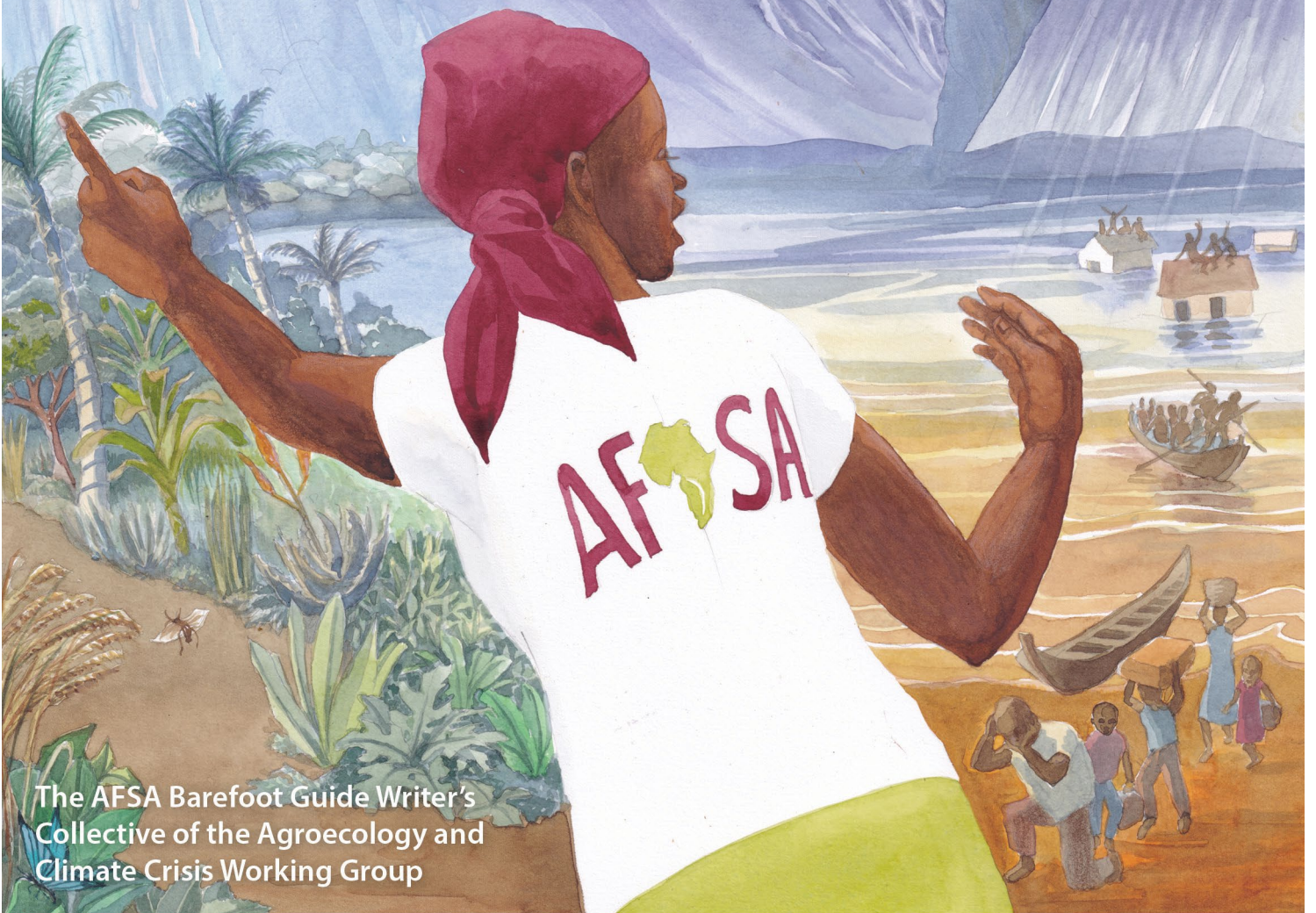


Barefoot Guide Agroecology Series

# THE CLIMATE EMERGENCY

How Africa can survive and thrive



The AFSA Barefoot Guide Writer's  
Collective of the Agroecology and  
Climate Crisis Working Group



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AFSA

ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA



The AFSA Barefoot Guide Writer's Collective  
of the Agroecology and Climate Crisis Working Group

# The AFSA Barefoot Guide Writer's Collective

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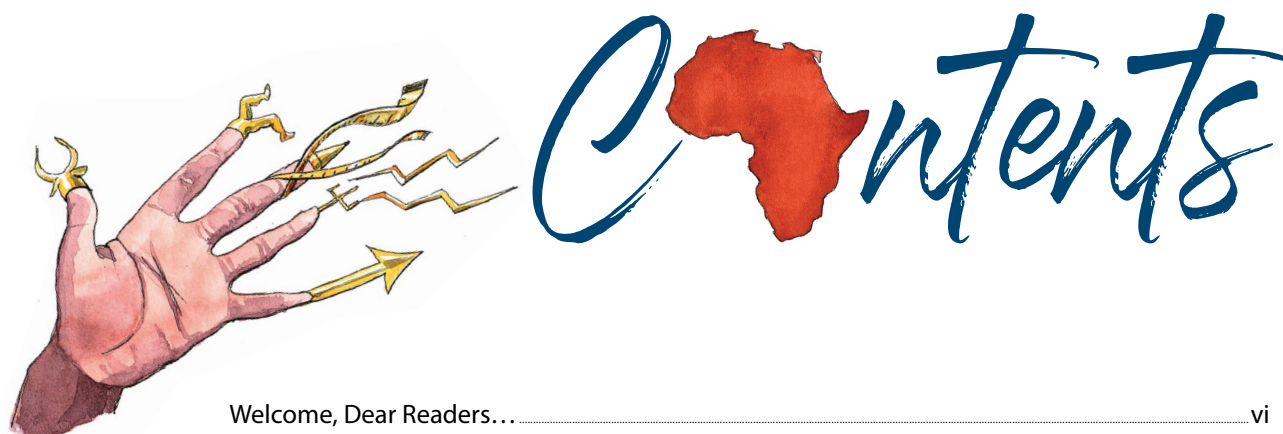
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## Welcome, Dear Readers...

The climate emergency affects us all deeply, in so many ways. But for farmers it has more drastic implications. It undermines all aspects of the food systems that they depend on. Extreme weather devastates their crops and livestock, and destabilises the very water cycle that they are intimately a part of.

They are not the only ones affected. The impacts of the climate crisis on agricultural production, supply chains, and labour productivity in climate-sensitive sectors plays havoc with both food prices and incomes. And it strongly affect people's ability to purchase food. The COVID-19 pandemic, the worst drought in forty years, persistent conflict, and the violence of wars all contribute to food scarcity and insecurity, particularly in Africa. Something different has to be done!

Scientists project that things will only get worse for Africa if current trends continue. Vital questions arise that must be faced: Will our soils be able to meet our demands for food and fodder? Will we be able to produce the food that we desire to eat? Will the forests survive so they can protect us from the weather? Will the water resources be able to meet our needs for people, animals, and plants? Beyond the measurement of degrees, indicators, and ambitions, these are some real questions we should pose and address. Because it is our people who are at the centre of the storm. But the bigger question is whether they are seen to be at the centre of the problem or the solution.

Today, the majority of the solutions put forth and funded by governments and donors to address these problems are, in the long term, making things worse. Industrial agricultural methods, posing as "Climate Smart Agriculture", encourage excessive use of chemical inputs on plants and in the soil. The development of carbon credit programs serves to legitimize pollution and uproot communities from their land. These are just a couple of examples of the false solutions brought by the rich and powerful.

But there is a different narrative at work in Africa. The stories in this AFSA Barefoot Guide show that African farmers, long seen as victims, are beginning to implement lasting, sustainable solutions to the climate crisis in Africa. Indeed, they are examples that could well be followed by all farmers. Through agroecology practices, not only can they naturally adapt to the inevitable and growing harm of the climate crisis, but they can also make significant contributions to its mitigation.

AFSA stands fully behind farmers, pastoralists, fisherfolk and all who support them in learning and working together, so that not only can they survive the climate emergency, but thrive.

**Bridget Mugambe**, *AFSA Program Coordinator*



## CHAPTER ONE

# A Journey from the South into Agroecology

**A**t last, Tafi was alone in his favourite spot. He often came here to be alone. The rushing of the waterfall filled the air as the water gushed over the rocks. It was warm that day, but the pool was cold as he walked into its crisp, clear water. He stopped when it reached his waist. The hot September sun shone on his back while his legs braced to the cold water. He breathed in the clean air filled with the fragrant, damp aroma of plants growing out between the rocks. He picked up the familiar, earthy scent of one particular plant. He was connected to the elements: water, air, fire and earth, a deep feeling he could never describe.

He had come this time to mentally prepare himself for his journey to Ethiopia and wanted this to be the start of his journey here in the south-eastern corner of Zimbabwe. He had never been to Ethiopia before, but it brought images of an ancient African land with a long and noble history. Two years previously, he had met people in the Nyanga highlands a little north of his Chimanimani home, whose ancestors had walked from northeast Africa. And now he was flying back to those age-old roots. Another deep sense of connection struck him.

Tafirenyika Mlambo, or Tafi to his friends, had been chosen as one of 170 African delegates for AFSA's Pan-African workshop on Adaptation through Agroecology in Addis Ababa, Ethiopia. The workshop's purpose would be to develop an African Roadmap to climate adaptation through agroecology for COP27, to take place in Egypt later in the year. What does Africa have to say about solutions to the climate crisis? The world needs to know.

For Tafi, this was no longer just about climate change or a climate crisis but about dealing with the climate emergency. He was taking with him the story of his home area and how it was rising to the challenge of this emergency.

He stood in the cold water, drawing strength from Nature's elements. Then he climbed out slowly, put on his shirt and walked back home.





Community members had begun to see their communal land as one interconnected, whole landscape.

As he opened the gate to the small area surrounding his modest traditional house, he looked around at his food garden. A visitor had once asked him how many different plants there were. Together they'd counted over a hundred. All of them had some use to his family, many for eating, others medicinal, others to cut and provide mulch material or feed livestock. The invasive *pese pese* (meaning 'everywhere') made a good hedge, with the prunings providing kindling for the fire in their *tsotso* stove. He'd given up trying to get rid of it and now used it instead. Everything was connected in his garden.

He remembered the course he'd attended many years ago on how to design pieces of land to connect everything. That had changed his life. He came out with a new mindset. He understood that the secret of Nature was all about interconnection and that if he wanted to grow food in a natural way, he had to connect everything.

The community starting point, here in Chikukwa communal area: seeing everything as connected. The stronger our connections as living beings, whether plants or animals, the healthier we are.

## Facing the Climate Crisis positively as a community

That course had been a first step in rallying the community together in the face of severe degradation from heavy rains, a mini-Cyclone. Community members had begun to see their communal land as one interconnected, whole landscape. Nothing has been the same since then.

They started with harvesting water from higher up in their landscape, using many approaches to sink it into the ground:

- swales (ditches) on contour everywhere, often reinforcing them with vetiver and other bunch grasses,
- they planted trees in the bare, hard ground on the higher brows of hills, with half-moon ditches around them to catch run-off water,
- they brought back and enforced by-laws to protect sacred forest areas,
- they protected springs and uncovered those places where the elders knew there used to be springs,
- they put humps at regular intervals on all the roads to sink and spread the water that ran down them,
- they started *Permachikoro*, regular community study sessions where they shared knowledge with each other,
- they held seed fairs every year to share and spread seed diversity,
- they supported and strengthened seed custodians, recognising the critical work they do for the community in saving and improving local seed diversity and quality,
- they encouraged everyone to design their homesteads and cropping areas for diverse food production, sinking all run-off water from houses and paths as a first step.

In their efforts to build resilience to extreme climate, the community experienced ups and downs. Cyclone Idai in March 2019 illustrated this. Some parts had held firm in the face of around 700mm of rain in 48 hours. In other communities in the Chimanimani district, people had lost everything, but in this community, they had largely weathered the storm. Though in some places, there had been landslides, including some tragic loss of life with houses washed away. Cyclone Idai had taught them many lessons. But the community spirit stayed strong, as seen in the way they all came out to create a new road to the outside world, after their normal road had been washed away in several places.







## Healing the land, healing the community

Tafi thought about what messages he could take to the convening in Addis. The organisers had asked him to share his experience of ‘community-level adaptation to the climate crisis’. When they’d started many years ago, they hadn’t talked about climate change. It was all about restoring the health of their land. *Perhaps that was the first message: Focus on healing the land. Focus on healing community relations.*

Tafi had noticed that as people spoke of climate change and now climate crisis, it all seemed a little abstract. But healing our land together is immediate, real and doable. So is healing the cohesion of our community. It’s also what we should do, for ourselves, for our ancestors and above all for our children. Apart from anything else, our water supply depends on healing the land and producing abundant food. *Healed land, based on healed community cohesion, can produce abundance just about anywhere.*

“Here I am in a wetter part of Zimbabwe,” Tafi thought. “But land in the lower, much drier parts of the country can also produce well if it’s healthy. It’s sick, dying land that can’t produce properly in whatever climate.”



Tafi’s alarm on his phone went off at 3.30 am. He switched it off quickly so it wouldn’t wake others, dressed, made some tea from water in the flask and went out into the night. There was some light from a half-moon. He knew the way to the business centre well as he made his way down the steep path, enjoying the silence punctuated by the odd, early crowing of a spirited cockerel.

At the business centre, others also travelling that day were bustling about. The combi was nearly full, and within fifteen minutes, the doors were closed; the driver jumped in and off they went.



Healing our land together is immediate, real and doable. So is healing the cohesion of our community.



6 ... they mostly just treated symptoms of the crisis, tweaking current practices here and there but not really changing or transforming anything. They called it Climate Smart Agriculture

## The African Union's Plan: business as usual in a shiny, new suit

Once they were going, Tafi pulled a bulky document out of his smaller bag entitled: "African Union Climate Change and Resilient Strategy and Action Plan". This had been sent to all delegates going to AFSA's convening in Addis. He read through the document, making small notes in the margins. Tafi had always been a reader. He knew that some people said that 'People don't read these days', but he also knew that reading had opened his mind to many things.

He liked some of the principles in the AU plan. For example, the principles of 'African-led and African-owned' and 'Leave no one behind/a just transition'. It was in the 'how' that he found himself differing from the AU perspective. But even in the 'how,' there were many statements to agree with. It was when you read closely that you could see that many of the proposed actions are too technology-oriented. And they mostly just treat symptoms of the crisis, tweaking current practices here and there but not really changing or transforming anything. They call it 'Climate Smart Agriculture', but what

he could see was business as usual in a shiny, new suit. Knowing the reality on the ground, it was easy to see that they were misleading, even false solutions. He was looking forward to hearing the presentation from Salamatu in Ghana, which would look specifically at these false solutions.

## Trying, learning and trying again

Tafi paused from reading and looked out the window. What was different about his community's approach compared to these 'impressive' AU strategies and plans?

The bus had been travelling steeply downhill, and they were now in the district's low, hot, drier part. There were many trees on the slopes, but the ground beneath them was bare, rocky and hard. He imagined what happened every time it rained. Most of the rainwater would run quickly down the slope, carrying any loose soil or leaves with it. Not much grass would grow for the cattle and goats in that area to eat.

This reminded him of his home area, where the community were trying out a planned grazing approach. So far, the results were encouraging with more grass, better ground cover, and more water sinking into the soil. And there were spin-off benefits too, such as widows having more time on their hands due to the shared herding schedule, as well as less livestock theft.

It had taken time to get the planned grazing programme going. All those involved had to understand what it was about. The first time around, they tried employing herders and collecting contributions to pay them. That didn't work, and so they decided to share the herding amongst themselves. That seemed to be working. Tafi recognised that a big part of community action was about communities learning as they went. They needed to learn from their successes and mistakes and move on, wiser and more prepared.

This is what was different. Instead of overpaid experts swooping in with pie-in-the-sky solutions developed in some laboratory or research station, his community experimented and innovated, learning and sharing all the time from real experience and continually adapting to changing realities. Maybe this is what resilience is about, he thought to himself. It is the ability to learn and adapt as a community.

Tafi knew that Monica Yator, a passionate spokesperson for pastoralist communities in East Africa, would be in Addis. He reckoned they'd have a lot to share. He wanted to learn about the traditional grazing practices of pastoralists.

At that moment, Birchenough Bridge loomed ahead, a huge structure hanging over the Save river. But what river? Tafi stared out at the sand bed that used to be a big, wide river that ran all year, filled with aquatic life. Now there were odd isolated pools. *The river reflected the state of its watershed, as all rivers do.* It was a terrible sight. As they passed through the busy market near the bridge, he wondered how many people shed a tear for the river that used to be.

## Farmers' evolving seed varieties – community resilience to face the climate crisis:

Two hours later, they drove into Masvingo city, Zimbabwe's fourth biggest. Juliana, who was to accompany him as the second Zimbabwean delegate to the AFSA workshop in Addis, was waiting for him at the bus stop. They had arranged to travel together to the Shashe Agroecology school there.

Maybe this is what resilience is about, he thought to himself. It is the ability to learn and adapt as a community.



They were there to participate in a sharing and reflection workshop at the school with partner organisations from different countries, all invited by the Seed and Knowledge Initiative (SKI).

As they approached the Agroecology school, they saw a crowd of people milling around and many displays on the ground. “That’s marvellous; it’s their annual seed fair!” Tafi exclaimed excitedly to Juliana. “We held ours’ two weeks ago. We’ve been holding it for 20 years now. It’s become a cornerstone of our community action. It enables farmers to exchange seeds and knowledge. In doing so, they are also making a statement every year about retaining control over their heritage of a wide variety of local seeds. More recently, they termed this their *seed sovereignty*.”

“Say more about that, please, Tafi,” asked Juliana.



“These seed fairs are a statement of seed sovereignty and resilience. Local seed has been the basis of community life for thousands of years around the world. A thriving farmer-managed seed system with farmers’ varieties evolving all the time is essential to face the climate crisis. As the climate changes, farmers will need to adapt and improve their own seeds based on local conditions and needs: working with scientists on Participatory Plant Breeding programmes. Importing and using seeds from agri-corporations, with their one-size-fits-all mentality, won’t work.”

Juliana and Tafi spent an hour wandering through the seed displays, stopping and chatting with farmers as they went. They could sense the genuine pride the farmers exhibited along with their seeds.

“Look at this maize variety,” exclaimed Juliana, “it’s called the Queen’s tears!” Juliana showed Tafi some white maize seed with red dots that did indeed look like tears. “Every variety, and there are so many varieties here of many different crops, has a name. Here’s another whose name translates to ‘Wife don’t run away!’”

“Come,” invited Tafi, “It’s time for the workshop to begin.”

## Climate crisis, an opportunity

“*The climate crisis is an opportunity that we can take advantage of!*” said Admire to the SKI members around him, fifteen of them, including Tafi and Juliana, sitting in a circle on chairs under a vast pod mahogany tree. They were representatives from organisations working with communities in Malawi, Zambia, Zimbabwe and South Africa.



A thriving farmer-managed seed system with farmers’ varieties evolving all the time is essential to face the climate crisis.

“We need to emphasise that. It’s an opportunity to rally people together to become more resilient. This has happened all through history in times of crisis. People across Africa rallied together to demand and, in some cases, fight for their independence. The changing climate is a mega-crisis, not simply a crisis. To deal with it, we need to address its underlying root causes together.

“Look at this tree we’re sitting under,” Admire continued, “after five months of no rain, leaves are shooting. How does it manage that? It’s rooted deep in the earth. This makes it resilient. We need to work with communities to develop that same kind of resilience.”

For the next couple of hours, the group shared their experiences. Tafi was taking notes all the time. In addition to the experience of his own community, he knew that the experience of the SKI pilot programme would be beneficial to feed into the discussions in Addis.



Using principles breaks free from projects, allowing us to work flexibly. We can use them to steer our way forward like using a rudder to navigate a boat through stormy seas.

## Beyond the “project mentality”: Adapting SKI’s principles of effectiveness to guide the work of climate change adaptation

“A key aspect of this work is the principles we developed to guide us,” said a young woman from South Africa. “This gives a creative fluidity to how we work, challenging the conventional project way of doing things. The concept of ‘a project cycle’ is connected with a lot of rigidity and over planning rather than learning along the way from actual experience. Using principles breaks free from projects, allowing us to work flexibly. We can use them to steer our way forward like using a rudder to navigate a boat through stormy seas. They help us make decisions and monitor ourselves in situations that are changing all the time.”

“Well said! We have also started using principles more to guide us and keep us on our toes. They help us ask the right questions, reminding us about what matters most.” The older Zambian woman spoke these words with passion. A man from Malawi continued:

“These are principles of effectiveness. We developed them by drawing on our experience of working with communities. Do you remember how long it took to develop them? Deep discussion, first about what would ensure that we’re effective, to the best of our knowledge and experience, and then lots of different drafts, gradually finding the wording we were all happy with. And how useful it has been to regularly revisit them! They help us check that we’re heading in the right direction. Discussion around them also brings lots of learning amongst us.”

Juliana raised a hand. “An idea has popped into my head as we’ve been talking. How about if Tafi and I work with these principles and shape them into Guidelines for Adaption to the Climate Crisis? We could then present these to the meeting in Addis. I suspect many people may find this useful. Is that OK with all of you?”

“What a good idea, Juliana. Is that OK with everyone?” There were nods everywhere.



## Guidelines for an Agroecology Approach to Climate Change Adaptation

*Adapted from SKI's principles of effectiveness, to guide the work of climate change adaptation*

**GUIDELINE 1:** Enable and support the restoration of ecological literacy and practices across communities to increase levels of biodiversity and vegetative cover on the soil. This should contribute to effective processes to retain water in the soil, prevent erosion, improve soil health, and increase and diversify trees and plants across the landscape.

**GUIDELINE 2:** Recognise that priorities to adapt to climate change are unique to each context and use creative and flexible processes based on co-creating knowledge and learning. Work at the community's pace.

**GUIDELINE 3:** Build on local knowledge and customary governance and bylaws, enabling the revival of bio-cultural knowledge and practices that help communities regenerate and sustain resilience of their natural resource base (soils, trees, vegetation, water, beneficial insects and micro-organisms, and biodiversity).

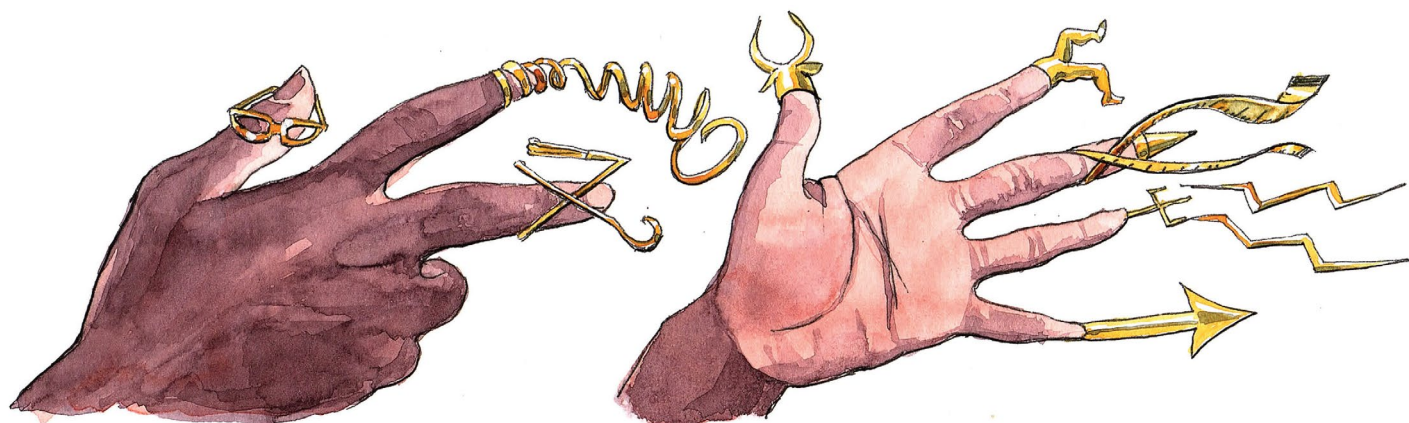
**GUIDELINE 4:** Pay special attention to involving those often excluded from community activities to consider their specific needs and concerns.

**GUIDELINE 5:** Emphasise action-oriented collaboration amongst all relevant stakeholders towards community ownership and dynamic and inspiring leadership. This should help to diagnose climate-related problems, seek and test promising solutions, and assess results in terms of increased resilience to climate change.

**GUIDELINE 6:** Enable documentation and learning of how to better adapt to climate change at every step of the way by everyone involved. This should quickly amplify and spread the work begun at a small scale, to quickly spread within and across communities in a given landscape.

**GUIDELINE 7:** Seek out and support ways to enable household-to-household and community-to-community learning and self-spread of identified new practices for landscape regeneration and adaptation to climate change. This should generate a ripple effect which is not dependent on outside intervention.

**GUIDELINE 8:** Develop structures for fostering mobilisation and organisation of volunteers and local leaders within and across communities located in an agroecological landscape to promote collective action and build local ownership, competency and leadership.





## On their way at last: Tafi and Juliana fly to Addis

The huge Ethiopian plane lumbered along the Harare airport runway. Faster and faster. This was Tafi's first time flying. A feeling of panic rose in his chest. How would this monster of a machine lift off the ground? He knew that accidents occurred, but not often. Just as he wondered if his life's luck had run out, the giant plane lifted gently off the ground. Tafi sighed with relief, his eyes glued to the receding ground.

Soon he had a bird's-eye view of the land below. This is the view of eagles, he thought. He had often watched Bateleur eagles hovering high in the sky at home. They were looking for prey, sometimes his chickens! The land looked baked dry; far too few trees, he thought to himself. Roads cut straight across landscapes. Streams and rivers flowed through the landscapes, forming patterns that joined the land together.

"If we want to adapt our landscapes to be resilient to the climate crisis," thought Tafi, "we must understand the land and all the connections of streams and rivers. We have to see the land as a whole. One can do this from a plane, but we must do it while on the ground. That's what we've been trying to do in my community with participatory techniques like drawing maps and doing transects."

For four hours, Tafi stared out the window, marvelling at all he saw. They crossed the Zambezi river, one of Africa's biggest. The Zambezi's source is eastern Angola. From there, it flows through Zambia, where it floods the Lozi Chieftainship every year, then forms the border with Zimbabwe. As they crossed, Tafi looked east and saw Cahora Bassa, one of the biggest dams in the world. They flew over Lake Malawi, up through Tanzania and over Lake Tanganyika. Then there was a period when there was thick cloud cover. He thought about the albedo effect of clouds and how that helps cool the earth.

"How come we can make this big thing fly, but we can't look after our land? We know what we must do to cool the Earth... surely with all our knowledge, we can turn things around," Tafi thought. "What will it take, community by community, to get this process off the ground?"

"Which process, sir?" asked the air hostess. Tafi suddenly realised that he'd been talking aloud. He smiled. "The process where we all work together to heal the Earth." The air hostess smiled back with a nod and gave Tafi his lunch on a tray.

“How come we can make this big thing fly, but we can't look after our land? We know what we must do to cool the Earth... surely with all our knowledge, we can turn things around”

## Keywords related to the Climate Crisis

**Greenhouse Gases and Global Warming.** Greenhouse gases are mainly carbon dioxide (CO<sub>2</sub>), methane and water vapour. They do create a warming blanket in the atmosphere, protecting us from the extreme temperatures of outer space. But currently, we are burning up fossil fuels that used to be buried underground while cutting and burning forests and grasslands and destroying life in the soils. All of these add extra greenhouse gases to the atmosphere. We also have fewer plants to cycle water and carbon through living systems as they are supposed to. So instead of cycling through life and keeping Earth just the right temperature, greenhouse gases stay in the air longer, and Earth's temperature gradually increases over time. This is what we call Global warming.

**Fossil fuels.** These are sources of non-renewable energy formed from the remains of living organisms buried millions of years ago. With relentless economic development, we've burned more and more fossil fuels, causing greenhouse gases to be trapped in the atmosphere and air temperatures to rise.

**Water vapour and haze.** Water vapour is a natural part of the global water cycle where water evaporates from seas and lakes or transpires from plants into the atmosphere to form vapour. If the vapour condenses around salt or ice particles or bacteria drifting up from forests and grasslands, it becomes clouds and then falls back to the earth as rain. But through the destruction of forests and grasslands, fewer Volatile Organic Compounds (VOCs) and bacteria drift into the atmosphere to create rain clouds, and pollutants keep the water suspended in the air as humid hazes. This haze increases global warming.

**Climate change.** The changes in temperature and weather patterns over a long period caused by global warming.

**Climate crisis or climate emergency.** The crisis that all living beings and ecosystems face due to climate change threatening countless lives and livelihoods across the planet.

**Heat waves.** These are extreme increases in temperature, increasingly caused by global warming, which can cause sudden and massive destruction through wildfires and drought

**Carbon sequestration.** This is storing carbon dioxide for the long term to reduce its presence as a greenhouse gas. For example, developing the earth's soil carbon sponge, growing forests and rangelands, and transitioning away from industrial agriculture to approaches such as agroecology and natural farming.

**Renewable energy.** Energy from naturally replenished sources, such as sunlight, wind, waves, and geothermal heat. Renewables produce far fewer greenhouse gases driving climate change., mostly in the production of renewable technology.

**Climate Mitigation.** Actions that reduce or prevent greenhouse gas emissions, such as carbon sequestration, to absorb more CO<sub>2</sub>. It can also include developing and deploying new technologies, using renewable energies like wind and solar, or making older equipment more energy efficient.

**Climate Adaptation.** Action taken to change practices to better deal with the effects of the climate crisis, like droughts, floods and heatwaves. For example, in conditions of drought, to source more drought-tolerant seeds and to develop better approaches and technologies to harvest and use water.





## CHAPTER TWO

# Face-to-Face with our Climate Emergency

### Climate Change, Climate Crisis or Climate Emergency?

"Sorry I'm a little late, Nzioka. I had to find my way around the food protests. Ai ai ai, things are getting bad. I just wish that people would stop cutting down forests for charcoal. Why don't people understand the seriousness of climate change?"

Kadzo, who worked at the Ministry of Environment and Natural Resources in Kenya, was a little out of breath as he dropped into the chair in the airport cafeteria at Jomo Kenyatta International Airport. Seated at the table was Nzioka, a small-holder farmer and leader from Machakos County.

"Kadzo, you know I have stopped using the words 'climate change' so much. As an African Negotiator going to COP27 you will help us to be clear that what we have now is a Climate Crisis, even a Climate Emergency! Every day we hear of more extreme weather events like cyclones, hurricanes, floods, forest fires, heatwaves and droughts afflicting country after country across the planet. Countless lives are being lost and livelihoods destroyed. Houses, factories, offices, roads and bridges are being destroyed and what is worse, the biodiversity loss is catastrophic. Not to mention the emergence of pandemics. Conflicts are breaking out or brewing between countries over cross-border issues like refugees and competition for declining water supplies."



### What is different about the Climate Crisis?

"You speak about extreme weather events, Nzioka? But we have always had these. What is so different now?"

"What is different now is how often they happen and how long they last. Prolonged drought is resulting in loss of life, lives that will never be recovered, and permanent loss for affected families. But the increased frequency of even shorter droughts is also bad. People just start to recover from one extreme event when they get hit with another just a year or two later. This causes a major loss of their resilience to cope and adapt. They get caught in a vicious downward spiral losing their lives and livelihoods."

"We need better early warning systems to provide accurate information to these families so they can move out of harm's way."

"Mmm, yes and no. With the climate crisis, sometimes you can't predict what will happen or where. Flash floods often start as normal rain and cause disaster in their wake. During floods, there can also be earth tremors and landslides."

"Can you imagine? How much worse can it get? Floods on the one hand and droughts on the other!"



“... For pastoralists, animal rearing is a way of life, a cultural expression. Imagine losing your cultural identity because of climate-related disasters.”

“I don’t have to imagine. I have experienced both of these! With droughts, families are forced to trek for longer distances in search of water. More conflicts are erupting between farmers and herders. For example, this has happened in Tana River and in Laikipia in Kenya.”

“Ah, there are José and Noluthando. They must have just come through transit from Johannesburg.”

José, a calm, studious-looking NGO worker from Mozambique, and Noluthando, a fiery farmer leader from South Africa, caught sight of the two. Soon, the four friends were waiting in the queue to board their flight to Ethiopia. They were all on their way to the AFSA Pan-African workshop on Adaptation through Agroecology in Addis.

## The damage of extreme weather events

“You two looked like you were having quite a passionate conversation back there,” smiled Noluthando. “What were you discussing?”

“I am sure you can guess,” said Kadzo with a nervous laugh. “Extreme weather events.”

“Oh yes, I know about those. Cyclones Idai and Kenneth hit us in 2019 in the same month,” said José shaking his head sadly. “The devastating impacts are still being felt in my country. Over 200 000 houses were destroyed, and 700 000 hectares of crops were gone in just a day! And then we had cyclone Ana 18 months later. We had almost 40 000 hectares of crops flooding, and nearly 800 schools destroyed!”

“Floods down south and droughts up north!” exclaimed Nzioka. “In the Horn of Africa, 36 million people are still affected by droughts and their devastating heatwaves since 2020. I hear that some 25 million people in Ethiopia have lost their livelihoods, while in Somalia, it’s 8 million and 4 million here in Kenya!

“Pastoralists are also badly affected. We had 9 million cattle die because of drought. Imagine the livelihoods affected and the economic losses. For pastoralists, animal rearing is a way of life, a cultural expression. Imagine losing your cultural identity because of climate-related disasters.”

## Who is responsible? What do we do?

The group fell silent for a while. Kadzo looked up. “What makes me angry is that countries in Africa have only contributed tiny amounts to the causes of climate change, I mean crisis, but we are suffering as much as others or more as a result. Polluting industries and cars, mostly in the North and the global adoption of industrial agriculture are killing us. We need to focus more attention on these facts!”

“Yes and no, Kadzo. We cannot wait for the rest of the world to fix this crisis, even though the major industrial countries are the major cause,” said Nolunthando. “Something needs to be done by Africans for Africans. We need African solutions for our problems. Our people must wake up, or it will get worse!”

“So what do we do?”

“Aha! Now that is the question we are taking to Addis, is it not?” remarked Nzioka. “We all need to get involved because we cannot rely on the rich and powerful to solve this crisis!”

“Exactly!” exclaimed Noluthando with a flash in her eyes. “What do we do? Well, we must advance agroecology throughout Africa, if not the world, of course! And the beautiful thing is that agroecology can be a strategy for both adaptation and mitigation. On the one hand, it empowers farmers to become more resilient, and able to adapt to the worsening crisis. On the other hand, agroecology leads to better soils, ground cover and forests, which are key to absorbing carbon dioxide back into the earth and improving local water cycles. In this way it can contribute to mitigation and possibly help with climate cooling!”



**And the beautiful thing is that agroecology can be a strategy for both adaptation and mitigation.**

## Agroecology - a movement to face the climate crisis!

“It sounds like we need a powerful agroecology movement to address the problem at many levels,” added José.

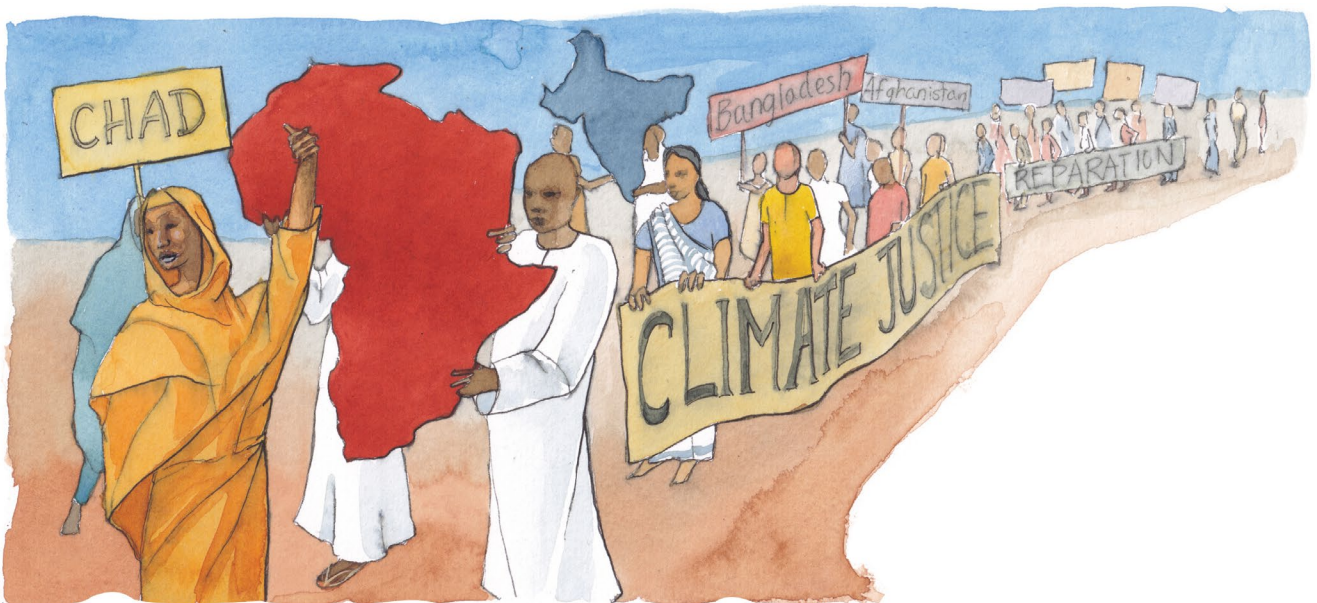
“Yes, but we already have an agroecology movement,” said Nzioka. “It is made up of all the organisations of farmers, fisherfolk, pastoralists and indigenous people who are practicing agroecology, along with a range of other civil society organisations with the same outlook and practice. Many of them have come together to form and grow AFSA. It also includes some politicians, officials, businesses, teachers and academics, anyone dedicated to advancing its cause.”

“Not forgetting consumers who buy from and support all these farmers!” added Kadzo. “And the schools with learners establishing vegetable gardens and even food forests, all over Africa. How can we get them to see themselves as part of the movement?” Apart from children and let us not forget the youth, Africa is the continent with the world’s youngest population. If more youth join the agroecology movement, they can tap in especially through territorial markets. That way consumers are assured of healthy food, farmers have returns on their investment and youth have access to safe and sustainable sources of livelihoods. They will no longer have to cross the Mediterranean in risky boats to get jobs in Europe.”

“Well put, brother!” said Noluthando. “Our challenge is to grow and strengthen it. This must be an African movement that puts African issues and solutions on the table, right up there with everyone else.”

“I agree,” offered Noluthando. “And don’t forget that this is also a global struggle! We have to and can work closely with the agroecology movement around the world.”





“When you add them all up there are so many people either in the agroecology movement or moving towards us. This is why movements are effective, because you immediately feel strength despite the enormity of the crisis.”

They need to see that it is not just swapping chemical fertiliser with compost! It involves land-use practices that look at whole landscapes and deal with underlying problems rather than treating symptoms.

## Agroecology, advocacy and the Movement for Climate Justice

Before long, the four intrepid and motivated agroecologists were on the plane to Addis. Noluthando was deep in conversation with Nzioka, excitedly discussing the movement for Climate Justice.

“So, we can see the need for the Agroecology Movement, but let us not forget the movement for Climate Justice,” said Noluthando. “This brings a different angle to how we tackle the climate crisis but there is an important overlap. Essentially, we have to ensure that those rich countries and corporations who have caused the climate crisis for their own benefit and profit must take more responsibility. In my mind, this means making a huge and concerted effort to move away from fossil fuels and industrial agriculture. And they must pay more reparations for the damage their practices are causing and will cause. These reparations can help to fund the move away from industrial agriculture towards agroecology and other climate-friendly solutions.”

“Not to forget supporting Africa to make a good transition to renewable energy! But how do we connect the agroecology movement and the movement for Climate Justice?”

“Good point, Nzioka. I would think that we need to look at joint campaigns to advocate for new policies and practices, reforms and implementation of existing policies and practices, and the elimination of those that are unworkable.”

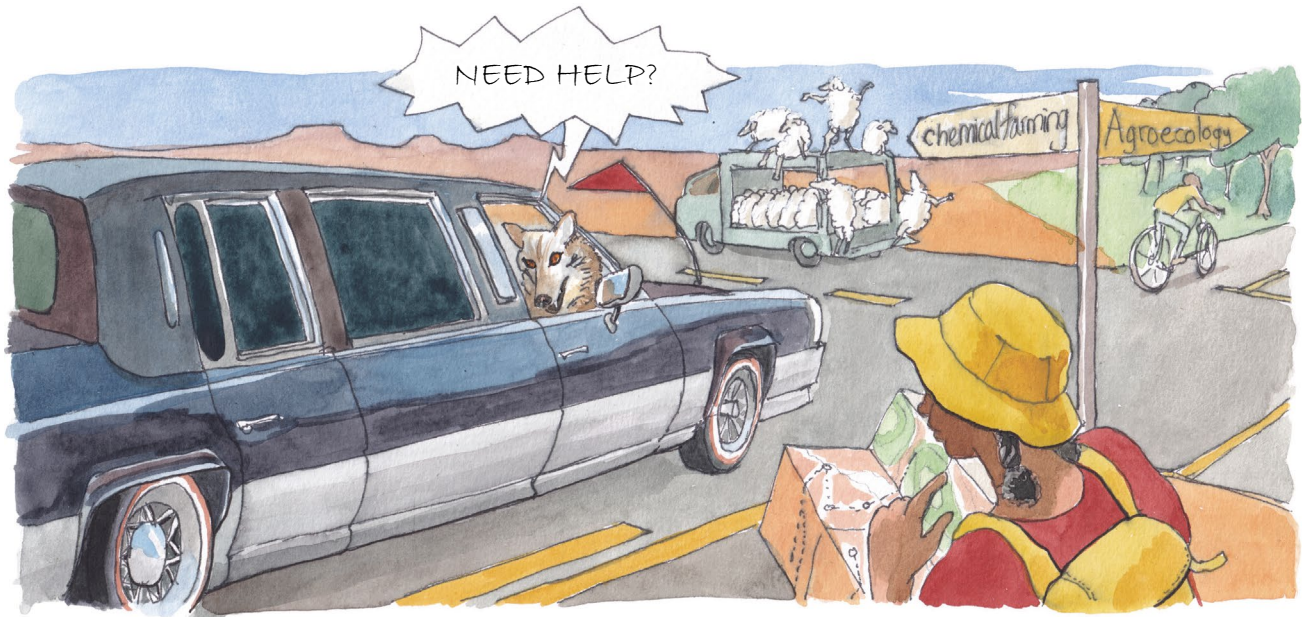
“But, Noluthando don’t you think we need to make sure that the movement for Climate Justice understands what agroecology is so that they can see what policies and resources we need to support? They need to see that it is not just swapping chemical fertiliser with compost! It involves land-use practices that look at whole landscapes and deal with underlying problems rather than treating symptoms. This is what the transition to agroecology is offering to the world. And because of the complexity and uniqueness of the different situations, we need strong local knowledge systems, supported by holistic science. Indeed, a whole re-orientation of our food systems from the soil and seed to the table.”

“Indeed, well put. We should develop a readable guide for them on agroecology and the climate crisis. And of course, we must understand where they are coming from too!”

## CHAPTER THREE

# Climate Smart Agriculture

## same old wolf in new sheep's clothing



**B**abacar and Salamatu were sitting around the fire in the yard of their overnight stop. They were on their way to Accra to catch a flight to the same meeting in Addis that our friends Tafi and Juliana were going to.

After they'd eaten the grilled chicken yassa, made on the crackling fire, Babacar turned to Salamatu. "Yesterday Akusea said that we could learn more from you about Climate Smart Agriculture in Ghana. Would you mind telling me what you know? I've been struggling to get a handle on what it is."

"It would be a pleasure, Babacar. In the Agroecology movement, we call Climate Smart Agriculture, or CSA, a false solution, even a fraudulent solution, like a wolf in sheep's clothing. Essentially it is about short-term measures, still using conventional chemical-based agriculture to address climate crisis issues. CSA practices might bring some drought resistance and even higher yields in the short term but at the end of the day, they will solve nothing. Indeed, they will make things worse, because they depend heavily on the use of fossil fuels, including the production of nitrogen fertilizer. Just like all chemical-based agriculture, Climate Smart Agriculture also contributes to greenhouse gases. This is hardly surprising given that many CSA practices are driven by those corporate and government powers trying to protect their profitable interests."

### Climate Smart Agriculture. A clever name but a losing game? Is "less bad" good?

"Let me tell you what happened to me last month. This will help you to see what Climate Smart Agriculture really is - not only the technology of it but the politics and economics too!

"I was selected to be part of the youth delegation to a conference in Accra organized by the government of Ghana to develop their National Adaptation Plan (NAP), in time for the COP 27 Climate conference in Sharm-el-Sheikh in Egypt. And I was excited. This was going to be my first-ever trip to Accra, the capital city! They chose me because of my report about drought-tolerant hybrid maize, which I can share with you later.

“After the long bus ride, we finally got through the crazy, colourful streets and markets of Accra and arrived at the conference hall. I was amazed. The hall was huge, with over 300 comfortable, cushioned seats! It was all very formal with lots of speeches, powerpoints and parallel sessions. As youth delegates, we decided to split up to make sure that between us we could attend as many sessions as possible. We agreed to come back together at the end of the conference to report back to each other.

“At the end of an exhausting two-day conference, we met up in one of the empty meeting rooms to swap notes and share our findings. I’ll tell you about those report-backs which refer to Climate Smart Agriculture.

“One of the most-advertised sessions, which I attended in the biggest hall (no surprise there!), was organised by USAID, the United Arab Emirates, and the Alliance for the Green Revolution in Africa (AGRA). It was on their initiative called Agriculture Innovation Mission for Climate, or AIM4Climate. Let me read you the half page I wrote up on the AIM4Climate session:”

### What is AIM4Climate in essence?

- A projected \$8 billion investment fund to research new “science and data-based” climate smart agricultural and food system technologies. The main beneficiaries are to be corporations. Innovations most often mentioned are agricultural drones, vertical farming procedures, high-precision machines and techniques to reduce resource consumption.
- AGRA, Bill and Melinda Gates Foundation, EAT Foundation, and the World Bank are interested in supporting African countries and financing their transitions to these supposedly “more sustainable food systems.”

### Is AIM4Climate a real solution to the Climate Crisis?

- No, it is a deliberate strategy to reframe industrial agriculture and big tech as climate change heroes rather than the climate change villains that they actually are.
- No, it is being promoted to include big agribusiness corporations, like Bayer/Monsanto, John Deere, Cargill and big digital-tech firms like Microsoft and Amazon as parts of the climate solution.
- No, it promotes a large-scale, industrial model of farming requiring huge amounts of energy and continued use of fossil fuels. Small-scale farmers will increasingly be replaced by robots, data, machines and the use of gene-edited seeds.
- No, one of its aims is to make profits by winning carbon credits. This will distract and delay real climate action and push investment in entirely the wrong direction.

“One of my fellow delegates, Assane, attended another session on Climate Smart Agriculture. One point repeated many times is that agriculture, including forestry and related land use, is one of the major sources of greenhouse gases. It contributes about 28% of global emissions, even more than all the cars on earth! So, everyone is saying that farming and food systems have to be transformed to reduce emissions. So far, so good.



“But then many of the other delegates could only talk about Climate Smart Agriculture, or CSA, and how this is the big solution, like a magic bullet. Until coming to the conference, few of us had ever heard of CSA!

“At the same time, it wasn’t always clear what they mean by CSA. Different people spoke about it in so many different ways. In one of the sessions, a speaker defined CSA as an approach to agriculture that:

- Increases productivity
- Adapts to climate change
- Mitigates climate change (reduces emissions)

But soon I realized there was a lot of debate over what it really means. What is new about it? Which agricultural practices are CSA and which are not?

There was a woman from ActionAid Ghana who passionately made the point that “for all the science CSA promises, there are no real criteria to assess it.” For example, “increasing productivity or yields” is one element, so they could say that any agricultural practice that increases yields, including Green Revolution farming practices, like drought-resistant maize, is claimed to be CSA.

“In another session, presenters spoke about agroforestry, soil and water conservation, use of compost and manure, intercropping legumes with sorghum and using cover crops. They said all these agroecology practices were part of CSA.

“So, we started debating: Is agroecology also just part of CSA?”

“Someone said that agroecological practices help farmers adapt to climate change, but they don’t always increase yields significantly. Instead, they reduce risks for the farmer.

“Another said that it’s a mistake to say that agroecology is part of CSA. To adapt to climate change, we need a farming system that is also sustainable and regenerative. It needs to be resilient to climate change. And it needs to ensure that women farmers and more vulnerable households benefit. And it needs to produce food for healthy, diverse diets. All this is part of agroecology. Little of that is part of the CSA concept. This point got a lot of support.

“Another stressed that agroecology is a social movement to promote food sovereignty. Climate Smart Agriculture does not talk at all about food sovereignty.”

Salamatu laughed. “I remember someone saying that Climate Smart Agriculture sounds like a poor idea with a catchy name.



“... agroecology is a social movement to promote food sovereignty. Climate Smart Agriculture does not talk at all about food sovereignty.”





“  
... many CSA members are promoting precision agriculture and digital data and calling it CSA. Like the AIM for Climate, they think that robots, GMOs, and drones should replace small-scale farmers.

Who can disagree with being smart about agriculture? Is it not just a public relations front, a way for international agribusiness to promote large-scale, commercial agriculture, using their profitable pesticides and fertilisers? It allows them to keep “business as usual”, tweaking the practices a little here and there and dressing it all up in cool clothes.

“Babacar, I did meet many people there whom I think are well-intentioned and convinced that modern scientific technologies are essential to “feed the world”. They see agroecology as a niche, which cannot feed the world. They ignore any evidence that does not easily fit into their thinking.

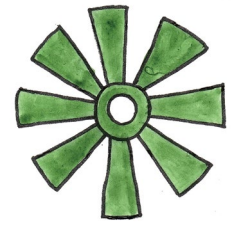
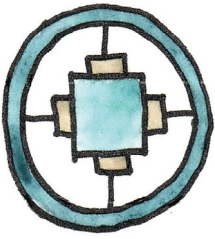
“Isaac, a fellow delegate from Ghana, had attended a session that was hosted by the Institute for Agricultural Trade Policy (IATP). He pointed out that we only have to look at all the big corporations that are members of the Global Alliance for Climate-Smart Agriculture (GACSA) at the United Nations. Three of them are the largest fertiliser companies in the world, including Yara. They are on the steering committee. Other members at the climate-smart table are Syngenta (GM seeds), McDonalds, Kelloggs and Walmart. So it’s pretty clear whose interests are served by CSA.

“There was some good drama there though! More than a hundred civil society and farmers’ organisations from all over the world, including IATP, signed a protest letter against CSA. They questioned how the presence of some of the planet’s worst climate offenders in agribusiness and industrial agriculture can contribute to a solution. They pointed out a huge conflict of interest and that CSA lacks clear social and environmental criteria.

“Ibrahim made the point that many CSA members are promoting precision agriculture and digital data and calling it CSA. Like the AIM for Climate, they think that robots, GMOs, and drones should replace small-scale farmers. But these types of CSA innovations do the climate and farmers more harm than good!”

“That’s it, Babacar. CSA is a basically smokescreen for continuing the so-called Green Revolution as a solution to the climate crisis. But underneath, it is just more profiteering from the big agrochemical companies. Oh, here is a summary of my report on Drought Tolerant hybrid maize for your bedtime reading. See you in the morning. Tomorrow we will be in Accra to meet with Kwesi Boakye, a Climate Change Expert with the Ghana Ministry of Agriculture and Food. And then Addis to the AFSA workshop!”





## FACT SHEET

### *Drought Tolerant Maize to the rescue?*

The International Maize and Wheat Improvement Center (CIMMYT) has developed “drought tolerant” (DT) maize varieties, being used or tested in Zimbabwe, Uganda and Nigeria.

The CIMMYT published a report titled “Investing in drought-tolerant maize is good for Africa” (CIMMYT 2019).

They found that DT varieties have two apparent advantages. Firstly, the risk of failure during drought or dry spells is reduced. Secondly, the DT varieties in Zimbabwe out-yielded the most widely grown commercial hybrid varieties by more than 35%. However, the increased yield compared to the commercial varieties was not as high in other countries; with 15% in both Uganda and Zambia.

At field trials, the contact farmers had received the hybrid DT seed and a generous amount of chemical fertiliser from the Savana Agricultural Research Institute or SARI as “motivation” for participating. But several complained about steep increases in fuel costs, making tractor services unaffordable and that, beyond the trial period, chemical fertilisers and hybrid seeds had also become costly and often unavailable.

What the report did not explain was that hybrid seeds depend on high levels of nitrogen fertiliser, placing an ongoing cost burden beyond the trials and leading to a progressive decline in soil health. When soils are poor, the extra increase in maize production is seldom equal to the full cost of the fertilizer used.

African governments with their huge debts are unlikely to increase subsidies or provide credit for chemical fertilisers, hybrid seeds and tractor services. Moreover, the production of nitrogen fertiliser uses significant amounts of fossil fuels and releases greenhouse gases into the air, making climate change worse with only some short-term gains in yields.

#### ***Resilient alternatives to maize***

Maize grown naturally can provide comparable yields, with well-applied compost around each plant to hold the water, as well as a cover crop, like cowpea, to protect the soil from drying out.

Many other crops, like millet and sorghum, are more resistant to drought and erratic rainfall, and also more nutritious. They do not require chemical fertiliser or the buying of expensive seeds.

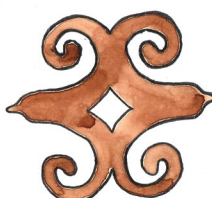
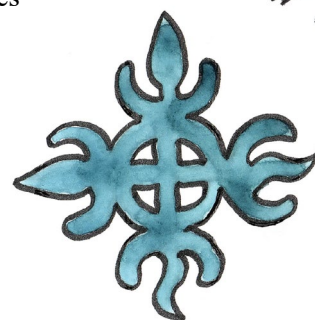
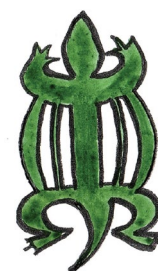
For farmers to adapt to climate change, we need to first put more organic matter in the soil, keep the land covered, maintain our local seeds, grow diverse crops, and let more trees grow in our fields to help deal with high temperatures. The real solution is agroecological farming!



# The Principles of Agroecology

Agroecology is fundamentally different from other approaches to sustainable development. It is based on bottom-up and territorial processes, helping to deliver contextualised solutions to local problems. Agroecological innovations are based on the co-creation of knowledge, combining science with the traditional, practical and local knowledge of producers. By enhancing their autonomy and adaptive capacity, agroecology empowers producers and communities as key agents of change. Rather than tweaking the practices of unsustainable agricultural systems, agroecology seeks to transform food and agricultural systems, addressing the root causes of problems in an integrated way and providing holistic and long-term solutions. This includes an explicit focus on social and economic dimensions of food systems. Agroecology places a strong focus on the rights of women, youth and indigenous peoples.

1. **Input reduction:** agroecology encourages the use of locally available resources and renewable resources. This contributes to balancing the ecosystem by making it intact.
2. **Recycling:** Recycling contributes to tackling climate change through effective resource management and low wastage. Recycling also makes agroecology cheap.
3. **Soil health:** Agroecology improves soil fertility through practices such as intercropping and mulching. Healthy soil enhances biodiversity through species multiplication. Agroecology ensures the soil is healthy and functioning by improving soil fertility.
4. **Animal health:** Agroecology enhances healthy animals and a symbiotic relationship between plants and animals. Through agroecology, animals get their sources of food (pasture from the farm) and provide manure which is used to make soil healthy.
5. **Biodiversity:** Agroecology promotes the production of multiple crops, keeping multiple varieties of livestock, and ensuring resilient features are retained and lost varieties are brought back. Agroecology is anchored on practices such as intercropping and mixed farming.
6. **Synergy:** Agroecology enhances interaction among flora and fauna, symbiotic relationships between crops, animals and other living organisms in the environment such as soil, and water. This synergy helps build a balance in the ecosystem.
7. **Co-creation of knowledge:** Agroecology is anchored on knowledge building and sharing. Agroecology respects indigenous knowledge and practices and appreciates their role in addressing climate change.
8. **Social values and diets:** agroecology is people-centred, it respects culture, identity, and social and gender equity of local communities. Agroecology ensures the production of healthy diversified diets and culturally appropriate food.
9. **Fairness:** Agroecology supports dignified and robust livelihoods and as a movement is incorporates everyone in the food system. Agroecology enhances fairness in economic transactions (trade), employment and knowledge diffusion.
10. **Connectivity:** Agroecology connects for producers to consumers through the promotion of shorter distribution networks anchored on fairness.
11. **Land and Natural Resource Governance:** Agroecology ensures sustainable use of natural resources for current and future generations and contributes to environmental protection and protection of genetic resources as a responsibility shared by everyone. Proper land and natural resource governance ensures biodiversity protection.
12. **Participation:** Smallholder farmers feed the world. Agroecology enables greater participation in decision making by food producers and consumers through adoption of decentralised governance and local management of agricultural and food systems.



## CHAPTER FOUR

# Experiencing how Agroecology can address the Climate Crisis

### The perils of our machine-minds

"This spark plug tip is dirty and worn out. I could clean it but because of the wear I will rather replace it. You can isolate the problem and fix it quickly because a machine is made up of separate replaceable parts, with fixed connections."

Their car had broken down in Nyeri county in Kenya, in view of the majestic Mount Kenya and the Aberdares mountain range. Three of the travellers were members of AFSA: Monica and Karen from Kenya and Joshua from Uganda. They had invited Abeiku Owusu, a government African negotiator from Ghana, and Ngodibe Ngono, a journalist from Cameroon to join them on a short trip to better understand Agroecology first-hand, before attending the AFSA climate crisis meeting in Addis Ababa and COP27 in Egypt, in November.

"How different is the landscape around us from this engine?"

Joshua chuckled, "An engine has a few parts while even a tiny part of this landscape has countless different plants, animals, and trillions of invisible microbes"

Karen added. "Unlike a machine, the connections in this landscape are complex, endless and mostly invisible. They are constantly changing, growing, developing and even dying, and always unpredictable."

"Yes," said Monica. "But we humans work with the land as if it was a machine. We operate machines to make products. But farmers don't grow crops! Nature grows crops and our role is to support it to do so. We try to control and fix nature by planting it in neat monoculture rows and spraying chemicals at it, but all we get is food lacking in nutrition and unsustainable yields. And long-term, we get climate crisis, much of which has been caused by industrial agriculture."

"But what about the climate crisis? Can we fix that?"

Abeiku, the government negotiator responded. "I suppose you would say that you can't fix the climate. You can only learn to work with how the climate works. Does that mean that the climate has to fix itself?"

"Well, the climate is part of nature, so what we can do is to help nature to heal itself and in so doing restore the climate."





“I am proud of our history and culture and I want my children to know it for themselves as they move forward in life. The same applies to our food culture and farming systems.”

## The roots of Agroecology

“All over Africa, there are sacred natural sites. Some are huge and imposing like Mt. Kenya, and others are smaller like a spring. These sites reflect our sacred connection to the land. These are the roots of Agroecology, this reconnecting deeply to the land, recognising that we are a part of nature and need to learn how to work with it.”

“But can we really revert to traditional ways?” jumped in Abeiku.

Joshua raised a hand. “In your own country, Abeiku, you have the Adinkra symbol known as Sankofa. As you know this translates as ‘to look into one’s past in order to move forward.’ That’s what agroecology is about. Colonialists and modernists have denied and destroyed much of our past. It’s time we renewed our understanding of and pride in that African past while being rooted in today’s world and looking to the future.”

Abeiku was surprised and impressed that the young man knew about the Adinkra symbol. “I am proud of our history and culture and I want my children to know it for themselves as they move forward in life. The same applies to our food culture and farming systems.”



## A journey to the Food Forest in Thika

The car arrived outside the Thika Rescue Children’s Centre and the five travellers disembarked and followed Karen. Soon they were standing in a small forest full of different plants. Ngodibe was amazed to see that nearly all of the plants were food plants. A young woman came from nowhere.

“Friends, this is Maureen Maina. She works with the Schools and Colleges Permaculture Programme (SCOPE) in sixteen counties in Kenya. SCOPE also operates in hundreds of schools around East and Southern Africa.”

“Karibu, friends. What you see here is our school’s food forest, the result of the SCOPE programme working with students, teachers and parents to redesign the school grounds to build resilient and productive environments. Schools can be a catalyst for moving communities towards greater food sovereignty, improved nutrition and more sustainable management of natural resources.”

“How do you work with the students, Maureen?” Asked Ngodibe, former teacher.

“I show them by doing. When I dig, the children dig. When I water the plants, the children water the plants. This is a food forest which is one of several approaches in the Agroecology movement.”

Karen chipped in. “As I understand it, a key principle of food forests is to farm with nature, not against it. How do you do that?”



“Come with me,” invited Maureen. “The first steps are to design the school grounds to catch all the water in the ground. This big hole is filled with dry vegetation, leaves and paper from the classrooms, anything perishable. We direct the water from the roof into this pit. Around it, we have well-spaced banana plants, a couple of tree tomatoes and a moringa tree. All of them enjoy the water from the roof and give the building shade in return.”

“Those look like weeds,” said Abeiku pointing at some plants.

“Those are amaranth, a delicious and highly nutritious green vegetable. There’s no piece of land that is too degraded to be transformed into a productive landscape,” continued Maureen. “When we started, this was just bare, dusty land. But look now! And believe me, this makes children so content. Many children and their parents have already started taking these ideas back into their own communities.”

The group looked around. They could see maize, sunflowers and finger millet growing together in such a way that they didn’t shade each other. Covering the ground was cowpeas. There were also the odd amaranth plant and another ‘edible weed’ called spider plant. Various trees dotted the cropping area, pruned so as not to shade the crops too much.

## A climate-resilient alternative

“The three main principles are: to regenerate ecosystems, to improve soil health and biology, and to introduce a diversity of plants and trees which fit well into our farming system.

“That grove of trees over there is our wild area, full of indigenous trees. We have benches in there for children to sit on and enjoy the cool environment.”

Maureen pointed out the hanging garden, where the school used old plastic containers hung in a vertical line to grow vegetables.

“Impressive!” said Ngodibe. “I thought food forests were just a wild idea. But do you teach children about climate change?”

“Yes! The best time to generate a “change in mindset” is when children still have an open mind. *If we want to adapt to climate change, we all have to learn how to work with nature.* Forests are one of the most resilient ecosystems in the face of drought, so it makes sense to grow food forests as a climate-resilient alternative to other more vulnerable farming approaches. On top of that forests are a good carbon sink for helping to cool the earth. It’s triple-win situation!”

6

“... Forests are one of the most resilient ecosystems in the face of drought, so it makes sense to grow food forests as a climate-resilient alternative to other more vulnerable farming approaches. On top of that forests are a good carbon sink for helping to cool the earth. It’s triple-win situation!”





They are making steady progress towards applying agroecology across landscapes, with growing support from county policy makers. Farmers are obviously at the centre of the programme, which is also very much about diversifying their livelihoods.

### Saving the Aberdares Forest and Nairobi and helping to cool the climate... through Agroecology

In 2017 five member organisations of the PELUM-Kenya network came together to design a joint programme in the tea growing areas of the Aberdares. Historically the forests of these areas were cleared to grow tea as a monocrop. The idea was that people would earn a good income from tea and then buy their food and other needs from shops. This is the cash cropping approach that has pervaded the continent. In the end it is the suppliers of inputs and the processors who make most of the money from cash cropping whether it's tea, coffee, cotton or sugar, while also badly damaging the land. Replacing thick, dense forest with monocrop tea, and at lower altitudes monocrop coffee, has had serious implications on water management in the Aberdares. The rivers run red with soil, and water that should have entered the underground water system is lost. Nairobi gets all its water from the Aberdares. And over and above all this, perversely, there are high rates of malnutrition in the Aberdares, a place with an excellent climate for growing a variety of crops.

The joint programme is tackling all this together: bringing key stakeholders together towards the bigger vision of diversifying food crop production, while addressing the critical issue of harvesting water into the soil everywhere. They are making steady progress towards applying agroecology across landscapes, with growing support from county policy makers. Farmers are obviously at the centre of the programme, which is also very much about diversifying their livelihoods.

At breakfast the next morning, before their final leg to Jomo Kenyatta International Airport, the group was chatting about their experiences the day before: the school food forest and then their visit to the Aberdares. Abeiku, the government negotiator remembered something that Karen had said. He turned to her and asked, "Karen, yesterday you mentioned something about Community Natural Farming in Andhra Pradesh in India and the role of the government. Where can I get more info on that?"

"It's good you asked. I just received a one-pager on that programme. I'll forward it to you."



## The advance of Community-managed Natural Farming in Andhra Pradesh

Andhra Pradesh was one of those states in India where most farmers adopted green revolution practices based on the use of chemicals and hybrid seeds. Smallholder farmer debt became chronic, with many committing suicide. In response, in 2016, the government started the Zero Budget Natural Farming programme, now called the Community-managed Natural Farming programme (CNF). By mid-2022 it was being used by over 800,000 farmers. The aim is to reach all 6 million farming households by 2030.

**CNF aims to achieve farming production by restoring the whole farm ecosystem.** It's not about replacing chemical inputs with organic inputs. To do this, farmers increasingly put into practice a set of 9 principles of Natural Farming. Another strength is its emphasis on good planning in order to achieve financial viability.

Behind its success are a number of factors, as well as the focus on helping farmers get out of debt. Perhaps the strongest factor is the programme's leverage of women's self-help groups (SHGs). The SHGs provide both financial and moral support to fellow farmers.

Champion farmers set the example of Natural Farming as a viable option to chemical farming. They are carefully chosen and given close support by the programme. They model the approach and become key resource people in their villages.

**A third key factor, critical to the rapid spread of Natural Farming in Andhra Pradesh State, has been the government's support, giving full backing to upscaling Natural Farming.** They also include relatively isolated NGO programmes, integrating them into the programme.

The programme aims to transition whole villages to Natural Farming (saturation) over a 6- 8-year period.

The CNF programme in Andhra Pradesh provides an inspiring example of what's possible for the spread of agroecological farming where there is political will for this.

For further information see the references at the back of the book.



**Smallholder farmer debt became chronic, many committing suicide.**



### Holistic land & livestock management: The case of Changazi

After 10 years of implementing Holistic Land & Livestock Management in Chimanimani in Zimbabwe, farming communities in Changazi are experiencing diverse benefits of the programme. They have overcome the multiple threats of disunity, climate hazards and seriously eroded landscapes and move forward towards sustaining their land, livestock and livelihoods. In the words of Claudius Gudyanga, HLLM Ward 20 Secretary: 'There are no more threats. We have left them behind us!'



# 6

Over a period of five years, I increased the density of trees from an initial 30 trees per hectare to about 200 trees per hectare. At the same time, I greatly increased my yields of food crops, becoming completely self-sufficient there, producing all the firewood needed for cooking, as well as huge quantities of forage for my growing flock of sheep and goats.

## Agroforestry and Farmer Managed Natural Regeneration

Meanwhile, 4000 km away in Accra, Salamatu and Babacar were sitting in the offices of the Ghana Ministry of Agriculture and Food in Accra, in a meeting with Kwesi Boakye. Kwesi is a Climate Change Expert and a high official at the Ministry. He was also Ghana’s national correspondent to ECOWAS for Agroecology and had been appointed to be one of Africa’s negotiators at the COP27 meeting on Climate in Egypt.

For Kwesi, this was one of many meetings with people in the agroecology movement in Ghana to prepare for his presentation at COP27. He had heard from others that Salamatu was a passionate champion of “tree-based farming” of agroforestry with a long and successful track record in promoting agroforestry across northern Ghana and in training in the agroforestry technique of “FMNR” (farmer managed natural regeneration) of trees.

“Tell me about your experience with agroforestry, Salamatu.”

“Well, Kwesi, I applied FMNR on my own family farm of 4 hectares some years ago. Over a period of five years, I increased the density of trees from an initial 30 trees per hectare to about 200 trees per hectare. At the same time, I greatly increased my yields of food crops, becoming completely self-sufficient there, producing all the firewood needed for cooking, as well as huge quantities of forage for my growing flock of sheep and goats. I also gained a good income from selling various tree fruits and nuts. Out of this experience, I have been able to promote similar success with hundreds of other farmers, through training, demonstrations and other forms of support.”

“Salamatu, you and others in Ghana say that agroforestry has great, unrealized potential, as part of agroecology, to help farmers adapt to climate change. This is why we are talking now. But every time I talk about agroforestry with my colleagues here in the Ministry, and with my fellow Africa climate negotiators, I face a wall of scepticism.”

Salamatu smiled knowingly. “Tell me what the sceptics are saying.”

“Well first, you know that in 2014, the Ghana government at the time spent 32 million cedis in northern Ghana for tree planting. When the University of Development Studies did an evaluation, they reported that nearly 90% of all the trees planted had died. Not only that, participating communities had been asked to clear the plots of existing indigenous trees before planting exotic species. So the program actually led to a major decrease in trees on their land, rather than an increase!”



Kwesi continued, “And now in June 2022, our current government promoted “Green Ghana Day”. The President asked all citizens to plant at least a few trees ‘to help increase Ghana’s forest cover to address the negative impact of climate change’. The aim is to plant 20 million trees. But early indications are that most of those trees also will not survive.

Salamatu was not sure whether she wanted to laugh or cry. But pausing to consider her response, she said, calmly, “But those campaigns have nothing to do with agroforestry. And tree planting is not the same as tree growing. There are so many problems with these well-intentioned but highly ineffective and costly tree-planting campaigns. The first issue is about the lack of local ownership and care of the tree seedlings that are planted...”

Kwesi interrupted, “So let’s get straight to the point. What do you propose is a better way? And what evidence can I share with my colleagues that agroforestry can really be applied at scale, and support small-scale farmers to adapt to climate change?”

“Well, first, agroforestry has to be suited to each farming context. In the forested semi-humid zone in southern Ghana, the main cash crop is cocoa. One of the main causes of deforestation is that small-scale farmers clear the land of trees to plant new cocoa plantations. But there is plenty of well-documented research that shows that cocoa can produce higher yields under shade trees than when grown in full sun. (Issaka Abdulai et al. 2017)

“So, one huge, practical application of agroforestry in Ghana is to help cocoa farmers learn to stop cutting trees and forests. And then start growing shade trees to buffer cocoa plants from heat and water stresses. This is essential because climate science has projected that, rising temperatures and increasingly frequent droughts will turn our cocoa-producing regions in Ghana into treeless savanna over by 2050 if we do not stop the current trends.”

“And as well as buffering cocoa plants, shade trees also enhance soil fertility due to leaf shedding and pruning residues. These enrich the soil in organic matter and recycle nutrients and reduce soil erosion.”

“OK, that’s good. What about agroforestry for the savannah in northern Ghana, and also in countries in the Sahel like Burkina, Mali and Niger. Is agroforestry at scale possible in such areas? What the sceptics tell me is that fire, drought, grazing animals, and the lack of water during the long dry season make it very difficult for tree planting, oh I mean “tree growing!”

“But those campaigns have nothing to do with agroforestry. And tree planting is not the same as tree growing ...”





“That is remarkable. It is almost like a hidden, underground forest. But, you cannot grow maize in a forest!”

Salamatu replied “Well yes, tree growing is even more difficult in the Sahel for the reasons you mention. But did you know that the Sahel has a vast underground forest?”

Kwesi laughed, “A vast underground forest? What do mean? I am confused.”

“It’s quite simple, really,” Salamatu smiled back. “Until recently, most farmers maintained soil fertility by fallowing their fields for 5 or more years. They let the indigenous trees grow back on their land. The trees helped restore soil fertility. Our ancestors never used fertilizer or made compost. They let trees regrow and regenerate the soil using nature’s own processes. Well, today, fallowing is no longer possible. But most of those old tree stumps and roots are still in the ground. They produce many shoots every year, that produces a bush. ***So the most economical, fastest, low-cost way to promote agroforestry in the Sahel does not require tree planting at all. All farmers need to do is let just one or two of the tree shoots grow, and clear the rest.***

And in just one year, with natural regeneration, farmers can add up to 120 indigenous trees for every hectare, with little or no work!”

“That is remarkable. It is almost like a hidden, underground forest. But, you cannot grow maize in a forest!”

“No, you can’t, but you do not let the trees grow to full size. At the beginning of every rainy season, farmers severely prune back all these trees. The leaves serve as mulch and compost. And the branches are used as firewood. And this is just the first step in “tree-based farming”. If we had time I could share in detail how to manage trees on cropland in a low-cost agroforestry system that fights climate change.”

Kwesi broke in, “I think we need to bring you into a session with the Ministry staff. But what evidence do you have that FMNR can work at scale?”

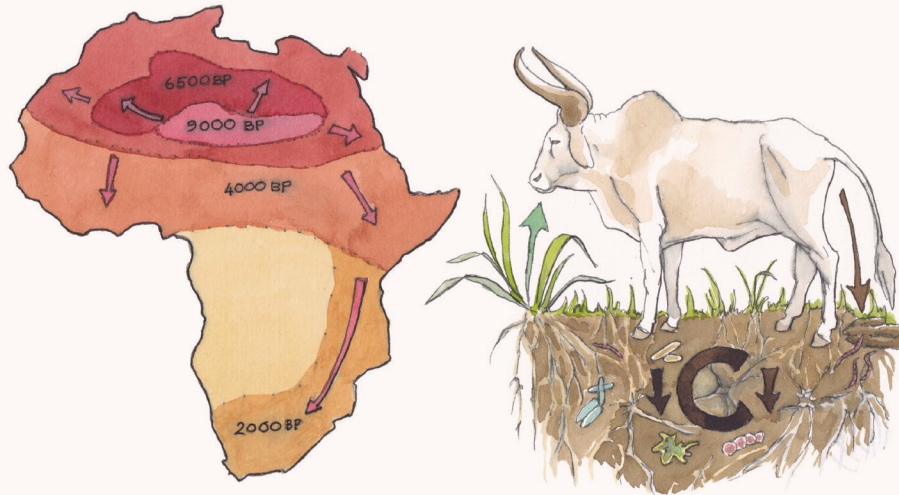
“There has been a lot of research into the benefits of FMNR for both adaptation and mitigation of the climate crisis. And satellite images show that in Niger, FMNR has become self-spreading from community to community. In 20 years, this approach to agroforestry has covered over 5 million hectares. And FMNR is also spreading in Senegal, Mali, Burkina Faso, and Ethiopia. It is so frustrating here in Ghana that our government is still not doing more to promote FMNR. Kwesi, for your presentation, I will email you some links.

“I hope you can use this at the African Union and the COP27 negotiations!”



# A letter to COP27

From the East and Southern Africa Pastoralist Network (EASPN)



## Dear Climate Negotiators

*Understand Pastoralists and see their role in addressing the Climate Crisis*

We pastoralists have been marginalised. We are writing this letter to you because most people do not understand our culture and way of life. They say it does not belong in the modern world. But not only is the climate crisis hitting us hard, but we too have a contribution to solving it.

We are learning to adapt. We have to adapt. But we also know that we should not just adapt and let our cultural and traditional practices get lost.

Traditionally we roamed over vast areas of land with our livestock. We lived with the wildlife, we understood our land and environment intimately. This way of life developed over thousands of years, beginning in Africa around 9000 BCE. The first distinct pastoralists can be traced to what today is Sudan and Chad and the northern areas of the Sahara. From there they spread into the Horn of Africa and to West Africa.

## Learning to value indigenous knowledge

We became managers of these vast, mostly savannah, landscapes. What we did ties in very well with the way modern grazing management is going. It is all about avoiding over-grazing. This is a question of time, not the number of animals. In modern grazing management, you must plan the movement of the herd to shift them off a piece of land before they can overgraze plants that have been recently grazed and are sending out new, green shoots. And you must not bring them back until the grass has recovered. That is exactly what young Morans in our communities have done for generations, guided by the wisdom of elders, as they take our herds over large grazing areas, often for months at a time. And there is no reason that we cannot keep on doing this. We have the knowledge to manage our traditional territories to produce abundant grass. This will be good for our livelihoods, as well as for Africa and the world.

**Consider the fact that Africa's rangelands contain 36% of the world's total carbon and, if fully restored, can sequester carbon equal to that of the Amazon rainforest.**

What is happening is tearing our communities apart. The climate crisis is blamed and to some extent this is true. But it is more than that. As we address the climate crisis, this can help to address its consequences. We see teenage pregnancies, drug abuse, illegal brewing of alcohol and mental illnesses amongst our young people. Young people are being forced into destructive practices like sand harvesting. They have no alternative. They should really be out grazing their livestock. This would not be necessary if there was a recognition of our traditional practices and support for agroecology.

### **How we are adapting**

Some women have formed groups to make bead products for sale to tourists, while others are growing kitchen gardens. Those who live along the river and have generators, plant vegetables for the entire community.

Women play a key role in climate change adaptation because they protect the environment. They do not allow tree cutting and only allow the use of dead trees for charcoal. Women also milk cows and store any leftovers in gourds for fermentation and use in future. When the men are away grazing the livestock, women take care of the calves.

In recent years, the stresses of trying to adapt to modern life have seen conflict among ourselves as pastoralists. We are taking out our difficulties and frustrations on each other. We know that this is short-sighted of us and the East and Southern Africa Pastoralist Network is working to heal our divisions.

We will rise above these conflicts so that we can work together to influence others. This is what our Network will make possible. We are joining forces with the agroecology movement which understands nature and can support farmers and pastoralists to live in harmony. We are all in this together.”

### **How can you support us?**

Agroecology works with nature and we know that this is the only way that we, as pastoralists, are going to survive and thrive through the climate crisis. But for agroecology to fully succeed it needs the full support of the government, business and civil society. Your role is to gather that support.

If we are not supported we will become a burden. But when we are valued and our knowledge and way of life respected you will find that we are resilient and determined. It is these qualities that you will be supporting so that we can become an asset to our common struggle for a healthy planet.

With warmest greetings

***The East and Southern Africa Pastoralist Network (EASPN)***



## The Water Cycle and its Cooling Effect...

...and the impacts of industrial agriculture vs agroecology

They decided to stop to stretch their legs. Around them was sun-baked and eroded land.

“Just look at this hard soil!” remarked a frustrated Karen. “When it rains, nearly all the water will run off, wasted! I wish people could understand how our unhealthy water cycles are a major driver of the climate crisis.”

“Why?” asked Ngodibe. “Surely CO<sub>2</sub> is the main cause of the greenhouse effect and climate change?”

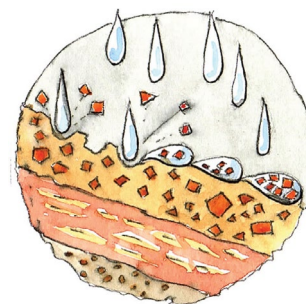
“CO<sub>2</sub> is only one of the drivers. There is a bigger one to learn about. If we understand the water cycle better, then I believe communities, with government support, will be able to become much more resilient in the face of the climate crisis.”

This bold statement hung in the air as they climbed back into the car.

“Karen, now tell us why water cycles are so important,” asked Abeiku.

“Sure. I presume you know about water that evaporates from the land, lakes and seas and condenses to form clouds which then become rain and so on. This seemingly simple cycle, when effective, helps make the whole of earth’s biological system strong, resilient, stable and productive. But when it is ineffective it does the opposite, contributing to extreme weather, such as droughts, floods and heatwaves and that hard, baked soil we saw.”

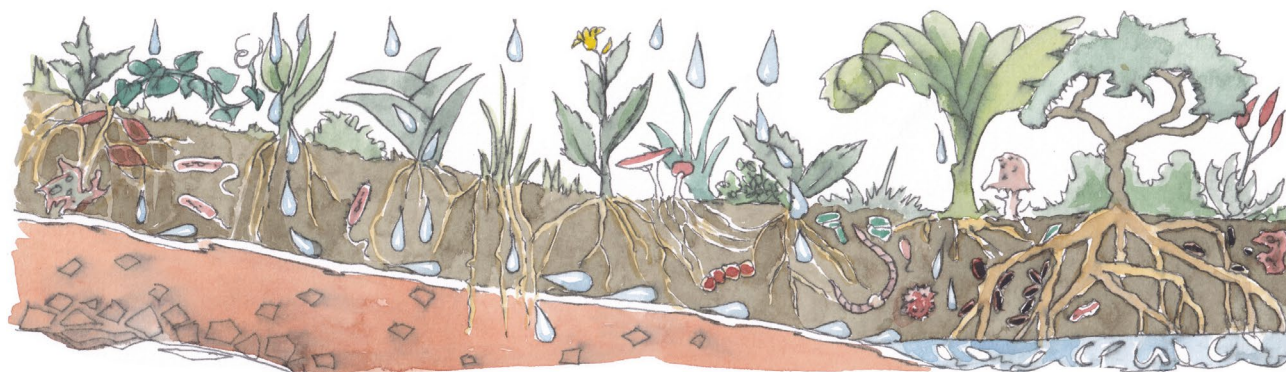
Ngodibe asked, “Where does the water cycle begin?”

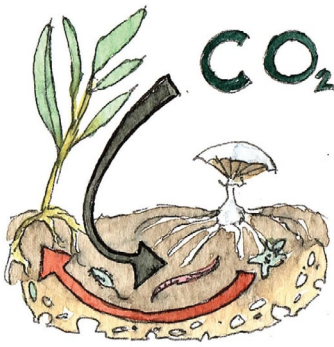


“I’m going to start with plants. If rain hits bare soil, it can do a lot of damage to the structure of the soil, and then often runs off, taking topsoil with it. But if the soil is covered and protected by plants, they enter the soil without damage, like a sponge. Good rains will recharge our springs, wells and boreholes and seep into streams and rivers as clean water. One thing to remember about water is that *in* the soil it’s a productive force, *on top* of the soil it’s destructive.”

“If there’s a good diversity of plants that always keep the soil covered then when it rains the water easily soaks into the soil to nourish the plants, underground life, and the billions of microbes and other small creatures that live there.”

“... If we understand the water cycle better, then I believe communities, with government support, will be able to become much more resilient in the face of the climate crisis.”





## Diverse plants and diverse microbes create the earth's soil sponge

“Now, plants take that water from the ground, and CO<sub>2</sub> from the air, and use the energy of the sun through photosynthesis to make sugars full of energy to grow themselves. But they also give some of these sugars to those billions of tiny organisms underground: bacteria and fungi. In return, these microbes find and give minerals to the plants which they need for healthy growth. Plants and trees cycle the nutrients from below to the surface, and feed them to all of life on land”

“But why is a variety of plants needed?” asked Abeiku.

“The more diversity of plants the more diversity of microbes, and the more diversity of microbes the healthier the soil. Each plant associates with a different set of microbes, which work with the plant roots to create soil that is full of miniscule air pockets. Some call this rich soil the earth's soil sponge which soaks up the water and circulates air, so all life can drink and breathe.”

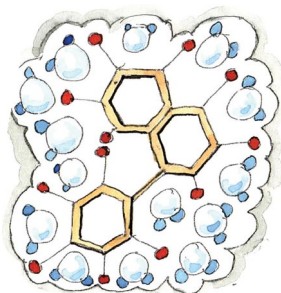
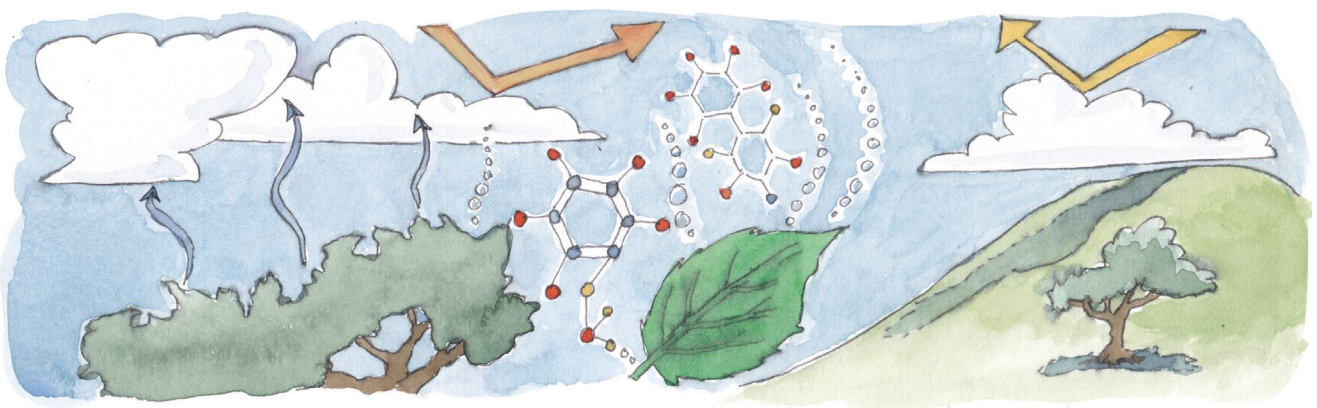
## How plants, moisture and bacteria cool the earth

“We seem to be stuck underground now. How is all this connected to the water cycle of clouds and rain up above?” asked Ngodibe.

“Whenever plants are growing and working, plants sweat a lot of water out into the air at the same time, just like we do. We call this transpiration. This sweating out of moisture has a significant cooling effect, just like it does in our own bodies, but it doesn't just cool their leaves, it also cools the air. Essentially, the more green plants of all sizes that there are, from trees down to tiny mosses, the more the cooling effect. This is over and above the cooling that trees and plants give us with their shade.”

“And the moisture that plants breathe out? What happens to that water?”

“It rises up into the air as invisible water vapour. And that water vapour keeps us warm enough as a planet. The greenhouse effect is all the different vapours in the atmosphere, and believe it or not, water is most of that. And that is a GOOD thing. We need the greenhouse effect to keep us warm enough, otherwise we would freeze on our planet. But right now we have a bit too much of a greenhouse, like a lid on a pot, and a little too much heat staying on the ground as well, like the fire under the pot. If we work with life, then life knows how to keep us at just the right temperature. So that water vapour needs to change form again and come back to Earth.

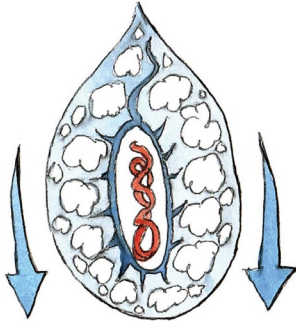


“The tiny droplets need something to condense around, something to stick to, in order to become visible again as liquid water floating in the air as mist and clouds. Thick white clouds provide shade, and reflect some of the sun's rays back out into space. Known as the albedo effect, it helps keep us cool.”

“What do they stick to? How are clouds made?”

“You know the smell of flowers and of walking in a forest? Those smells are actually molecules called Volatile Organic Compounds (VOCs) floating in the air. They help water to condense into mists and clouds. So clouds need diverse plants, especially healthy diverse forests.”

“And rain?”



“Rain needs the bacteria that grow on plants, which rise up into the air when the plant is transpiring water. These bacteria can attract a lot of water droplets, enough to be sufficiently heavy to fall back down again. At sea, the sea spray and VOCs from tiny plant like organisms, enriched with organic matter, produce clouds that drift over the land. When the clouds reach high mountains, bacteria help create floating ice particles. From forests and rangelands,

bacteria drift up into the air from the leaves of trees and shrubs as they transpire or sweat, and the droplets condense around them and create rain.”

“That’s all remarkable. I can see how vital plants and microbes are to the whole water cycle! What else is there to know then?” asked Abeiku.

“If those clouds drop their water as rain, often in the afternoon or at night in tropical areas, the air becomes clear of clouds. This helps the heat that has hit the earth during the day to radiate out into space at night so it doesn’t keep getting warmer and warmer. This results in a big difference between daytime and nighttime temperatures, which also allows dew to form on plants at night, providing them with extra moisture to grow.”

“But if the forests and rangelands keep being depleted or destroyed, resulting in fewer lovely smelling VOCs to form morning mists and fluffy clouds, and fewer rain forming bacteria, then something quite different happens.

“Minute dust particles from eroded soil and smoke in the air from exhaust and fires can attract the water vapour and create tiny droplets that are humid hazes. These hazes usually have a warming effect on us, because they don’t shade us the way big fluffy clouds do, but they don’t let the heat escape from the earth at night either. Much of our global warming is due to increases in nighttime temperatures.

“... From forests and rangelands, bacteria drift up into the air from the leaves of trees and shrubs as they transpire or sweat, and the droplets condense around them and create rain.”





“It is not either/or my friend, if you consider what Karen has said,” responded José, “Agroecology can contribute to both adaptation AND mitigate at the same time. This is part of its strength.”

“So now you can see how to cool or heat the earth. If you cover the soil with diverse plants it cools the earth, as I have explained. But if few plants grow, the bare soil becomes hotter and the life in it dies. It’s like turning up the heat on a stove. No transpiration to cool the air, no bacteria to make rain. The little moisture that there is, stays as water vapour and this traps the sun’s heat, like a lid on the pot. It’s a downward cycle towards a worsening climate.”

## Industrial/Climate Smart Agriculture or Agroecology?

“Where does modern, industrial agriculture fit in all this?”

“Standard 20th-century farming practices promoted around the world have broken many links in this water cycle: bare soil, monocrops, ploughing that destroys soil structure in different ways, removal of too many trees and use of chemicals. All of these practices undermine the water cycle. As do our grazing management practices that cause overgrazing and bare soil.”

“And agroecology?”

“Agroecological practices help create healthy water cycles. They cover the soil, use biodiversity, mix trees everywhere in farming, plan grazing management carefully to avoid over-grazing, grow food and trees in urban areas, avoid chemicals, and stimulate soil life. In so doing, they capture CO<sub>2</sub> and turn it into life, and turn it into soil carbon and structures for water and air, deep in the soil, the earth’s soil sponge, that I mentioned earlier.”



“As African negotiators,” said Abeiku, “Our focus is on adaptation, not mitigation. This is our stance as Africa and as the G77 group of countries. It’s the global North that’s focused on mitigation. We think that mitigation deflects us away from our real needs here in Africa. It also reduces the responsibility of industrialised countries to pay up for the pollution they’ve caused. Most emissions have come from them. On what side of this divide is Agroecology?”

“It is not either/or my friend, if you consider what Karen has said,” responded José, “Agroecology can contribute to both adaptation AND mitigate at the same time. This is part of its strength.”

“Well,” responded Ngodibe, “that is much food for thought. I presume this is all backed up by scientific research. Could you send me some links, please?”

“No problem, Ngodibe,” smiled Karen.

*(See references at end of the book for the links)*





## CHAPTER FIVE

# All roads lead to Addis and the Future to Agroecology



**I**t had been an exhausting and exhilarating workshop so far. Juliana turned to Tafi. “Coming to Addis, I have felt the power of our movement for the first time. One hundred and seventy of us representing over 300 million farmers, pastoralists and fisherfolk from 32 African countries!”

“And it is not just in the numbers, Juliana. I felt the power behind the insights of the people here into the complexity of the crisis and the excellent case studies of how agroecology is working and ideas for the future.”

“Did you hear what Dr Susan Chomba, from the World Resources Institute, said this afternoon in her presentation?”

“Yes, it was amazing, Juliana. I had no idea that the World Resources Institute had scientists on staff that were such strong advocates of agroecology! And she presented tons of evidence, with compelling data from Africa, on how agroecology is already contributing to building resilient food systems in the face of climate change.”

“Absolutely. What struck me, Tafi, when she was talking was that we often hear “where is the evidence?” from the sceptics. Well, I wish those sceptics could have heard Dr Chomba’s presentation about farmer-managed regeneration of trees increased yields from 15 to 30% and average household incomes by 200 dollars. And she had many other sets of data.”

“Yes, yes. And she had no hesitation in saying that, based on the evidence, there should be a significant reorientation of policy and finance in agriculture to shift to agroecology. She was very convincing when arguing that because the masses of Africans affected by climate change are farmers and pastoralists, that adaptation finance in Africa should focus primarily on farming and food systems.”

### **AFSA’s Pan-African workshop on Adaptation through Agroecology in Addis Ababa, Ethiopia**

One hundred seventy people from 32 countries attended AFSA’s workshop in Addis Ababa from 19th – 21st September 2022. The workshop aimed to show how agroecology can provide a roadmap for Africa’s adaptation to the climate crisis and emergency. There were people from various sectors: farmers, pastoralists, fisherfolk, civil society organisations, academia, governments, UNFCCC, and the African group of negotiators.

“Not only that! She did not stop there. She also made some practical policy recommendations. First, she said that agricultural subsidies, including for chemical fertiliser, should gradually be re-purposed to practices like agroforestry. And second, she advocated that governments should provide price incentives to farmers transitioning to agroecology, including payments for ecological services.

Tafi sighed, “I only wish Dr Chomba could make the same presentation to the Africa negotiators at the COP27. She is such an eloquent speaker. If sceptics asked her to justify her statement that agroecology is the way to transform Africa’s food system to adapt to climate change, which was the title of her talk, I have no doubt Dr. Chomba could give persuasive answers, all based on the evidence. Ah, here are the others coming to join our working group!”



## Nationally Determined Contributions (NDCs) and National Action Plans (NAPs) and National Adaptation Plans of Action (NAPA)

Salamatu, Babacar, Nzioka, Kadzo, José, Noluthando, Monica, Abeiku, Ngodibe, Karen and Joshua all bustled through the wide doors, noisily chatting with words flying around... water cycle, climate-smart, zero emissions, youth, NAP, NDCs, plans, mitigation, adaptation, soil, drinks later, financial barriers, resilience, exhausted, inspiring...

“...and each African country has plans or actions for adaptation in their NDCs, their NAPs and in their NAPA. It’s the global North that’s focused on mitigation.” Abeiku was explaining to José as they entered.

“Hey, what are all those acronyms? NAP? NAPA? What is the difference? Not all of us are expert African negotiators like you,” exclaimed José.

“Sorry!” replied Abeiku. Very briefly, NAP means National Adaptation Plans. These focus on medium to long-term adaptation needs. It includes not just plans but also implementation and monitoring, financing needed, and institutional arrangements. NAPA refers to National Adaptation Plans of Action. These are the more immediate and short-term actions and priorities a government plans to take. I can give you a link that explains all this in greater detail.

“On the other hand, NDCs or Nationally Determined Contributions are what all governments agreed to when signing the Paris accord. It is about both adaptation but mostly about how to reduce emissions for mitigation.”

“Thank you, Abeiku. Yes, please do send me those links!”

## Key ideas towards a statement

Noluthando put up her arms and announced, “Welcome, one and all! I am Noluthando, and our small group is gathered here today to come up with inputs for the Communiqué to be taken to CoP27 in Egypt in November. We need a statement about what AFSA and the agroecology movement demand for Africa. So grab a partner and get chatting to generate ideas for our discussion. Ten minutes. Choose someone you haven’t had a chance to speak to yet. Salamatu, my anti-CSA hero, you are with me!” She laughed generously, and after a flurry, the pairs all got to the task.

Before long, the group was together, sharing what they had been discussing. Kadzo spoke first:

“Well, as an African Negotiator, I know we will discuss adaptation and mitigation. I am a bit confused about what to focus on. I see the value of both sides, but I do know that as Africa, there is not much we can do about the causes of climate change.”

“No, no, no, no”, piped up Abeiku. “As an African negotiator, I have been convinced that agroecology not only helps communities to become resilient in adapting to whatever the crisis throws at them, but it helps to cool the earth too! I urge you to take a class in how the water cycle really works. Ask my sister here, Karen, for that! It’s win-win, my brother.”

“Ok, but then why must we reject Climate Smart Agriculture? Surely there is something in there that is useful.”

Joshua, polite as ever, raised a hand to speak. “Climate Smart Agriculture is nothing new from what I can see. Here and there, you may find something that looks worthwhile, but these do not balance the problems that come with the whole package.

“You cannot treat nature as a factory and hope to get healthy products. It is a false solution of the same agri corporates pumping more chemicals into our land.”

“For me, the big issue is not just chemicals versus making effective use of organic,” said Monica. “It is about who is at the centre of things. Small-scale farmers, pastoralists and fisherfolk must be supported to lead their own development. Governments, banks, corporates and academics can easily muscle their way into the centre with their money and power. Then it is the same old same old marginalisation.”

6

**I have been convinced that agroecology not only helps communities to become resilient in adapting to whatever the crisis throws at them, but it helps to cool the earth too!**





**“... Agroecology is resurfacing and reviving that wisdom and marrying it to modern science. But don’t come with your fancy ideas from foreign laboratories and impose them without seeing if they work with local knowledge and solutions!”**

“But putting them at the centre and supporting them to lead must mean something!” said Salamatu. “They need support of many different kinds. First, they need rural advisory services that support learning and co-creating context-specific agroecological practices. This should focus primarily on identifying successful practices like FMNR and fostering massive peer-to-peer and community-to-community exchange. Second, they need financial support, as Dr. Chomba advocated. She mentioned providing appropriate incentives, including food prices, for transitioning to agroecological practices. Finally, support is needed for rural infrastructure, roads, food storage and processing and territorial markets.

“But you know, while I agree that they must be supported with resources 100%, we must recognise the resources and resourcefulness they already have as the foundation on which to build. The most important principle that guides my work with communities is to recognise, value and enhance the experience, knowledge and skills that already exist. Our communities already have time-tested local and indigenous knowledge that we can build on and adapt to changing circumstances. Before colonialism, we had thriving communities living in harmony with the forests, grasslands and animals. They became degraded by many factors, including the forced production of export crops. This made us very dependent on external markets and obliged us to buy agrochemicals. All the huge profits from importing chemicals were carried off by corporations to other countries. Agroecology is resurfacing and reviving that wisdom and marrying it to modern science.

But don’t come with your fancy ideas from foreign laboratories and impose them without seeing if they work with local knowledge and solutions!”

“I fully agree, but I did not hear anything specific about women. Doesn’t the same apply to women?” asked Salamatu, “They have enormous resourcefulness that does not get acknowledged. If they are helped to lead, then things can only get better. We all know that across Africa, women are primarily responsible for traditional vegetables and food crops and ensuring healthy, diverse diets for their families. And may I also say, while not wishing to offend you, the men in our group, that many studies indicate that when women earn additional income, they are much more likely to use it to benefit their families, particularly for better diets, than if men gained that same additional income.





“For this reason, my experience is that for agroecology to succeed, it must be combined with helping women to organise and undertake collective activities like group savings and credit, and struggles for access to land. Only when women organise can they better access seeds, water, animals, tools, and labour. And being organised also helps them to have a stronger voice in their communities to ensure decisions take into account their specific needs and interests.”

Babacar cleared his throat to speak. “Well, Salamatu, please do not tell us that all African men, or that we men here, are not as concerned about their families’ well-being as their wives. Most men also do their part! But I wanted to raise a related issue. I am getting on in years, so I can see that we need to spend more time on children and youth. They have energy and freer minds; unfortunately, they and their children will bear the brunt of the crisis in the decades ahead. So we owe it to them to empower them to face the future when we are not there! So let us commit to the youth when we promote agroecology.” Looking at Salmatau, he quickly added, “including girls, of course. Not just the boys. Let’s make sure their future will be bright! I don’t think it is too late.”

After a short pause, Noluthando broke the silence. “Well done, my friends. I would like to add one more thing. This is a monumental challenge, so if this is going to work we all need to get behind it. We need to emphasize this wherever we go. Excellent, then I think that these are all good ingredients to suggest for our joint declaration. Let us return to the plenary, and I will report our findings!”

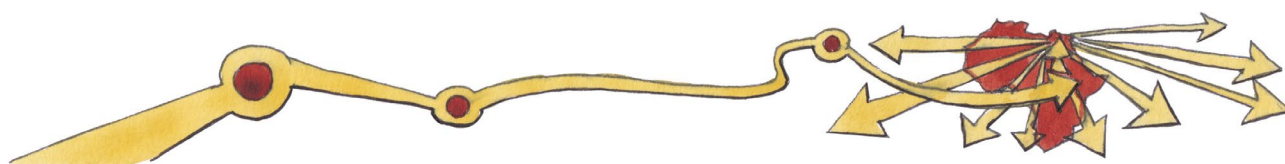
Out of the convening came the following communique, a summary of what AFSA and the agroecology movement are demanding for Africa:

“... Only when women organise can they better access seeds, water, animals, tools, and labour. And being organised also helps them to have a stronger voice in their communities to ensure decisions take into account their specific needs and interests.”

# Africa's Climate Emergency – A Call for Adaptation, Resilience and Mitigation through Agroecology to CoP27 and beyond

We are civil society organizations, youth, women, academics, environmentalists, scientists from over **30 African Countries** - part of the largest civil society movement in Africa – representing Africa's over 300 million small-scale farmers, fishers, pastoralists, and indigenous peoples. Having met in Addis Ababa on 19th to 21st September 2022 to dialogue on Africa's roadmap to adaptation, resilience and mitigation through agroecology, we hereby issue this call to action to COP27 and beyond.

***We demand of COP27 to put Agroecology at the centre of Africa's climate adaptation, creating resilience for Africa's small-scale farmers, fishers, pastoralists, and indigenous communities and their food systems.***



We acknowledge with concern the IPCC WG2 findings, which show that extreme weather events will increase risks of food insecurity, food price rises, reduced food diversity, and reduced income for agricultural and fishers' livelihoods, preventing Africa from achieving Sustainable Development Goal 2 by 2030.

Africa is facing poverty, rising hunger and malnutrition. Over one-fifth of the population faced hunger in 2021, 46 million more than in 2019 – spurred by conflict, climate change and the effects of the Covid-19 pandemic.

Agriculture plays a fundamental part in Africa's economies, contributing to the livelihoods of 70% of the population and over 20% of GDP.

Africa is feeling the effects of the climate emergency on a daily basis. Rising temperatures, floods, storms, droughts and depleted resources are impacting small-scale food producers across Africa first and worst. In order to sustain livelihoods, feed families and communities, and regenerate landscapes and ecosystems, they are forced to adapt – yet are met with negligible support and access to climate finance.

The African continent has great potential for change and prosperity due to its rich natural resources and its creative young people. Yet African agriculture is plagued by under-investment, unresponsive policies, and bottlenecks preventing women's and young people's access to productive capital and land.

There is an urgent need for a radical and just transition globally away from high-emitting industrial agriculture, corporate monopolies of food systems, and false solutions - towards food sovereignty and agroecology. Africa can lead the rest of the world on sustainable food systems.

The transition to agroecology - drawing on indigenous knowledge, innovating with science, providing diverse culturally appropriate diets, and embedded in communities – empowers Africa to solve hunger, ensure human and soil health, social justice, and resilient livelihoods. Most importantly, by embedding diversity and resilience, agroecology provides the ability to absorb carbon, and adapt to the existential threat of climate change – as the IPCC acknowledges.

## We therefore call on the COP27 to:

### #1: RECOGNIZE AGROECOLOGY FOR MITIGATION AND ADAPTATION

**Prioritize Agroecology** as a means to transform the agri-food system, absorb carbon, cool Africa, build resilience, and enable small scale farmers, pastoralists and fishers to adapt to climate change. Include agroecology in nationally determined contributions (NDCs), and national adaptation plans.

### #2: CLIMATE FINANCING TO SUSTAINABLE FOOD SYSTEMS

**Put agriculture and food systems** at the centre of adaptation plans for Africa and **direct climate finance** to agroecology. The time is now for an appropriate and deliberate increase in financing for small-scale farmers, fishers, pastoralists, and indigenous communities to deliver sustainable food systems.

### #3: SMALL SCALE FARMERS AT THE CENTRE OF ADAPTATION

**Meaningfully engage small-scale food producers and indigenous communities** in the COP27 negotiations and beyond – they manage landscapes across Africa.

### #4: SAY NO TO FALSE SOLUTIONS FOR AFRICA'S FOOD SYSTEMS

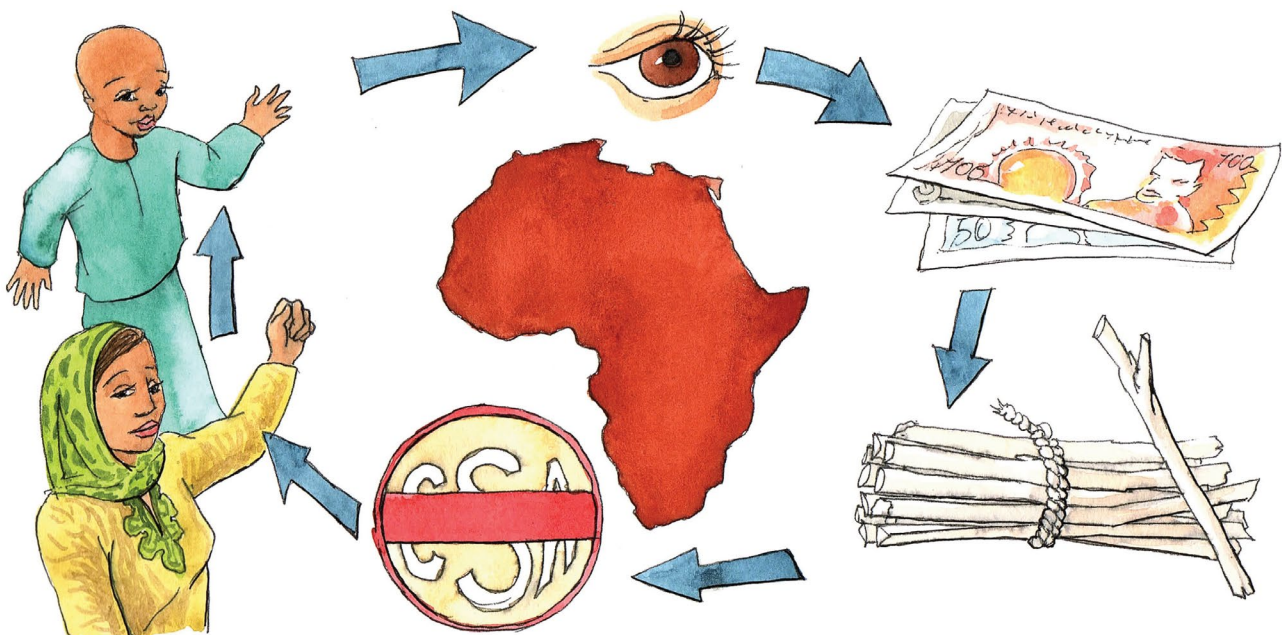
**Reject false solutions** that threaten our access to land and farmers' seeds, increase vulnerability, and which rely on multinational agri-tech corporations or on synthetic inputs and monocropping.

### #5: WOMEN IN CLIMATE ACTION

**Operationalize the UNFCCC's Gender Action Plan** – including planning, monitoring and budgeting to enable women and girls to make the best economic decisions to sustainably steward their lands, produce and market diverse foods, and support and feed their own families.

### #6: YOUTH IN CLIMATE ACTION

**Pay urgent attention** to the role of children and youth in climate action, climate adaptation, and food systems transformation. This can create a future for African youth, with a livable climate, opportunities for profitable agroecological enterprises, and thriving local economies.



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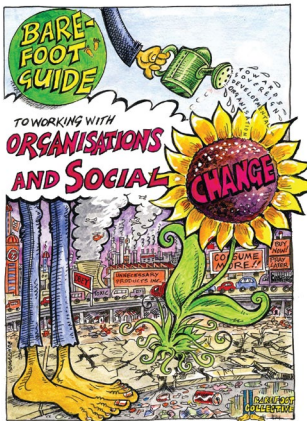
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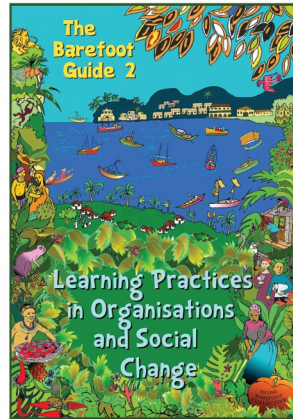




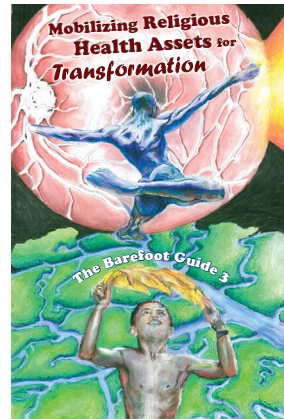
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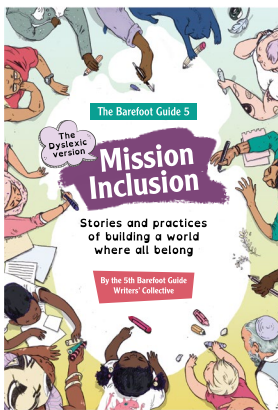
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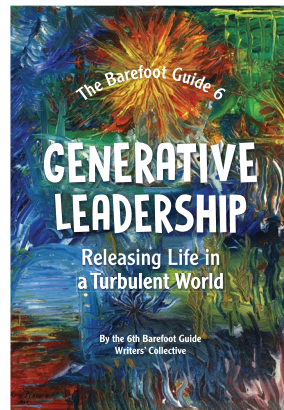
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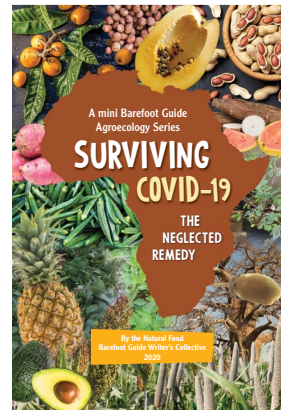
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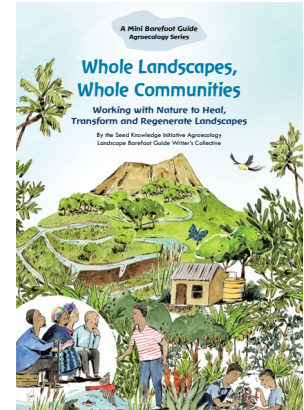
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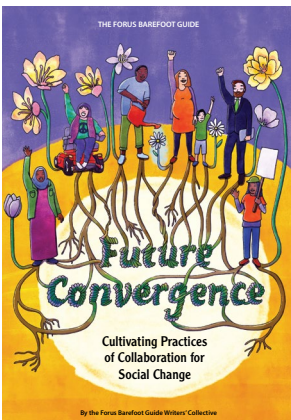
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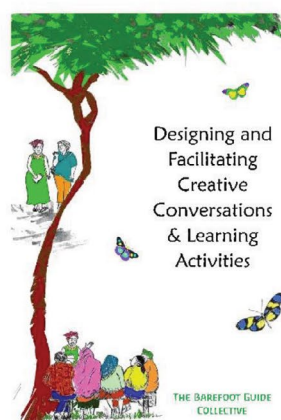
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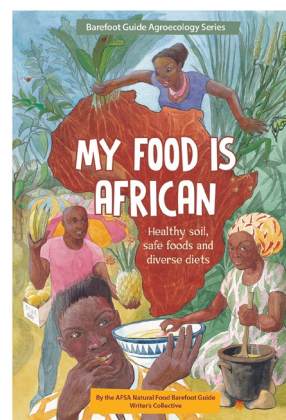
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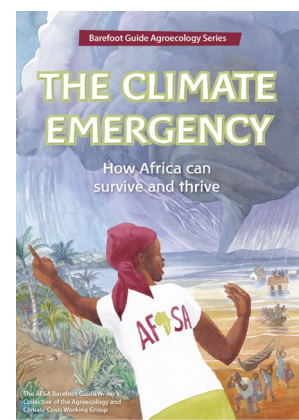
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