offer enterprise opportunities for youth in local production and distribution, rather than depending on multinational corporations to supply inputs and determine effective demand.

Ultimately, as participants in Hoedspruit noted, “commercial agriculture is failing, and we need an alternative. The answers are not ready and wrapped up in ribbons” and the onus should not be on proponents of agroecology to offer a complete and closed solution. However, points of departure towards alternatives can be identified and acted upon.

4. Agroecological practices

A number of organisations have developed their own guides on agroecology practice for farmers. AWARD has developed a “five fingers” approach, incorporating water management, limiting soil movement, crop management for diversity, building soil health, and maintaining indigenous plants¹⁴. Biowatch promotes a set of five core agroecological practices that were developed by farmers. These are building healthy living soil to grow diverse healthy plants; recycling biomass and nutrients; preventing resource losses due to energy, water and air flows; increasing diversity; and enhancing synergies¹⁵. Biowatch has found that these practices are consistent across homesteads. Farmers also highlighted rejection of synthetic agrochemicals and fertiliser and GMOs.

As indicated above, these and other core agroecology practices identified by participants in South Africa align well with the HLPE principles, and this framework is used as a base for assessing practice on the ground (Table 2). For the survey we used an emerging set of examples / indicators for each principle (as yet unpublished) being developed by the Centre for Agroecology, Water and Resilience (CAWR) at Coventry University¹⁶, Coopération Internationale pour le Développement et la Solidarité (CIDSE)¹⁷, Action Aid International¹⁸ and others in emerging community of practice. This is work in progress, and is open for adaptation for context. Table 2 is a combination of results from the online survey and field visit discussions and observation. It is acknowledged that this is not the whole picture. Many practices are unstated, with some considered by farmers not even worth mentioning because they are so widely practiced, though they core to agroecology, for example seed saving and exchange. Additional notes on some topics are included below to add to the information in the table.

Respondents to the survey indicated their own practices from the indicators provided. Overall, the strongest HLPE principles adopted in South Africa were recycling, co-creation of knowledge, soil health, and social values and diets. The weakest links were synergy, fairness, land and natural resource governance, and animal health, though it should be acknowledged that some of these terms need to be unpacked and debated for greater clarity.

¹⁴ Pollard, S. and du Toit, D. 2020. “Principles of soil and water conservation in agroecology: What can we as farmers do?”, AWARD, <http://award.org.za/wp/wp-content/uploads/2020/05/AWARD-BROCHURE-Principles-of-Soil-Water-Conservation-in-Agroecology-2019-v1.pdf>

¹⁵ Biowatch 2022. “Agroecology Qalisa! Training materials for participants”, Biowatch, eThekweni.

¹⁶ <https://www.coventry.ac.uk/research/areas-of-research/agroecology-water-resilience/>

¹⁷ <https://www.cidse.org/>

¹⁸ <https://actionaid.org/>

4.1 Comments on environmental sustainability

Input reduction

In some places in Umzimvubu, the elderly are so reliant on agrochemicals like Blue Death or RoundUp, and find difficult to change because they are relying on these to clear weeds. “The elderly said at least they are growing something. As much as you try to remind them that their grandparents used wood ash or maize stalks, it was too much for them. Where are they to get the energy to do that?”

Some Hoedspruit participants questioned the trade-off between cost and effort in adopting agroecology and reducing inputs. “Farmers may save input costs, but it requires a lot of extra effort. It needs more focus, and farmers need to always be there. Once you get to about a hectare, labour requirements become onerous, and you have to spend money on labour.”

Soil health

Soil health may be the most core of all agroecological practices. In the words of one Umzimvubu participant, “work on soil health, and the rest will take care of itself”. This sums up a wider impression of a strong emphasis on soil health amongst practitioners, integrated with water conservation and management. As Table 2 indicates, water is integrated across numerous principles, of which soil health is crucial.

Biowatch indicated that after the flooding in KZN in April, people who put swales in did recover better than those who did not, and this method offered partial protection. In Umzimvubu, practitioners construct permanent beds and use a broad fork to aerate the soil while earthworms loosen the bottom. This minimum tillage approach prolongs the planting period.



Intercropping, Mtubatuba

Table 2: Matching practices with HLPE agroecological principles

HLPE principle	Strongest indicative practices from survey	Biowatch	Hoedspruit cluster	Umzimvubu cluster
Environmental sustainability				
Recycling	Farm-saved seed including seed banks and networks	Seed saving, multiplication, bulking and exchange, water harvesting	Water harvesting, grey water use in garden, seed saving (maize, nuts, cowpeas, some veg) and exchange, maize stalks for biomass	Waste management, local seed saving, storage and exchange, encourage propagation of open pollinated varieties (OPVs), water harvesting and recycling
Input reduction	Reduce or eliminate dependency on synthetic inputs Water use efficiency	Own compost and biopesticides, seed saving and exchange, discourage use of synthetic chemicals and toxic pesticides	Water harvesting, seed saving and exchange, own compost/manure and biopesticides, discourage use of synthetic chemicals and toxic pesticides	Local seed saving and storage, nurseries in villages, compost, manure, build organic matter in soil, discourage use of chemicals that come with GM crops, organic pesticides using local materials
Soil health	Biological soil fertility (including compost, manure, vermiculture, effective microorganisms) Cover cropping, green manures or permanent ground cover	Compost and manure, swales, crop rotation, biopesticides, legumes	Water conservation, keep water on land and in garden, control runoff, bed orientation and contouring, conservation tillage, plants or mulch in furrows, ground cover, crop rotation, companion planting, composting and manure, indigenous plants for nutrients, biomass for composting, liquid manure, legumes, intercropping, biopesticides, generally no use of synthetic fertiliser	Manure and compost, bokashi (fermentation of organic matter by specialist bacteria), raised beds, move away from synthetic fertiliser, organic pesticides, mulching, cover crops, intercropping, crop rotation, companion planting, permanent beds, minimum tillage, trenches and reservoirs to channel and capture water
Animal health	Improved animal housing and shelter	Combine traditional and modern medication Local and indigenous breeds adapted to conditions e.g. Nguni cattle, indigenous poultry	Livestock agreements, grazing management accountability, feed improvement Plant fodder crops and poultry feed mixes to supplement diets Mostly natural feed Free range and rotational grazing	Livestock agreements, grazing management accountability, feed improvement Plant fodder crops and poultry feed mixes to supplement diets
Biodiversity	Use of local / traditional / indigenous crops, animals and seeds	Mainly in farming system - local seed varieties, in field diversity, diverse crops, trees, livestock (see text)	Cape Vulture Conservancy 6.5 ha fenced area starting a permaculture system including agroecology, agroforestry, hydroponics, full fertility systems. Large indigenous landscaping area around education centre,	Grassland / rangeland sustainable management and use Promote multiple grains, OPVs in cropping system

HLPE principle	Strongest indicative practices from survey	Biowatch	Hoedspruit cluster	Umzimvubu cluster
		Integration of wild diversity into farms	biodiversity promotion and development. Planted over 200 species of indigenous, waterwise plants. Select and plant appropriate crops, heirloom seeds, rotation and intercropping, cover crops, maintain trees, keep a percentage of field with indigenous plants, alien clearing, grazing management controls, grasses, spring protection, river monitoring Farmers producing wide diversity of fruit, vegetables, herbs, grains, livestock and products (see text), indigenous and medicinal wild and cultivated crops	
Land and natural resource governance	Community-based natural resource management		CVC 1,800 ha conservancy incorporating bushveld and mountains K2C is a designated biosphere, support to SMMEs to stimulate green or circular economy AWARD works at catchment scale on water, climate, livelihoods	Umzimvubu Catchment Partnership (UCP) – rangeland management, alien vegetation, conservation and livelihoods Eco Champs
Synergy (production)		Livestock-crop integration, intercropping, manure for soil fertility, use of wild plants for variety of functions e.g. human and animal health, ash for seed preservation, compost, biopesticides, cultural uses, wood for energy and fencing	Indigenous plants for nutrients, biomass, medicinal market Integration between field crops, home gardens and livestock, intercropping, farmers multi-use trees and plants for food, feed, pesticides, compost, medicinal	Companion planting, intercropping, legumes for nitrogen fixation Whole garden design integrating trees, food forest, intercropping, nitrogen fixing, etc
Social justice and redress				
Co-creation of knowledge	Farmer to farmer learning Traditional / indigenous knowledge Capacity building on climate change and agroecology	Learning exchanges, introduce out of community practices not to prescribe, farmers to learn from nature and being innovative by themselves	Learning groups as core methodology where farmers discuss priorities, define responses and carry out Local visits to learn from each other AE integration into school curricula	Indigenous/local knowledge including research, learning from elders, effective interaction with traditional authorities as custodians of the land

HLPE principle	Strongest indicative practices from survey	Biowatch	Hoedspruit cluster	Umzimvubu cluster
Social values and diets	Promotion of traditional and indigenous crops and diets	Ilima (shared labour), indigenous knowledge and local practice	Educational tools on different cooking, diversity of crops, local crops	Ilima, surplus production to food relief, promote value of indigenous plants, health
Participation	Participation of women and youth	Underlying approach to start engagements with communities, priorities arising from discussions, plans on what to do, implement together. NGOs support rather than decide what to do. Strong involvement of women, less so for youth, although efforts	Underlying approach to start engagements with communities, priorities arising from discussions, plans on what to do, implement together. NGOs support rather than decide what to do. Strong involvement of women, less so for youth, although efforts PGS, self-organised savings groups	Underlying approach to start engagements with communities, priorities arising from discussions, plans on what to do, implement together. NGOs support rather than decide what to do. Strong involvement of women and youth Asset-based community-led development (ABCD) approach Rangeland / grazing associations Eco Champs, community-based promoters, self-organised savings groups, PGS Participatory video
Economic fairness and participation				
Economic diversification		Agroprocessing training, limited uptake	Atchaar, chilli sauce production Plans on agroprocessing Savings groups to support SMME establishment	Wattle harvesting for wood and charcoal production Nurseries to produce seedlings and indigenous plants Imphephu, grass rope Ecotourism Savings groups to support SMME establishment
Fairness	Collective ownership models		Village level savings associations, PGS	Savings groups, PGS, cooperatives
Connectivity	Local farmer markets, public procurement for local consumption	Box scheme, local farmer markets, informal traders, local supermarkets	School food programmes, Skororo-Mametja PGS, Thala Table network	Meat Naturally Initiative (free range livestock) PGS being established in KwaBhaca / Mount Frere
Synergy (economic)				Alien clearing and charcoal production Ecotourism and agriculture

Animal health

Although the emphasis in the HLPE is on animal health and welfare, this principle provided an opportunity to discuss livestock integration too, as most CSOs working on agroecology focus on crops, especially horticulture/vegetables. As Hoedspruit participants indicated, “animal welfare is not on the agenda currently”.

Farmers working with Biowatch do have some livestock (poultry, goats, cattle) but not much systematic work has been done on livestock integration yet. Women work with small stock, but Biowatch don't have a specific programme on small stock.

Large stock is the preserve of the men so, since more women work with Biowatch, they don't engage as directly on large stock, although they are part of the same family system. Farmers said animal health measures combine traditional and modern practices, with use of local plants for some diseases, but otherwise animals are taken to the vet.

MDF incorporates the Meat Naturally¹⁹ model in all their areas of work including Hoedspruit and Umzimvubu where they work with ERS, Lima and other organisations. In essence the model is based on efforts to improve livestock quality and hence income from sales through improving rangeland quality. The initiative includes a livestock agreement with village-level livestock associations on grazing management, technical support through Eco Champs (see below), and a mobile auction to facilitate regular decentralised sales. MDF aims for livestock integration into farming systems, and includes production of fodder crops to supplement feed, use of manure in the fields, and growing poultry mixes (maize, sorghum, legume e.g. sunhemp and grind in oilseed). Vet services are still mainly conventional.



Free range poultry, Umzimvubu

In Hoedspruit some individuals are doing free range rotational grazing with cattle and sheep. Medication is still conventional, but feed is largely natural. Participants indicate that with livestock, there is a concentration of animals, and a dearth of traditional practices, with people mostly just leaving their animals to roam freely for days or even weeks at a time. Lack of grazing controls and

¹⁹ <https://www.meatnaturallyafrica.com/>

the decay of communal systems in many places has negative impacts on rangeland quality, crop production, and livestock health (grazing on degraded land / low nutrients). In communal settings, herders are unaffordable because of limited income. Herders come in because of cattle theft. Efforts aim at collective herds and increasing fertility to increase calving. There is a calf feeding scheme in KZN based on low external input, with feed consisting of cover crops with some supplements. In Phiring in Sekhukhune District in Limpopo mobile camps have been constructed where farmers take their cattle for rotational grazing.

In Umzimvubu, organisations have also adopted the Meat Naturally model. About a year later, reports started coming in that the condition of livestock has improved significantly to the extent that farmers had started breeding again which had previously stopped as a result of poor grazing management. Fencing is required but we must bear in mind that this is not to eliminate animals from crop production but to assist with rotations and controlled grazing. The fenced grazing area is done to fertilise the ground. The point is to prepare the soil and then to disseminate seed. This works in sweetveld but not sourveld. Nutrients in manure are only as good as what the cows eat. There is some use of local breeds in Umzimvubu and Hoedspruit, in particular Nguni cattle.

Biodiversity

For Biowatch, biodiversity is mainly in the farming system, and the wider landscape is less covered. Farmers are planting a diversity of crops using local seed varieties. Production includes cassava, sweet potatoes, amadumbe, legumes like diverse beans, groundnuts, grains like maize, local fruit e.g. cultivated or wild, bees and honey, chickens, ducks, goats, cattle, diverse cultivated and wild vegetables. There is lots of in-field diversity. Further north there are also wetlands and farmers are planting madumbe, small sections of sugar cane selling as sticks for growing and snacks, finger millet and pearl millet. Near eSwatini farmers also grow mung beans, sesame, Zulu potatoes, and cowpeas. There is generally more diversity in household gardens than in the community garden.



Circle garden at Hoedspruit Hub

In Hoedspruit, participants say biodiversity and agroecology are working together and practices bridge these dimensions. Farmers are producing a wide diversity, including citrus, mango, avocado, banana, pawpaw, guava, mulberry, peach, apple, plums, pomegranate, grapes, sugar cane, moringa, spinach, beetroot, cabbage, carrots, onion, Chinese spinach, tomatoes, peppers, sweet potato, morogo, mustard greens, fennel, lettuce, green beans, chilli, herbs, peanuts, bamabara nuts, cowpeas, cassava, watermelons, pumpkin, maize, sorghum and millet. Indigenous crops include mogogoma, waterberry, wild medlar, and marula. Medicinal crops include aloe, wild ginger, lingana, guava leaves, lemongrass, avo seeds, bitter morogo and others. Livestock include indigenous chicken, broilers, local and mixed breed cattle, goats, pigs, and donkeys.

Land and natural resource governance

Biosphere or catchment level actions were amongst the weaker indicators from the survey. However, in two of the three site visits, this was a strong element of work by leading organisations in the networks.

Biowatch indicated they haven't engaged as much as they would like to on the landscape side. They did some work on design on water problems, as livestock are using the same water as people. However, this is complicated and needs different skills to engage community dialoguing to work through land ownership issues.

In Hoedspruit a number of organisations are working at landscape level. The CVC has an 1,800 ha conservancy incorporating bushveld and mountains, with a smaller fenced off area for the development of a permaculture system. K2C is a designated biosphere with a vision of harmony, biodiversity, and economy linked to survival. They are developing mechanisms to further support SMMEs to stimulate the green or circular economy in the area. Although this is not limited to a specific economic sector, agriculture is an important part but also probably the most difficult. K2C is looking at what mechanisms are appropriate to support existing SMMEs with markets and market access, training etc, including in agriculture, arts and crafts, tourism, service providers and technical skills. They are also moving into a few other sectors such as environment and production, basically working with anyone with cottage market style small businesses.

AWARD has worked at catchment scale for decades. AWARD says if the catchment is unhealthy, it doesn't matter what you do on the ground. The organisation is one of the few that had the right level of funding to work at that wider approach. Systems are grim on water predictability and climate scenarios. Without water, farmers will have a hard time farming. There are indigenous forests around the Hoedspruit area although there is no formal management, and the forests are basically open source. In some places there may be controls based on enforcement by chiefs/indunas.

In Umzimvubu, organisations especially in the Upper Catchment around Matatiele (which is a strategic water resource area) are leading the UCP as briefly described earlier in the report. The overall objective is to restore livelihoods and landscapes. Efforts at conservation in communal areas were not yielding desired results mainly because if finance was coming through government, the emphasis was on conservation of water, soil, plants, animals etc without integrating people's livelihoods effectively into conservation. One major problem with rangeland management is infestation with alien vegetation, especially wattle. It takes a lot of water so nothing else grows there. This led to a focus on wattle removal to restore grazing and rangeland. A key part of activities was the training and deployment of Eco Champs (part of a programme with the South African National Biodiversity Institute²⁰), which is described as an army of ambassadors to work on the

²⁰ <https://www.sanbi.org/>

landscape. This allows smaller NGOs (geographically or resource-wise) to have a greater impact and to punch above their weight. The Eco Champs provide multipurpose outreach including water, spring protection, agroecology, landscape management, livestock, fire, etc. Eco Champs are the ears and eyes on the ground, working in the communities they are living in.

One topic that is not well reflected in the HLPE principles, but which is very important for the South African context is that of land redistribution, ownership, and secure tenure. This was included as an indicator in the survey and emerged as one of the weaker indicators. This points to siloes, with some organisations specialising on land rights and access and others on agriculture. It may also reflect uneven land demand across the country. Participants generally indicated that land access is not a major constraint, mostly in communal areas where organisations are operating. However, youth access is sometimes an issue, and there are gendered dimensions to tenure security, with women being less secure than men, and land access often being tied to male heads of households.

Synergy

Synergy is divided into production synergies and wider economic synergies in Table 2.

Climate change adaptation

Climate change adaptation is a high priority for smallholder farmers at present. It is an entry point for agroecology for a number of organisations, with an emphasis on climate resilient agriculture. Hoedspruit Hub has developed an agroecology manual with key climate adaptation elements which incorporates planning, budgeting, linking soil and nutrition, practical activities, natural pest management, scheduling, record keeping, and marketing. Farmers and organisations have already developed a range of responses to these dynamic conditions, across agroecology principles. Agroecology helps with water retention around drought, and has also helped to reduce destruction in KZN following the floods.

Adaptive practices include:

- Seed - seed saving with two backups, holding surpluses for longer to cover any losses
- Water conservation and management - rainwater capture using gutters on roofs and rainwater tanks, catchment for rainwater, first flush filters on tanks, grey water harvesting, controlling water runoff and erosion through use of swales and planted grass, use of river water if there is no rain, soil in sacks to control water flow when rain is heavy, raised beds, plant under trees to conserve water, intermediate technologies e.g. hippo rollers to fetch water and spend less time, plant windbreaks to reduce evaporation, community-based water schemes (boreholes and reticulation to households)
- Soil health for water retention - increasing organic material in the soil, mulching
- Crop diversification to incorporate small grains, root crops, legumes, and small stock integration
- Garden design - pathways to prevent damage, preparation of planting stations using organic waste and manure
- Indigenous / local knowledge - building on local knowledge and reaffirming local practices which have got lost and which are important for resilience

According to farmers in Mtubatuba, these methods have helped a lot, and they said they wouldn't still be farming if they were only doing what they did previously.

4.2 Comments on social justice and redress

Co-creation of knowledge

In Umzimvubu, land management practices are heavily dependent on knowledge that elders shared on the ways livestock and land were managed when they were growing up. This was helpful because together they reintroduced *mabuela* / resting rangelands. According to participants, it is important to interact effectively with TAs because they are the custodians of the land, and have to be recognised as leaders and help with grazing planning. It would not have been possible to do grazing activities without the knowledge acquired from the elders, who have a lifetime of practice.

Social values and diets

Farmers in KZN and Umzimvubu are encouraged to practice *ilima* which is sharing labour and equipment in the fields and mutual aid, including distribution of surplus production to those in need in the community. This promotes local connections and humanity/*ubuntu*. People share food, indigenous knowledge and local practice. There is a strong focus on indigenous plants, and their nutrition and health benefits.

For the Hoedspruit cluster, the long-term objective is for organic produce to be affordable to the community, with food gardens at schools. Historically there was wide dietary diversity and that could be continued. However, there are no educational tools on different cooking methods, diversity of crops etc. MDF is working on that aspect. Eating habits are mostly set by five years old. If children are weaned on three basic ingredients, they will end up eating that for the rest of their lives. It starts at home and with young people, with diversity at a young age. It is not just about education but also cultural choices. Introduction of new crops doesn't work, and local crops that people use should be promoted.

A challenge with realising healthy diets is what people have access to and what is available in large quantities and cheaply in the context of resource poverty. This will generally be maize meal. For more local crops questions are whether there is continuous access, and how the food goes with other things in the meal. People will buy the lowest cost food. The emphasis should be on what can be easily grown or what people have access to. People survived for many centuries without maize meal. A meal can be structured with little money without having to revert to a lot of maize meal. This requires food preparation, growing things, and work with what is around you. However, this discourse is not emerging. If everyone had a food forest, output could skyrocket, especially if the system is designed for perennial production. There is currently a disconnection between production and the kitchen. Organisations indicated they approach this by identifying which things used to be in the area, and then draw from that but also introduce food from the wider world and other ideas. The objective is to build a new, integrated system.

Participation

Organisations strongly emphasise farmer and community agency and voice, and that organisations must not do things of behalf of communities. People should be agents of change of their own lives, with organisations assisting that to happen. According to a participant in Umzimvubu: "Part of sustainability is for farmers to believe in themselves, and to do on their own, with the capacity and knowledge to be independent. Farmers should find markets themselves, not coming back to organisations to report, but just forging ahead. As long as we do that and build capacity for people to stand on their own, we can then check whether they are applying and then can share the lessons.

This is important follow-up work which is why we have coordinators at village level. But it is critical that farmers are able to do on their own. Farmers' markets are a good lesson".

In all sites, the underlying approach is to start engagements with communities, identify priorities arising from discussions, and then develop plans on what to do, and implement together. NGOs support rather than decide what to do. Farmers and communities must see tangible benefits for themselves, otherwise practices will not continue. There is strong involvement of women across the board, with women constituting the majority of farmers most NGOs are working with. This is less so for youth, although there are efforts (see below).

In Umzimvubu, organisations such as SaveAct use an asset-based community-led development approach. This is welcomed by communities because people feel empowered when you don't tell them what to do with what they have. If governance structure includes participants, they can participate in government community projects rather than relying on donors. SaveAct supports the development of self-organised savings groups in Umzimvubu, Hoedspruit and elsewhere in the country. Participants get training and support, but are self-managed.

4.3 Comments on economic fairness and participation

Economic diversification

Organisations have made some efforts towards economic diversification, including providing training. Area of diversification include on-farm processing (e.g. vegetable drying, preserving, juicing), nurseries for seedlings and indigenous plants, use of biomass from cleared alien vegetation for wood and charcoal, markets for *imphephu* (herbal medicine) and rope using local grass, and eco-tourism. Participants indicate unmet market demand for processed goods from small enterprises, and constraints to processing including access to appropriate equipment and machinery. Although infrastructure for eco-tourism is inadequate or non-existent, there are trail routes to archaeological sites, caves, and waterfalls. Funds from savings groups allow farmers to control the finances themselves, including through setting up revolving loan systems.

Fairness

Given the limited market interactions to date, economic fairness did not illicit much discussion. However, Hoedspruit participants indicated that village level savings associations have been very successful and have given farmers a high level of self-worth. They can say it is their money, and they can do what they want with it. There is need for independence when doing agroecology.

Connectivity

The principle on connectivity focuses on producer-consumer links, local markets, and quality assurance. This raised the opportunity for a more general discussion on markets too. There are three levels of production: food for home, local markets and then expanded markets (supermarkets, restaurants, FPMs etc). The majority of farmers are producing in backyard gardens mainly for own use, which limits sales of surpluses. There may be some informal local sales on request. Under the Covid lockdown, surpluses in Mtubatuba were distributed for food relief, emphasising the mutual aid aspect of agroecology. There have been some efforts on box schemes in KZN and Hoedspruit, but logistics are a challenge (distances, cost of transport, coordination) and local demand is sometimes not enough to justify the effort. This requires more popularisation amongst consumers.

Farmers in Mtubatuba sell to local supermarkets (Pick n Pay, Boxer) but there are questions about whether this is the best value for farmers, as they do not receive organic premiums and there is local demand. A number of participants indicated that local consumers often reject produce from local farmers and prefer to buy from the supermarkets even though produce sometimes came from the same farmers. There are issues here about quality perceptions, status, etc. People were grateful for the supermarkets after the July 2021 unrest, but at the local level there is a cost of buying only from supermarkets including transport costs and loss of dietary diversity.

In other places, farmers have organised successful regular local markets. However, government tends to come into these spaces with top-down and heavy-handed regulation rather than an enabling approach, being supportive in ways that improve vibrancy but also ensure sanitary conditions, availability of water and ablutions facilities and so on. There are lots of informal traders, who congregate for different activities at certain times of month. However, these have been disturbed by the new system of grant payments (electronic payments rather than physical), as people were selling informally at pay points. This has resulted in the dismantling of social cohesion and local markets.

Biowatch has historically worked in rural areas, but the experiences over the past two years have suggested also considering peri-urban and informal settlements in and around Durban. Millions of people live in these areas, the population is spread out and there is some land available for production, unlike Cape Town, for example. These are very dense, and consequently there is high local demand. Government does have a localisation strategy but still need to be convinced around corporate value chains and industrial production.

Biowatch has started engaging with Siyazisiza Trust²¹ on markets and how to fill in locally for diversity with the objective of increasing income to smallholders. Siyazisiza has a central packhouse in Mtunzini (KZN North Coast), and does training at garden level, has decentralised packing spaces, and then sells on to supermarkets. They have changed training, reorganising around the Covid and unrest experience, with more emphasis on household and community food security.

The Hoedspruit cluster has a stronger focus on markets. School permaculture gardens produce food for school food programmes. A small-scale farmer PGS (Skororo-Mametja) was established, with 15 farmers currently with certification through PGS SA²². PGS pollinators (as part of PGS SA activities) are tasked with assessing if farmers are producing according to standards, with the objective of improving quality, consistency and trust in the market. Farm visits that underpin the quality assurance model are conducted but not with the full range of food system actors, and currently it is only the farmers and supporting NGOs who do the farm visits / assessments. PGS is not a market itself but is an entry to the market, and local actors must try it out to see where demand is. PGS certified farmers indicated a key benefit of certification is to differentiate them from other sellers. They do try to sell at a premium but only to a level where people can still buy. Local consumers are interested in better food but still may not pay much more.

PGS SA appreciates that not all farmers will go for PGS as it is intensive and requires sustainability and commitment. Organisations have linked PGS to the Thala Table network and learning groups. Thala (Green) Table incorporates a larger group of farmers who have been trained on agroecology but haven't met the PGS standards, which are quite onerous as they are based on the South African

²¹ <https://siyazisiza.co.za/>

²² <https://www.pgssa.org.za/>

Organic Sector Organisation (SAOSO) local organic standard²³ which is the same as that used for commercial markets. The tables sell organic produce in local markets. The Thala Table network will be a key focus for the next couple of years, holding the network and supporting production and marketing, including provision of a table, tents, and capacity. They have started with 10 farmers in three areas and are currently expanding to another five areas. Two youth per village have been given training to advance their skills.

Formal markets around Hoedspruit are relatively closed to smallholder producers at this stage. Supermarkets generally don't buy directly and rather go through the centralised corporate distribution centres. However, it can depend on who the store manager is. Cold chains are an issue for herbs and other perishable produce. Some products like potatoes or butternuts can go into system but otherwise farmers need alternative channels. Being next to the Kruger Park, Hoedspruit has significant tourism. However, lodges in the area are not particularly interested in organic produce, and are more concerned about convenience (e.g. bulk purchases from a single source). Consumer demand for organic and smallholder produce is not there. People may like it, but they will not go out of their way to purchase.

Organisations and farmers in the Umzimvubu cluster engage in a range of different market initiatives. In Matatiele, ERS, MDF, Lima and others participate in the Meat Naturally initiative. This is essentially a means of improving rangeland and livestock quality, and mobile auctions that sell to buyers including large commercial feedlots, abattoirs and butchers. Unique selling points are communal farmers and ecologically friendly management of rangelands. A for-profit company has been established to drive the initiative, with farmer co-ownership.

Markets for fruit and vegetables are similar to the other sites. Mostly farmers are not able to meet formal market standards at present, even after training. Retailers are concerned about liability on food safety and require detailed compliance. Farmers need to be able to work with enough scale to put in controls and cover the costs of cold chain, Hazard Analysis and Critical Control Points (HACCP), logistics and packaging. Once farmers have scale, they can go back to retailers and discuss. However, even if farmers are able to meet standards, they do not get premiums and are paid low prices for their produce. As a result, farmers and organisations feel that local informal markets and public procurement (schools, hospitals, clinics) are the best options. Participants proposed the creation of parallel marketing systems that do not feed into the formal sector with all its challenges. This includes consumers buying locally (requiring awareness and information), collaborating and supplying each other with diverse crops, and consistent low-cost marketplaces. This could be facilitated by local market garden centres that can provide infrastructure and technical and logistical support. The Embo Regenerative Agriculture Cooperative in Umzimvubu local municipality are also establishing a PGS, although no farmers are certified yet and they must still join PGS SA officially to get the seal.

4.4 Gender

Organisations participating in the discussions tend not to have systematic gender programmes, but women form the core of the constituencies they work with. In all areas, women mostly crop, and are mostly concerned about family nutrition and have the responsibility for it at household level. Biowatch chose to work more on cropping than animals which would have a more male dimension, although there are some men participating, mainly working with their wives. Men also get pulled into other income generating activities. Biowatch decided to focus on women smallholders because

²³ SAOSO 2020. "SAOSO Standard for Organic Production and Processing, v1.7", SAOSO, <https://www.saoso.org/wp-content/uploads/2021/11/SAOSO-STANDARD-FOR-ORGANIC-PRODUCTION-AND-PROCESSING-2020-V1.7.pdf>

they are the most marginalised. Biowatch has had lots of discussions with the Swiss Agency for Development Cooperation (SDC, one of their main funders over the past decade) on gender, with some exchanges where men were also invited to talk, but have not really progressed on gender like organisations in Malawi where they made it a focus and changed dynamics. This requires capacity, and needs a dedicated person to take it up. Current staff are working within existing frameworks which is good because they understand these, but then it can also lead to accepting existing cultural/social dynamics.

Men are mainly active on livestock, and this sometimes causes clashes between women responsible for crops and the husbands' income from sugar production or livestock. Controlled urban migration under apartheid reinforced this division of labour. But although there are more men at home again as a result of lack of employment in urban areas, this has not shifted back to mutual work and support. In KZN and Limpopo in particular, organisations and farmers indicated that men do not contribute labour to agricultural production even if they have free time, as this is now entrenched as women's work (apart from the money-making opportunities such as sugar or cattle). Gender-based violence is a cruel reality and there is limited funding for preventative actions (which of necessity will include economic redress).

According to farmers in Mtubatuba, "there is no way to change men's minds now. When they realise how much work farming is, they quit. Meanwhile, women have so much work to do besides farming and men do nothing at home. Children are supported by the women who take the responsibility to make means to support their children. Whether they like it or not, they do farming. Even if men get piece jobs, they are not supporting their family".

4.5 Youth

There was much discussion about youth with participants in site visits. The general impression is that youth are not interested in agriculture for a number of reasons. From all sites, amongst both farmers and organisations, there was a widespread perception of youth as lazy, unmotivated, and simply looking for a handout or a quick buck. For example, farmers in Mtubatuba said: "Youth don't want to work. They have long nails and won't mix cow dung. It is hard for the youth because they are after quick cash. Agroecology farming takes time and does not generate enough income. Youth are lazy and say we are hard on them". Farmers in Umzimvubu said youth don't consider farming as important and take it as hard work, adding that "youth want money now, they don't enjoy being broke". Organisations working in Umzimvubu concurred, saying that "farming is seen as a dirty job, for those without options. Youth want to work in an office, to sit behind a computer. Very few youth see farming as a career. Even those who studied farming at tertiary level don't start their own production, but rather look for a job". Organisations in Hoedspruit agreed, saying youth do not want to work on the land, and prefer desk jobs. According to participants in Hoedspruit, once you move from subsistence to commercial production, there is only a small group who want to pursue agriculture, as it is "too much work for too little reward for most people". Agriculture is not an easy industry to be in, but people (including the Department of Agriculture) paint a picture of agriculture as quick and easy money. There is no sense of the reality behind agriculture.

Organisations and farmers alike indicate that youth tend to submit CVs for employment in towns or cities and then sit back passively and wait for a response. Stipends /wage subsidies offered to youth, for example through the Yes for Youth (Y4Y) programme in Umzimvubu, were considered by youth to be too little, even though Y4Y offered stipends of R3,500 a month, which is substantially higher than other public employment programmes such as Working for Water (WfW), Community Works Programme (CWP), Extended Public Works Programme (EPWP) or the Presidential Social Employment Fund (SEF).

However, these charges of laziness of not necessarily a fair reflection on the youth. In the first place, “the youth” is not a monolithic category. There will be unmotivated people but there will also be highly motivated and energised people. From the above it appears that youth are being offered a raw deal. Formal employment opportunities have dried up and are mainly low paid, short term and precarious, especially for unskilled or low skilled workers with limited experience. Stipends or wage subsidies tend towards minimum wages and are temporary at best. Although there are opportunities to use public employment type programmes to build up skills and create employment pathways, few organisations realise this in practice. According to farmers in Umzimvubu: “Youth are just sitting in the taverns with no dreams, and no future”. This is both a cause and effect of social alienation and disconnection emerging from the serious structural economic problems built on the low-wage economy inherited from apartheid. Youth choose to migrate because they don’t see opportunities in rural areas, according to Umzimvubu farmers.

This is compounded by decades of denigration of agricultural labour. In the past, Africans were exploited working in white household gardens, getting paid low wages, and now gardening is considered a lower kind of work, say farmers from Umzimvubu. As one youth said: “I grew up working in the garden, but I had a problem with the way it was done, as it felt like we were being forced”. Agriculture is no longer a practical subject in schools and even at home children are not encouraged to garden. This goes to the extent that even those who study agriculture don’t have practical skills or knowledge, but only theory. And once youth have come out with an agricultural degree, their parents may still be disappointed if they elect to go into farming, according to a youth producer in Umzimvubu. Parents are failing to give children the required structure or discipline to persevere and work hard to realise their dreams. Organisations promoting agroecology tend to speak about subsistence farming and survival, but youth are not interested in that, they want more for their lives, according to participants in Umzimvubu. Not much is being done to counter this perception of agriculture as the last, desperate option.

Participants in Hoedspruit said it is understandable that youth will only work if paid, as they must earn their own living, and move from under parental authority. A challenge is that agriculture requires money to start. But most youth are unemployed and don’t have money to put in. They can’t ask their parents, who mostly have few or no resources to contribute. The state is not helping at all. In Umzimvubu, organisations mention many youth starting cooperatives but stopping as soon as they encounter difficulties because there is no support. Few youth have post-matric qualifications, and programmes do not speak to them. They just depend on grants. Youth also face a number of social constraints, such as not being invited into spaces for discussion and planning, or having to justify land use or requiring permission from elders to access land (although this is differentiated across sites). Youth also lack knowledge and information on agricultural production and enterprise opportunities. Farmers in Mtubatuba and Umzimvubu also highlighted the loss of knowledge around the benefits of traditional food and nutrition, pointing to a failure of intergenerational social mechanisms of knowledge transfer.

Opportunities for youth

On the other hand, farmers and organisations also indicated that there is some interest amongst youth in learning more about agriculture, including agroecology. Farmers in Hoedspruit said youth recognise that food production provides food around the house and sale of surpluses can generate income. Youth are tech savvy, are keen and have ideas and energy which they can use to boost farming groups which, for these organisations, are mainly older women.

According to Hoedspruit participants, youth will have no choice but to engage in food production as the unemployment crisis includes graduates. Participants indicated that people are not necessarily

looking to go to Johannesburg to find a job. Some do start their own initiatives, and there is some ownership that is already building up in communities. Youth are looking for alternative things to do. Evidence from around Hoedspruit indicates that a number of people are returning from the cities (Wits Rural Facility has data). Tourism sector jobs were lost or on hold during Covid. Those people are sitting around and many of those youth are gardening. They don't have money for inputs, so it is automatically organic unless the Department of Agriculture channels them towards conventional agriculture on the basis of inputs and extension services provided.

What are organisations doing to integrate and support youth?

In Umzimvubu, TMiA starts from youth leadership to encourage youth to assert ownership of their own lives, deal with traumas, and find their voice. TMiA finds that this is having the biggest impact on youth involvement and taking steps to move things forward. The language then shifts to developing business and value, and what can be achieved.

Organisations have facilitated school gardens, including a competition between schools in Hoedspruit. Gardens are coupled with training of high school learners on record keeping and managing money from production. Some of the youth may then practice what they learn. In Umzimvubu, organisations have visited schools and have found a lot of interest amongst Grade 10 and 11 learners.

Organisations are working on enterprise opportunities in agriculture but also in the wider goods and services ecosystem surrounding production. These include practical efforts to bring youth into ecotourism (homestays, community lodges, tourist and trail guides, tour operators), input production and supply, research, documentation and communications. In Umzimvubu, organisations have developed the Eco Champs model. Eco Champs are essentially capacitated, community-based multisectoral extension workers responsible for conservation agreements, rangeland and veld monitoring, developing green business value chains off alien plants, as paravets, stock theft and fire patrol, alien clearing follow up and erosion control, facilitating trampling on cleared areas, auction preparation and support, recording and monitoring, serving as community stewardship ambassadors, and looking at the whole value stream and trying to build up small enterprises to run those. The model has had positive impacts and integrates production and landscape management. However, it requires funding which is difficult to secure on a long-term basis. Ultimately the idea is for users (farmers, landowners) to pay for Eco Champ services, but such a market-based model is contradicted by the historical externalisation of the costs of ecosystem services. This reduces the incentive for users to pay. Land and natural resource management services such as these offered by Eco Champs should ideally be paid through the public sector as a contribution to the public good. However, given the current political terrain, and the actual experience of funding for these types of projects (short-term, under-resourced, inconsistent, late payments, bureaucratic, siloed, at times captured by elites / patronage networks), this source cannot be relied on.

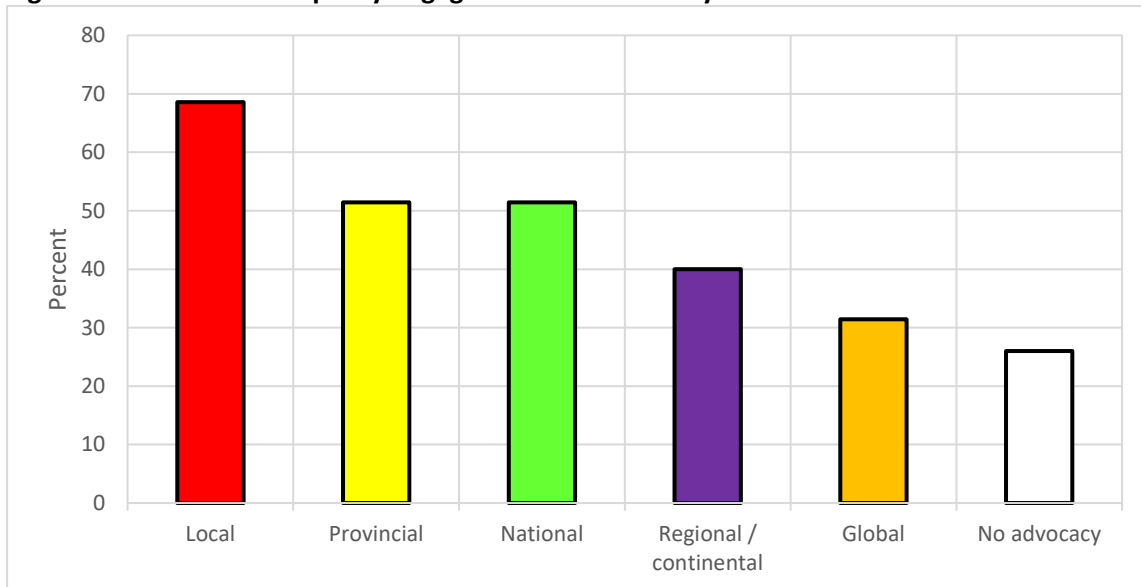
5. Advocacy and policy engagement

Over 90% of respondents to the survey indicated they use a rights-based approach in their work. The right to food is the most common, followed closely by rights of nature / environmental rights and then farmers' (and fishers') rights. Consumer rights are less explicitly promoted (40% of respondents). Others specifically mentioned by respondents included the right to information, land rights, indigenous rights, and human rights.

Close to three-quarters of respondents indicated they are actively involved in policy engagement and/or advocacy on agroecology. Figure 3 shows spatial levels of engagement. Sixty nine percent of

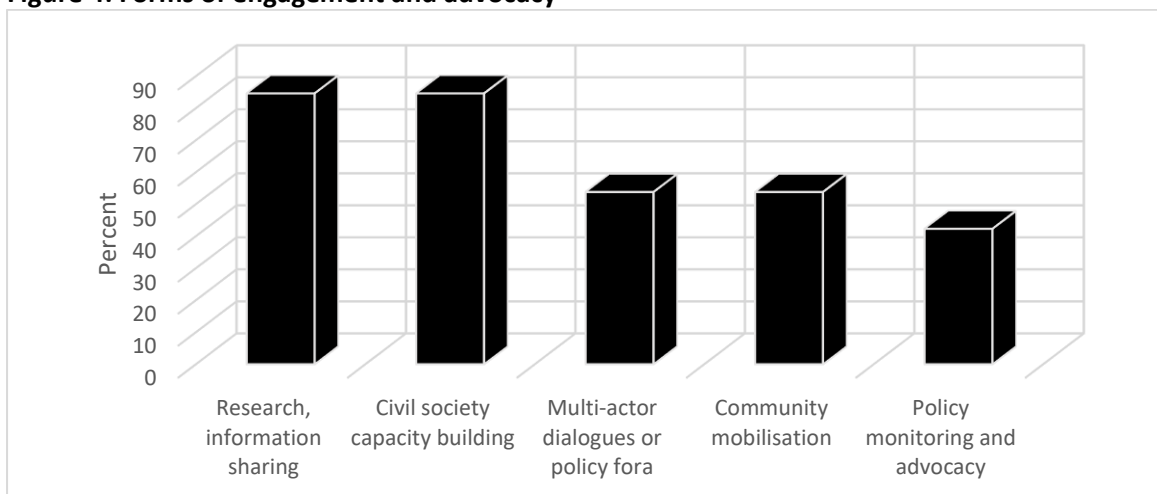
all respondents were doing advocacy at local level (92% of all those doing advocacy). More than 50% of all respondents were doing advocacy at provincial and national levels, 40% at regional / continental level, and just under a third of all respondents (42% of those doing advocacy) were advocating at a global level.

Figure 3: At what level is policy engagement and advocacy done?



Most widespread forms of engagement were research and information sharing, and capacity building on key issues, with more than 90% of those involved in advocacy doing these. More than half of respondents involved in advocacy facilitated multi-actor dialogues and community mobilisation (Figure 4). We can distinguish between advocacy and policy engagement. Advocacy is about popularising agroecology and showing that it can be an effective response to a range of challenges facing society. Policy engagement is a part of advocacy, but with a focus on interventions in specific policy processes. As indicated in Figure 4, just over 40% of survey participants involved in advocacy focused on policy monitoring and advocacy. All organisations in the site visits do some advocacy wherever they can, though generally there is a lack of resources for an advocacy officer.

Figure 4: Forms of engagement and advocacy



On policy, organisations have had some engagements in the past few years. Biowatch has consistently engaged in policy processes through consultations with farmers and formal submissions, including on climate change, seed laws, producer support, CA and CSA. CSOs and farmers participated in national level mobilisations and participation in revision of the Plant Breeders' Rights Act (PBRA) and Plant Improvement Act (PIA) which were relatively effective in that they did realise crucial exemptions for smallholder farmers. Organisations have had engagements on the CA national policy and the Comprehensive Producer Support Programme (CPSP) and made some inroads, with elements of agroecology inserted into the frameworks even if fragmented and sometimes in contradiction with other elements. AWARD has a long history of working on water policy including catchment management.

Most organisations and farmers have ongoing engagement with local and provincial Departments of Agriculture and local extension services. These have indicated some interest, but with slow progress in materialising alternative forms of support for agroecology farmers. There are other agroecology CSOs involved in national level extension reform processes (e.g. Environmental Monitoring Group (EMG), WWF), but these are not widely connected to date. There was some successful multi-level engagement on the recent Covid disaster relief programme on ecological inputs and lowering the floor for participation to allow smaller producers to gain access. This action brought together an unprecedented number of organisations at a time of heightened collaboration.

A number of organisations have been working on curriculum development with universities, Technical Vocational Education and Training (TVET) and agricultural colleges (e.g. Biowatch, MDF). Efforts have proceeded on developing a national framework for accreditation of agroecology curricula through the Quality Council for Trades and Occupations (QCTO) and Sector Education and Training Authorities (SETAs). Eleven modules have been developed for the QCTO already and materials have been bought. Organisations can also develop their own content but must meet the defined standards. There was some lack of buy-in from some CSOs (including concerns about ceding of grassroots agency in the process) which meant a relatively narrow result. In most cases, these advances are heavily dependent on individual contacts. When those individuals leave, programmes collapse indicating they are not being institutionalised. The result is that formal training materials on agroecology are available, but few consistent courses are up and running.

Key topics for future advocacy mentioned by participants include seed, biodiversity, markets, climate change in relation to agriculture and the food system including the Climate Commission, Climate Change Bill and sector adaptation plans (agriculture, environment), nutrition and agroecology, water for production and household use, possible revisions to NEMA, and LED. The DDM is considered a key point of integration, including participation in intergovernmental relations forums which will also lead and coordinate on climate response.

Many participants felt CSOs should make submissions even if the anticipated results are uncertain. Agroecology is relevant to all these areas, but the links haven't been well articulated to date. As a participant in the Umzimvubu dialogue said, agroecology proponents need to show where the work converges with government's framework. Effective interventions require policy scanning and analysis, research, prioritisation, framing, information sharing, mobilisation, engagement in specific processes, and dedicated organisations or individuals to drive these processes. This again comes to the question of resources and capacity. Biowatch indicated it is willing to take a lead on policy engagements around climate and agroecology as one space. Organisations pointed to the need to identify correct intervention points in prioritised processes.

Some policy spaces are not clear at present. There are lots of partial processes e.g. the CPSP which has no finalised version, and which makes it difficult to engage. Policies are very government

controlled. They can open them up for comment as required by law, but submissions may or may not be incorporated, depending on government's own interests.

Most organisations the research engaged with are practitioners, whose engagement with government officials are mainly at local, district and provincial levels, and with TAs and extension services. Farmers are part of engagements at these levels. Efforts at coordinated provincial engagement in Limpopo was led by AWARD on seed banks, agroecology and PGS but they lack funds to sustain the process. The KZN Agroecology Platform facilitated by Biowatch has a longer-term objective to develop coordinated policy and advocacy approaches, but currently member interest is mainly in learning exchanges. In Umzimvubu there are some engagements through the UCP with national, provincial and district officials including Environment, Agriculture, Water, Economic Development and Tourism, and the South African National Biodiversity Institute (SANBI). They haven't done much explicitly on agroecology to date, but there is interest to expand.

Organisations have had limited national level engagements except sporadically, with some successes mentioned above. The pandemic has made coordinated national engagement more difficult. Participants suggested widening engagement on agroecology beyond the Department of Agriculture, with other important departments mentioned being Health, Water and Sanitation, Environment and Cooperative Governance.

Experiences with government engagements

Organisations have expressed general frustration with government engagements to date. Local and provincial officials and representatives are invited to activities and events and do participate at times. They do indicate interest but there is no follow up. This is a common experience across the sites. Municipal officials are supportive in some places, but implementation cuts across a number of departments and entities, most of which are aligned to the dominant agenda of conventional inputs, industrialisation, commercialisation, and integration into corporate value chains. Despite agroecology appearing in policies and plans, the Department of Agriculture does not prioritise it, and provide resources that fly in the face of agroecological principles, especially on production inputs. Big global funders are also oriented towards conventional production and seek large scale, quick results from big projects to respond to immediate global food supply and price crises.

Agroecology is perceived in government as running counter to the programme, and is seen as a disruption to the smooth flow of support. As one participant from Umzimvubu said: "what we are establishing doesn't work for government. Big farming makes sense for them. It is easy to tax, and to work out what is going on, and money is going back to the government". Meanwhile, CSO advocacy and policy engagements are based on an explicit critique of the dominant agenda. CSOs are seen as competitors to government programmes or as hardline and antagonistic even though this is not always the intent. Organisations encounter debilitating bureaucracy and difficulties in bringing local municipalities into processes even though it is their mandate. There is a lack of integrated implementation e.g. between social grants and agricultural production support. Departments and entities operate in siloes and do their own thing, creating confusion amongst farmers who receive divergent support. The model of agricultural support is about government handing out inputs. Participants said the Department of Agriculture does not know what to do if it is not handing out goods, and that government doesn't know how to intervene in any other way. This results in farmers also equating support with being given free things. Extension officers are poorly trained, and only in conventional production.

Roles for farmers and CSOs

With regard to advocacy, farmers emphasised their role in demonstrating practices and being an example, advocating by doing and showing. Farmers called on government to observe what they are doing on the ground. Farmers also have a role in capturing data to build up a portfolio of evidence, and for local people. Farmers in Mtubatuba proposed visiting and presenting agroecology practices to groups targeted by the Department of Agriculture for conventional inputs, and to use any opportunities and spaces with government to advocate on what they are doing. The same farmers did indicate that Biowatch has facilitated various interactions with government on various processes and that they use these spaces mainly to get more information and to make contacts which they follow up on.

In support organisations, energy on advocacy and policy is very low, with most considering the effort they put in and what they get out is not worth it, with very limited returns. Organisations find it difficult to speak to people outside the sector. Biowatch suggested adapting the approach in light of perceptions of combativeness with government by “find[ing] ways to invite people to come and experience and see, with a more gradual process. We can try to invite local extension to festivals and activities ... Instead of just trying to affect the top, in parallel we can get interested people to come in and build from the ground. It is much more difficult when going head on”.

Organisations identified CSO networks as key, and clearly indicated that practitioner organisations and farmers cannot be expected to stay on top of all policy processes. There are support organisations who focus on research and policy, and these should work with those directly involved in farmer support to inform and mobilise farmer participation in key policy processes, coordinate responses for the wider networks, draw lessons and feed these into policy spaces. There is need to connect to others working on policy level (e.g. EMG, SPP) to see what they are doing. Nevertheless, challenges remain in involving farmers actively in policy processes. These are often complex technical and legal issues which may seem distant from the immediate concerns of farmers. Resources are required for farmer consultation and participation so they can participate in an informed way, but there is limited capacity in organisations to do that kind of engagement. Mostly these are small organisations trying to cover many bases.

Is policy engagement worth the effort?

In light of the challenges and limited returns on policy engagement to date, research participants considered whether policy engagement is worth the effort. There are some differences in views but ultimately most agree on the need to develop actions beyond the state but also to try to engage wherever possible. There is recognition that policy is important because it can oblige government to act. Organisations with the history and capacity to comment on technical and legal documents have the responsibility to do so even if there is a limited chance of immediate impact. Such actions may have a cumulative effect over time. Public funding will only be channelled to agroecology in a systematic way if agreed by the Minister or Director General. Policy also opens the space for other stakeholders to be involved, which can expand the work. Given the examples of successful challenges in recent years, organisations considered it important to challenge and hold government accountable. CSOs and smallholder farmers should not only speak amongst themselves. Government and big business are part of the environment and advocacy needs to integrate their concerns too for an effective plan to emerge.

However, participants were also not optimistic about effective lobbying at national level in the current context, where political rulers are at odds with the populace. Government is supposed to provide support and resources and is mandated to do that, but they don't. In the words of

participants in Umzimvubu “we will not win that war ... Policy is necessary, but it won’t come from this government. We can’t spend a lot of time lobbying them”. Rather, they propose identifying likeminded people to engage with and to develop their own systems and enabling structure to support agroecology and food sovereignty that are not dependent on the state, and which can force change.

There was some discussion on whether to work towards a specific agroecology policy, or whether it is possible to carve an agroecology strategy out of existing policies and strategies. It emerged that there is not much appetite for a specific policy, especially given the current political context. There may be some grounds to piece together an agroecology strategy based on existing policies and programmes. Participants mentioned space in existing policies, reinforcing the initial scan in the TAFS project, which highlighted policies posing obstacles to agroecology support, and those which can be used to promote agroecology including on producer support, climate change, CA, Climate Smart Agriculture (CSA), NRM and biodiversity, land and water reform and access, food and nutrition security, local approaches, governance and participation²⁴. Further work can be done to identify priorities and specific processes for engagement. Strategy can also be developed from the ground as a practical plan of action for civil society, whether with government or not. In this way, farmers and organisations will not be constrained by lack of government involvement. Existing initiatives e.g. PGS should be recognised and can be built on. A strategy should clarify definitions and principles so that organisations are working within the same framework.

Human rights were not explicitly discussed by participants. However, in the survey, the majority of respondents said they work within a human rights framework. Human rights are explicit in the overarching Constitutional framework within which civil society is working, and is implicit in approaches to food sovereignty, farmers’ rights, etc.

International processes

Brief discussion was had on international instruments and their value in promoting agroecology nationally. These were found to be distant from practical work on the ground, and mediated / filtered through national policies and laws, and then sometimes converted into programmes. Few organisations have the capacity to engage consistently at international level. Even once they get there, they encounter difficulties as the UN, for example, tends not to consider small NGOs and they can’t get onto the agenda.

Biowatch, as one of the few organisations consistently involved in international processes, indicates lots of challenges at the global level. Biowatch participates in the FAO CFS²⁵. This was previously a strong space for CSOs and social movements but more recently is being contested by corporates and the private sector based on the new multi-stakeholderism that reduces the power social movements had in that space. The UN Food Systems Summit (UNFSS) is usurping discussions on food systems transitions, with problematic outcomes on agroecology and food and nutrition. CSOs have differences on strategy on how to respond, whether to work in those spaces and contest, or to boycott and work outside. These are similar to the discussions about policy engagement in South Africa. A lesson is that decisions on engagement depend on the specific context rather than an absolute or in-principle approach to collaboration or abstention. There are some social movement counter-mobilisations planned at global level but not much uptake from other organisations in South Africa.

²⁴ Greenberg, S. and Drimie, S. 2021. op cit.

²⁵ <https://www.fao.org/cfs/en>

Sixty percent of respondents to the survey were aware of UNDROP, of which 71% (43% of total respondents) said they plan to use the Declaration in advocacy activities. UNDROP is a good case study of the limits of international instruments. It is visionary but is not legal binding. Although these are things people want, it is difficult to bring it together in the South African context. Although the South African government was a strong champion of it at UN level, it has not influenced policy or programmes at national level to date. On the other hand, CSOs have done no follow up. Biowatch says CSOs can't just say government is not interested, but should find out where they are, and should connect with them.

6. Challenges and opportunities

Challenges in promoting agroecology identified from the survey:

- Production conditions with specific reference to climate change, water access, drought, pest control, and lack of agroecology inputs as alternatives to conventional agriculture
- The dominant paradigm of conventional agriculture, synthetic chemicals, embedded scientific systems, capitalism and competition, and extractivism that is pushed by corporate interests and which government has also adopted
- Government programmes and policies that support and entrench conventional agriculture - notably the input supply programmes that provide free or subsidised conventional inputs (agrochemicals, promotion of GMO seed), a policy environment that is closed to agroecology at present, lack of an agroecology policy, lack of support for agroecology, lack of proper implementation of existing policies that could support agroecology, lack of flexibility in programmes, lack of post-settlement support, understaffing of extension, contradictory programmes and approaches from government, lack of transparency in government, and political interference
- Resource and capacity constraints
- Mindsets and awareness throughout society
- Lack of youth involvement

Opportunities identified from the survey:

- Increasing social awareness – climate, health and nutrition, resonance with indigenous knowledge, increased interest at community level in growing food
- Increasing interest amongst CSOs to collaborate and learn together
- Funders who understand and support agroecology
- Elements of policy that could support agroecological practice

7. Recommendations

A key question for the research was whether agroecology is the right entry point in South Africa towards a climate-resilient alternative agricultural model. Evidence from proponents and from the field indicate there definitely is some traction on practices, even if these are not specifically placed under the label of agroecology. The type of agriculture described above is the basis for alternatives to conventional and corporate-industrial agriculture in South Africa, but is very marginal and fragmented at present. Significant work is needed to clarify, coordinate, identify key priorities and issues, and mobilise resources in support of practitioners and organisations adopting agroecological principles. Recommendations arising from the research are not new, which is unsurprising, given the limited resource base from which organisations and farmers are working to expand agroecology. Recommendations focus on activities and approaches that can strengthen agroecological practice in South Africa. These include networking, decentralised agroecology nodes, learning and sharing, M&E, communication, policy, youth, widening discussion to include to other food system actors, and financing.

Networking

The field visits in particular revealed the extent to which organisations in sub-provincial localities are combining their strengths to offer a wider range of services to farmers and communities they are working with. Individual organisations raise funds for their specific areas of expertise, but then link up with other organisations working in the same area (e.g. Matatiele or Hoedspruit) to integrate. So, for example, SaveAct offers financial literacy training and assisting community members to establish savings groups. MDF, Hoedspruit Hub, Lima and others then offer agronomy training/learning and technical support in the field. ERS and Lima offer livestock support, conservation elements, community-based field workers in the form of the Eco Champs and market access. Siyazisiza is tapped for market expertise in a number of provinces. ERS, Lima, AWARD and others then offer platforms for dialogue, joint activity and advocacy. Other research and advocacy organisations including universities and other NGOs can also be integrated even if they are not doing practical work on the ground. Umzimvubu in particular is a site for academic research done in such a way that it integrates with practical work on the ground and can inform advocacy.



Government-community engagement day in Umzimvubu

These clusters are nascently place-based in the sense that they operate in specific geographical localities with specific groups of people. However, in most instances more work is required to bring in wider groups of food system actors which is needed to stimulate food systems transitions. To date it is mostly NGOs working with smallholder farmers, without much involvement of other actors. Hoedspruit participants suggested that multi actor forums are more interesting than just networks. These bring diverse stakeholders together, but they must have some concrete practical activities to do together as a base, otherwise they could go off the rails. The experience in Hoedspruit was that government officials who changed their minds was not just about convincing them by speaking, but they came to see what is happening, over time. It is a process, not one off. This requires a system or structure to facilitate effective communications and partnership, and convening common interests and supporting people to work together.

This networking / connectivity starts at the local level with integrated activities, but can also widen to provincial and national (and even regional) level networks along the same lines. Multi actor communities of practice (groups of likeminded organisations and individuals sharing knowledge, providing mutual support, engaging in joint activities) can arise at all levels. Some of the sites are already connected through the SAOSO PGS Pollinators programme. Clusters can interact with other clusters elsewhere in the country.

A constraint at present is the limited extent of NGO inter-communication more widely. Participants in all sites recognised this as a limit. In Hoedspruit, participants said the NGO sector is divided. Some focus on research, others on implementation, others on advocacy etc but they don't talk much to each other. There is quite a lot of criticism of each other with limited understanding of what others are doing. Umzimvubu participants concurred, saying organisations are working in siloes, and should rather utilise one another's strengths. In the words of Biowatch staff: "small groups are doing their own things in their corners. It needs an organisation to connect things. People are doing what they know. There is a need to develop a national movement, as if we work on our own, we may be doing good stuff, but it has limited impact". This was echoed in Umzimvubu. Farmers are not organising themselves beyond small local groups, and there is a tendency to individualism (under decades of neoliberal pressure). However, Hoedspruit participants suggest that if practices are defined for people to organise around, it will happen.

Despite the potential of clustered and locally networked approaches, network activities are not well supported to date. In all sites, coordinating organisations are doing the work voluntarily and without a pool of resources to support joint activities. Different organisations have their own mandates and directives and different partnerships and collaboration. In some senses this is positive as it means distributed ownership and a decentralised structure, with organisations contributing through doing what they do best. But there are certain functions that may be well served by some kind of pooled resources and strategic orientation. Key roles for network coordination at multiple levels (local, cluster, provincial, national, regional) include identifying strengths and opportunities for overlap, planning towards contributing to a shared vision, fundraising for shared activities, facilitation of cross learning and sharing, facilitating multi-layered processes, research for evidence, policy / programme scanning, facilitating priority network interventions, and communications.

Networks need funding. If there is no allocation, how do people come to meetings etc. Hoedspruit participants said organisations must prioritise network activities, otherwise it will not happen. It is also important to see results. If a network is healthy and functioning, it can be a springboard for innovation, sharing ideas, trying different things.

Local agroecology hubs

There is strong support for local agroecology hubs or centres that are close to farmers and can become locations for demonstration and learning, technical support and extension / outreach, food production, bulk input production, and then adding on aggregation, processing, packaging, market support and other elements as they develop. Organised farmers should be actively involved in planning and implementation at the hub. These could be integrated with government services (e.g. extension) wherever feasible, as well as being locations to launch research on agroecology and smallholder production. A local agroecology hub or centre can also facilitate more consistent presence in the field by support organisations and technical specialists.

Farmers in Mtubatuba propose that homesteads can be used as learning sites. Participants in Hoedspruit suggested that farmers should be supported to produce seedlings and compost on their own farms. In Umzimvubu participants said that working at people's actual property through *ilima*, bringing in neighbours to participate in work, where people can actually see the difference on their sites may have more impact. However, these activities could still be well supported by a local or district hub with content specialists to provide mentoring and advice, and these different scales are not mutually exclusive.

Learning and sharing

There was strong emphasis on learning and sharing in discussions. There are at least two elements to this: farmer practical advice in the field, and more comprehensive training for technical support. With regard to farmer training, some organisations indicate they are placing greater emphasis on ongoing mentoring, as evidence suggests that often there is a low uptake of training activities by farmers once training is completed. Participants and farmers strongly favour peer to peer / farmer to farmer learning exchanges, as there is widespread agreement that this is the most effective form of learning for farmers. Clusters can be linked provincially and nationally through cross learning exchanges.

Participants emphasised early integration of agriculture, food production and nutrition education into schooling, even at pre-primary level. The most effective way seems to be facilitating school gardens that can contribute to school food programmes and to income generation, with participating children possibly receiving some incentive for production. This can go a long way to removing the stigma associated with small-scale agriculture.

Universities and training colleges continue to churn out agricultural graduates oriented towards conventional agriculture, which in turn reinforces the dominant paradigm. University innovations tend more towards high tech, “fourth industrial revolution” type approaches, rather than returning to basics in a way that can respond meaningfully to the current conditions of the majority of the population. Agroecology proponents will need to contest these spaces through systematic engagement with education and training authorities and institutions to expand curricula to incorporate agroecological materials. Materials are already widely available. These just need to be tailored to context and structured into curricula.

M&E for advocacy and learning

There was some discussion about the importance of M&E for advocacy and learning. There is a need for systematic research to develop an evidence-based story for agroecology. This includes household nutrition benefits, food prices, and yield, soil health, biodiversity and other measures compared with conventional production. Small, *ad hoc* studies can involve farmers and allow organisations to start doing this work without huge costs. However, participants across sites indicated that even results of systematic, scientifically designed studies are often not enough to convince government and decision-makers. Evidence is only one element of decision-making processes that are highly political in nature, and more about balancing competing interests in the society than about what may be effective for smallholder producers. Nevertheless, rigorous evidence gathering and packaging can add value to advocacy and learning. Biowatch proposes that this may require a small advocacy team to drive the work. Organisations have also shown the benefit of working with academic and research institutions, as it becomes more difficult to dismiss results. Further work is needed to develop multi-dimensional indicators so that research is not confined to decontextualised and narrowly defined quantitative data on yields or “crop per drop” to the exclusion of other elements (e.g. biodiversity, soil health, household nutrition). More can be done to integrate research with the immediate concerns of farmers and organisations. If research is participatory, farmers will be more central as users of research, and can shape topics to be relevant to their needs.

Communications and messaging

This is one of the weakest areas amongst agroecology promoters at present. Although organisations are doing some of their own communications, this is mainly restricted to organisational websites and mailing lists. This is essentially speaking to the converted or to researchers. According to Umzimvubu

participants, there is a lot of information out there, but it needs someone to package and assist to communicate effectively with partners (researchers, development organisations etc). Key topics for communication are the links between agroecology and nutrition, food security, food costs and value of production, indigenous knowledge, agency and self-reliance. There are strong connections across all of these, and messages could be communicated, but organisations have not done this yet, especially in a systematic and coordinated way. There was a suggestion about a shared repository and how to integrate across multiple organisations and levels.

Youth

As indicated above, there was much discussion on the challenges and opportunities for bringing youth more centrally into agriculture and agroecology. The emphasis for youth was on learning, and practical examples showing that activities in agricultural ecosystems can generate decent incomes. There is a lot of overlap with more general ways to support production and small enterprises.

Learning and sharing stood out as a key element for bringing youth in. Youth themselves highlighted lack of knowledge and information as a major constraint, and have called for training / learning opportunities, with strong demand for peer-to-peer exchange visits as a mechanism for learning. This can be coupled with longer-term, structural interventions around curriculum development and activities specifically on agroecology / permaculture at schools, universities and training institutions as indicated on learning and sharing above. Youth have responded well to recent Biowatch training courses, which have decentralised training by providing materials to local communities to work through themselves. Youth themselves can also be trained as trainers and mentors, to build a career path for those who want to go further.

Although some youth will be interested in primary production, most participants consider that the youth will best be brought in elsewhere in supply chains. This offers opportunities for diverse small enterprises providing a range of goods and services. There are many unemployed graduates with a diversity of skills. These people could be harnessed to build an ecosystem for agroecology, including bulk agroecological input production and supply, business planning, admin, information technology and financial support, aggregation, agro-processing, marketing (including online), intermediate technology (including local manufacturing of simple tools and equipment), green energy, research, and facilitating youth to manage hubs. The Eco Champs model offers a pathway to integrated land management services. These all can enable youth to be employed where they live rather than going to the cities where there is no employment. According to a participant in Umzimvubu, youth are up for a challenge: “give difficult things to the youth, they can take them on”. However, youth need training to get into those spaces, and enterprise financing is needed to convert ideas into reality.

Demonstration programmes targeting the youth and competitions to incentivise production and sales were other suggestions. Youth can be inspired by examples of effective market gardens that are generating income, including school gardens. At household level, youth should be encouraged to participate in home gardens, with a portion of income from sales allocated to youth who have worked, as an incentive to continue.

Participants also felt that youth were not brought into spaces enough. Most participants in farmer meetings are older people. The youth seldom have opportunities to listen, discuss, and participate in implementation of plans. This is partly the assumption that youth are not interested, and partly a distrust that they will be able to do what is needed. According to a youth producer in Umzimvubu, “when older people are telling them what to do, the youth don’t really listen, but if it is their peers, people do listen. Leadership circles have worked well for communities to take lead”. Youth should thus be given (take?) a space and create an environment where they can express themselves

without feeling under pressure. This can only be overcome in practice, through working and learning together. In the process, individual leaders can be identified and handed appropriate responsibilities. Participants in Limpopo and Eastern Cape floated the idea of youth fora to allow youth to engage on relevant issues and bring these into wider discussions. At the same time, there is a strong sense of loss of indigenous knowledge, and participants proposed the need for intergenerational dialogues and knowledge sharing to show the benefits of organic farming. Although ultimately youth should take responsibility for themselves and they need to decide what they are going to do, systematic and consistent guidance and direction from support organisations can assist to develop these capacities and processes.

Policy

As indicated, a multi-pronged strategy is required, rather than a binary of working in the policy space or not. Organisations agree there is need for some form of joint approach to policy, as many organisations do not have the internal capacity or haven't prioritised systematic policy engagement. Examples from the past few years of successful interventions (e.g. seed laws, disaster relief funds) highlight the value of joint initiatives. Research and policy organisations are being asked to facilitate such processes, bringing in others working on the ground, and consolidating lessons and submissions, with strong information flows and communication amongst participants.

Key topics identified by participants for attention include climate change (and in particular adaptation), nutrition, seed, water, and biodiversity. Approaches should support and strengthen responses local farmers are already adopting. There is general agreement that rather than trying to push for a new policy process from scratch, it may be more effective to construct an agroecology strategy out of existing frameworks, also pointing out gaps and inconsistencies / contradictions in the process. This requires funding and organisations to drive it.

Widening scope of engagement

Mainstreaming agroecology requires a vision that can encompass the whole agro-food system. As agroecology is mainstreamed, it will widen the diverse views and approaches. Food sovereignty / radical organisations will be required to develop a clear framing and analysis, and credible evidence to influence this wider milieu. NGOs can no longer just speak to themselves.

A starting point can be reframing the understanding of the agriculture sector in South Africa, viewing it as a continuum of producers from backyard and smallholder through to medium and large-scale commercial producers. Each of these will present different entry points into ecological and social/economic transitions. There is a question for food sovereignty organisations on how to retain the integrity of agroecology as a concept incorporating all the principles discussed above. Rather than kneejerk outright rejection of commercial agriculture initiatives such as CA, water use efficiency or integrated pest management, the positive elements of these can be brought out, and missing elements (especially social and economic redress) discussed and built in as a basis of any agreement. The commercial and private sector needs to be involved as the major landowners in the country, but this cannot come at the expense of principles, especially around participation and redress. This can enable a shift from incremental to transformative actions, and from farm level to landscape and food systems level transitions²⁶. Constituents are far apart at present, but initiating exploratory dialogue is the first step to understand better where precisely the areas of disagreement and commonality are.

²⁶ Gliessman, S.R. 2016. "Transforming food systems with agroecology", *Agroecology and Sustainable Food Systems*, 40:3, pp.187-189

The HLPE principles are fairly new and further work can be done to adapt them to specific African and South African contexts. For example, one topic that is not well reflected in the HLPE principles, but which is very important for the South African context is that of land redistribution, ownership, and secure tenure. This could be integrated into the land and natural resource governance and fairness principles as a context-specific adaptation for South Africa.

Resources / financing

Adequate resources / financing for a thoroughgoing agroecological transition is a requirement for effective realisation. Currently agroecology looks very marginalised and unable to present a feasible alternative to conventional, large-scale commercial agriculture. This is partly because conventional agriculture is subsidised in a number of ways as indicated above, from free provision of conventional inputs to smallholder and backyard producers through to the structure of trade and research and development which reinforce particular models of production and distribution. Donor support is not much more than a trickle and is not consistent over years.

Funding for organisations working on agroecology and sustainable food systems transitions has not expanded nearly as rapidly as the rhetorical interest especially from global institutions. It appears that some organisations are even cutting funding at this crucial time. There are anecdotes about government funding being available for organic production in the Eastern Cape, for example, but these funds were not used and were returned to Treasury. More generally, there is not even a pilot programme on agroecological production being sponsored by government. Production support must conform with the existing tender model at scale, which is a poor vehicle for supporting the interventions needed for agroecology to expand.

Resources are needed across the board to support activities, including basic infrastructure and equipment (including intermediate technology and small machinery) for farmers and local centres, agroecological inputs (at least to kickstart production and distribution systems), time for staff and technical specialists, learning exchanges, training and curriculum development. Public employment programmes can offer partial wage subsidies as well as some equipment and resources for travel in the field, but these are mostly short-term, offer limited subsidies including for effective coordination and management, and often have restrictive and onerous terms.

Recognising the limits of donor and public sector funding, organisations have been considering other means of generating income. The most obvious is to establish a functioning model of income generation from the goods and services generated by agroecological activities. This is a difficult case of bootstrapping, as most farmers and farming communities have limited resources at their disposal. Some organisations are considering carbon credits as an option for generating income from looking after the land, but carbon has a very low price, and this is not likely to generate much income unless done on a very large scale. Nevertheless, participants felt strongly that building activities that can be sustained by communities themselves and are independent of outside funding are the most likely to survive in the longer term. This requires catalytic funding, which can provide support for a period of time to put systems in place and test and adapt them, and which can provide the basic underlying physical requirements for farming (infrastructure, equipment, knowledge). Currently support activities are not profit generating and this is why funds are needed. The idea is that over time, as farmers generate sufficient income, they will at least contribute to paying for support services. Whether this is a realistic assumption can only be tested in practice.

Annex 1: HLPE 13 agroecological principles

Principle	FAO's ten elements
Improve resource efficiency	
1. Recycling. Preferentially use local renewable resources and close as far as possible resource cycles of nutrients and biomass.	Recycling
2. Input reduction. Reduce or eliminate dependency on purchased inputs and increase self-sufficiency	Efficiency
Strengthen resilience	
3. Soil health. Secure and enhance soil health and functioning for improved plant growth, particularly by managing organic matter and enhancing soil biological activity.	
4. Animal health. Ensure animal health and welfare.	
5. Biodiversity. Maintain and enhance diversity of species, functional diversity and genetic resources and thereby maintain overall agroecosystem biodiversity in time and space at field, farm and landscape scales.	Part of diversity
6. Synergy. Enhance positive ecological interaction, synergy, integration and complementarity among the elements of agroecosystems (animals, crops, trees, soil and water).	Synergy
7. Economic diversification. Diversify on-farm incomes by ensuring that small-scale farmers have greater financial independence and value addition opportunities while enabling them to respond to demand from consumers.	Part of diversity
Secure social equity/responsibility	
8. Co-creation of knowledge. Enhance co-creation and horizontal sharing of knowledge including local and scientific innovation, especially through farmer-to-farmer exchange.	Co-creation and sharing of knowledge
9. Social values and diets. Build food systems based on the culture, identity, tradition, social and gender equity of local communities that provide healthy, diversified, seasonally and culturally appropriate diets.	Parts of human and social values and culture and food traditions
10. Fairness. Support dignified and robust livelihoods for all actors engaged in food systems, especially small-scale food producers, based on fair trade, fair employment and fair treatment of intellectual property rights.	
11. Connectivity. Ensure proximity and confidence between producers and consumers through promotion of fair and short distribution networks and by re-embedding food systems into local economies.	Circular and solidarity economy
12. Land and natural resource governance. Strengthen institutional arrangements to improve, including the recognition and support of family farmers, smallholders and peasant food producers as sustainable managers of natural and genetic resources.	Responsible governance
13. Participation. Encourage social organization and greater participation in decision-making by food producers and consumers to support decentralized governance and local adaptive management of agricultural and food systems.	

Source: Wezel, A., Herren, B., Bezner Kerr, R., Barrios, E., Goncalves, A. and Sinclair, F. 2020. "Agroecological principles and elements and their implications for transitioning to sustainable food systems. A review", *Agronomy for Sustainable Development*, 40:40 <https://doi.org/10.1007/s13593-020-00646-z>