

# SOUTH AFRICA



## Biowatch

*The mission of Biowatch is to challenge the industrialised food system and demonstrate agroecology as a means of ensuring biodiversity while attaining food and seed sovereignty and social justice.*

## Map

The communities Biowatch is engaged with are located in Umkhanyakude and Zululand District Municipalities in northern Kwazulu-Natal, in the south-east of South Africa.

Successive invasions and military conquest by colonial actors deprived the Zulu people of much of their land and imposed restrictions to agricultural production designed to force families to send their young men away as migrant labourers. In the 20<sup>th</sup> Century, the Apartheid government imposed villagization and promoted input-intensive agriculture.



## Context



The dominant discourse which sees monoculture agriculture and the industrialised food system as progressive is still powerful. It is only recently that a broader understanding is growing about the destructive impact of the industrialised food system with its expensive high inputs of toxic pesticides and fertilisers, high water consumption and high carbon footprint. The current socio-economic conditions are very much a legacy of Apartheid and the “homelands” system of separate development.



## Description

The initiative is focused around **smallholder family farmers**, self-organised as **local farmer groups**. The farmers implement a number of **inter-linked agroecological practices** which build new knowledge on the basis of experimentation and traditional and indigenous knowledge of farming, seed and food.

The farmers practice agroecological principles :

- **building soil fertility** through various forms of composting and bio-fertilisation
- **water and soil conservation** measures including mulching, swales (earth bunds) and soak pits
- **pest management** through building soil health, repelling pests with strong smelling plants and teas and diversifying production systems by inter-cropping
- **saving and bulking seeds** of traditional and indigenous African crops
- **advocating** agroecology and farmer-led seed systems

The main elements of the typical family farm blend **traditional homestead** planning with **agroecological innovation**:

The household vegetable garden

Dedicated seed plot

Indigenous wild fruit and cultivated fruits

Insect barriers and refuge for pest predators

Rain-fed field food plots with crop rotations

Household seed bank

Forage for animals

Animal kraals



300 farmers with 2,300 people benefiting from agroecology



Potato varieties, peanuts, jugo beans, sorghum, millets, maize, fruits, etc.

## Trajectory

1999 : Biowatch is registered as a Trust

2003 : Biowatch supports farmers in northern KwaZulu-Natal

2010 : Seed sovereignty work gains ground

2017 : Biowatch Food and Seed Festival



## Results and benefits



At least **2,300** people in these farming households are directly benefiting from agroecology through increased food security and nutrition. The participating households have created a **network of homesteads** that demonstrate resilient **agroecology-in-action** that is constantly responding to the context, adapting and improving, providing firm **evidence** that agroecology works to improve livelihoods and the environment.

The farmers **actively network** between groups connected through Biowatch where relationships have developed over time. Participation in wider farmer networks is mostly facilitated by civil society organisations although several lead farmers have reached out to other groups and are invited to **share their knowledge** on agroecology.



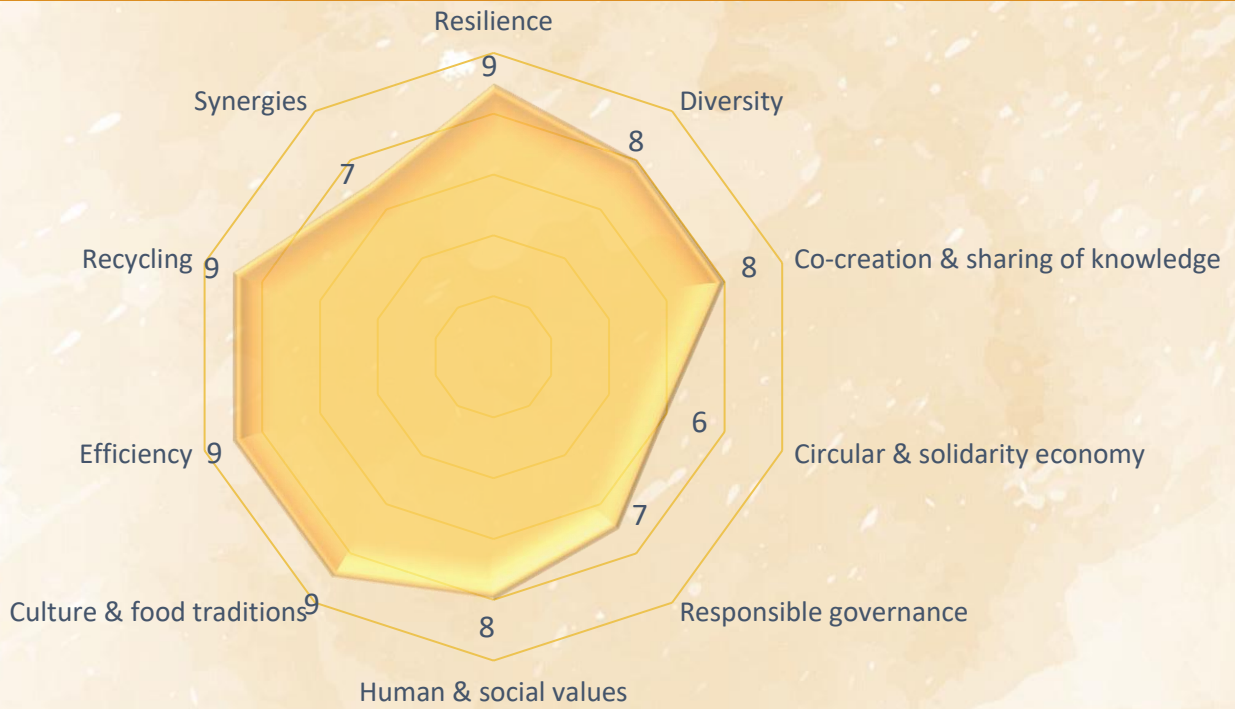
The farming systems of the participating farmers are more resilient because of the focus of agroecological practices on **building healthy soil** and **conserving and recycling available resources** including biomass and water. Healthy, mulched soils are porous and able to hold the scarce rain whilst also nurturing healthier plants that are better able to withstand climate shocks and pest outbreaks.

Biowatch's agroecology work with farmers has a direct impact on livelihoods, addressing food security and economic empowerment. Marketing by most farmer groups is within the **informal sector**: at local street markets, pension pay points, and informally to neighbours in the community.



Some of the **innovations** that have been added to the traditional practices include: the addition of **legumes in the inter-cropping system** that provide extra biomass and nitrogen; accessible and locally-adaptable techniques for producing **fermented biological soil amendments** and pest protection; construction of swales and planting basins ; improvements in the harvesting, selection and storage of seed of well adapted, open pollinated crop varieties.

# Lessons learned and reflected FAO principles



## Resilience: 9

These agroecological systems have survived both heavy rains and extreme droughts. While food insecurity and hunger increased dramatically during COVID-19 lockdown, these farmers have continued to produce diverse food crops for their families and have shared food with needy families.

## Human & social values: 8

The initiative encourages group work and support to share strenuous work, in keeping with old traditions. The resilience of the production systems reinforces self-reliance and self-esteem. Women are the most interested in ensuring household food security.

## Diversity: 8

The farmers are constantly working to revive the diversity of their seed varieties and the traditional knowledge and customs related to these. The farmers work with nature in their farming systems, striving for balance.

## Culture & food traditions: 9

In reviving traditional seed, farmers have also revived associated traditional knowledge and food cultures including knowledge of wild plants for food, health and medicine; they have maintained the connection of particular crop and seed varieties to spiritual and coming of age rituals.

## Co-creation & sharing of knowledge: 8

Farmers' traditional farming knowledge is valued and affirmed, but also improved with new understanding about managing water, soil and plant ecologies. Farmers share innovations and observations between the different groups, and with other farmers through learning visits and homestays.

## Efficiency: 9

Very few external resources are used by farmers who are part of the initiative. Farm inputs are produced naturally within the agroecological system. The farmers create diverse systems that support life processes and local diversity.

## Synergies: 7

Most of the resources farmers use are produced in the farming system so they are resilient and self-reliant. Practices that the farmers use work with and nurture nature so that beneficial ecological processes are enhanced.

## Responsible governance: 7

The initiative is a long-standing relationship between Biowatch and smallholder farmers in seven areas in northern KwaZulu-Natal, some of whom are organised in co-operatives and some more informally.

## Recycling: 9

All crop residues are returned to the soil through digging in, mulching and the making of composts and biofertilisers. These together with available manure enhances the fertility of the soil. Households re-use their grey water in their vegetable gardens, reducing economic and environmental costs and impacts.

## Circular & solidarity economy: 6

The farmers sell their surplus produce within the informal economy through farm gate sales and informal markets in towns. Their customers value the quality of the produce.

# Contacts and bibliography

## Contacts:

**Rose Williams, Director of Biowatch**

**Vanessa Black Advocacy, Policy and Research Co-ordinator**

**Lawrence Mkhalihi, Agroecology Manager**



rose@biowatch.org.za  
vanessa@biowatch.org.za  
lawrence@biowatch.org.za



+27 31 206 2954

www.biowatch.org.za



222 Evans Road  
Glenwood, Durban 4001  
South Africa

## Bibliography:

Biowatch South Africa. 2015. *Fact Sheet: Climate Smart Agriculture*.

Biowatch South Africa. 2015. *Fact Sheet: Conservation Agriculture*.

Biowatch South Africa. 2016. *Fact Sheet: Drought Crisis*.

Biowatch South Africa. 2018. *Agroecology is Best Practice: Biowatch South Africa's work with smallholder farmers*. Available:

Noble, M. & Wright, G. 2012. "Using Indicators of Multiple Deprivation to Demonstrate the Spatial Legacy of Apartheid in South Africa". *Social Indicators Research*. DOI 10.1007/s11205-012-0047-3. Springer-Verlag.

Witt, H. 2018. *Policy Impacts: The impact of government agricultural and rural development policy on smallholder farmers in KwaZulu-Natal*. Biowatch South Africa.

KZN Provincial Planning Commission. 2011. *KwaZulu-Natal Situational Overview: KwaZulu-Natal Provincial Growth & Development Strategy (PGDS)*.

Critical Ecosystem Partnership Fund. 2010. *Ecosystem Profile: Maputland-Pondoland-Albany Biodiversity Hotspot*. Conservation International Southern African Hotspots Programme South African National Biodiversity Institute.

Ezemvelo KZN Wildlife. 2014. *uMkhanyakude Biodiversity Sector Plan, V1.0*. Unpublished Report by Ezemvelo KZN Wildlife, Biodiversity Conservation Planning Division.

Weinberg, T. 2015. The contested status of "communal land tenure" in South Africa. Institute for Poverty, Land and Agrarian Studies *Rural Status Report 3*.

## AVACLIM financial partners:



FONDS FRANÇAIS POUR  
L'ENVIRONNEMENT MONDIAL

## AVACLIM operational partners:



Contact :  
agroecologie@cariassociation.org



Contact :  
dryland@global.co.za

September 2020

Editing : CARI & EMG

Design : pikopiko.io

Photo credits in this fact sheet : Biowatch South Africa

