

# Landscapes and life

## Cyclone Idai creates rivers of stone

### AMAI MERCY'S STORY

The rain had been beating down hard on the tin roof of my small house for more than six hours. I was unable to sleep. When I heard knocking on the front door I jumped out of bed and ran to see who was there. "What was anyone doing out in these rains?" I wondered.

Huddled at the front door were Farai and Zachariah, my neighbour's sons, aged eight and ten. I hustled them into the house and quickly closed the door against the driving rain.

They were soaked. I told them to take off their clothes and gave them each a towel to dry themselves and my son's pyjamas to wear.

"What happened?" I asked them gently.

"Part of our house has broken apart," answered Zachariah, the older of the two.

I listened quietly, while making them some sweet tea and bread. They were obviously in shock. They then described how they'd woken up when they heard a loud noise and saw part of their bedroom wall gone, with a gaping hole open to the dark, wet night.

Farai started to cry.

"We don't know where our mother is," explained Zachariah. "The room where she was sleeping is completely gone."

"What?! What do you mean?" I asked in shock.

"It is no longer there," said Farai, weeping. "Where's mum?"

I went to the front door, opened it carefully and leant out to look towards my neighbour's house. I blinked. There was nothing there. The whole house had been washed away and instead there was a raging torrent of water. I shut the door, shaking, and turned to the two boys. "We have to go quickly," I said, noticing the panic in my voice. "This house is now in danger." I rushed to the bedroom, grabbed some blankets from a cupboard, and put them in a large plastic bag. I gave the two boys a jersey each and told them to wrap the towels around themselves.





We plunged out into the pouring rain. I had never experienced rain as cold as the rain that night. I held Farai's hand and told Zachariah to hold the other and not let go. We headed away from the torrent of water and quickly reached one of the main roads.

We turned left and headed up the steep slope. There were streams of water rushing down on either side, so we stuck to the middle. The earthen road was slippery, and we kept falling and getting up. I was aware of a few people going the other way, but kept my head down, determined to reach higher ground with the two boys.

One of the passers-by said, "Go to the Catholic Church at the top." Slipping and sliding our way up we eventually arrived at the church door. There were many people already inside. I found a space and took out the blankets, told the boys to take off their soaked jerseys, and wrapped them up. They were shivering uncontrollably, their eyes were full of terror. After some moments I looked around. People were moving everywhere, and I noticed a group of young men carrying someone in. An older woman said to them, "Is she still alive?"

"Yes," one of the men answered. "Then put her over there," said the woman pointing to a corner of the church.

More young men came in carrying someone else. This person was dead and so they put him in another corner.

The rain continued all night and well into the next day. The same, relentless, non-stop rain. Young men and women kept bringing people in.... if alive in one corner, if dead in another corner of the church. I will never, ever forget that night. It went on and on.



When Amai Mercy finished her story, she sat down quietly, wiping the tears from her face. The group of twenty-five young people was silent. No one knew what to say.

## The consequences of our “Factory Minds”



*Amai Mercy's story that evening was a difficult start, and everyone went to bed quietly soon after. The next day we took the group to Kopa. This was once a bustling village and business hub of more than four hundred and fifty people. Now there were just ruins covered by huge rocks that had been washed down the river or tumbled down from the mountains during the storm. Some grass and bushes were pushing through the hard soil. All was still, except for some lone figures wandering through the piles of boulders.*

As the group climbed out of the two mini-van taxis, one of the young women in the group exclaimed, “Where is Kopa, then?”

“This is it. This is what was Kopa,” I responded.

All that could be seen of Kopa was a wide riverbed of boulders, sand and stones. Soil that had obviously washed down from higher up was spread everywhere. There was no sign of human habitation apart from the wreck of a car in the distance.

“Over two hundred and fifty people from Kopa are still listed as missing. Their bodies have never been found,” Tawana continued.

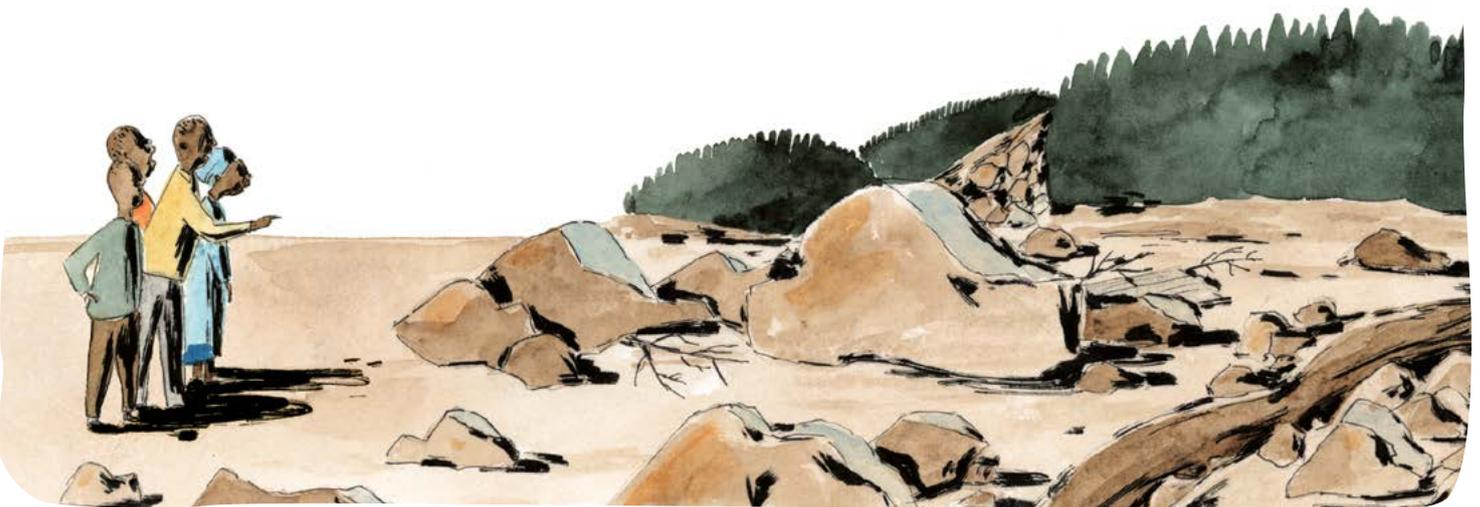
Members of the group looked at each other, wondering what to think or say. Leaning forward, I asked: “This afternoon we’ve travelled down to this spot from Chimanimani town. Water always travels down too. This destruction is a direct result of what has happened higher up in this catchment. But, what did you notice on the way here?”

Mphatso, a young man from Zambia, spoke up, “One of the first things we passed were pine trees covering the land to the horizon. Then we passed a big area where pine trees had been cut down and the land was bare.”

“As environmentalists did you observe anything on that land?” asked Tawana.

“Yes,” answered Chifundo, a young Malawian woman. “You could see soil erosion. The cyclone ripped that bare land apart. Should we be growing exotic trees like pines?”

“Why not?” answered Thembi, from South Africa. “We can’t blame the pine tree. It is a valuable tree. Think of all the uses we put it to. The problem is how we grow pine trees. We see the land as some kind of factory and plant pine trees everywhere without understanding the needs of the landscape. We have to start understanding landscapes in a much more connected way. Nature does not work like a factory!”



“But how could pine trees fit into that? I just don’t see it,” answered Chifundo.

Thembi answered quickly, “The landscape should be designed carefully. Within that design smallholder farmers could grow small areas of pine trees, for example, with a jointly owned company to mill them.”

“Thembi is right, I believe, and his use of the word ‘factory’ quite accurate,” I said, impressed. “We have planned landscapes all over our region using

a ‘factory mind’ or a ‘machine mind’. Roads are put in and ditches are made to protect the road. There is no thought of the overall landscape connected to the road. We build housing settlements and storm drains to flush the water away from them, not thinking what then happens to that water. We also don’t think carefully about how we place settlements in the landscape. How could they have placed a settlement here like Kopa close to where three rivers meet? It was a disaster waiting to happen.”

## What communities knew

“Isn’t the problem also that no-one ever spoke to local communities about what they know and think?” asked Joyce. “I’ll bet you that local communities knew and interacted with their landscapes in the past. They had a reverence for the land that the colonisers couldn’t see and which the modern era has lost. We only think of what we can get or take from the land, not how to live respectfully within it. There used to be sacred natural sites everywhere as part of the communities’ connection to their land.”

Sacred natural sites are areas of land or water having special spiritual significance to people and communities. They are also often places of great biological diversity. Linked to this biological diversity is the culture and history of communities who have cared for sacred natural sites, often for hundreds of years.

“You’re sentimental, Joyce,” said Henry before she could go on. “We can’t go back to those days.”

“I agree we can’t go back but as we go forward, we can revive those practices that restore our connection to Nature. Having sacred natural sites is one such practice,” answered Joyce. “Communities must be at the forefront of regenerating their own landscapes. It can’t be a top down thing from outside experts.”

Tawana described how soils across Southern Africa have been degrading and eroding for many years, because of practices such as clearing all trees to grow crops and how cattle are managed. Now most rivers are filled and blocked with sand. “Many of our elders will tell you how the rivers used to run all year round, bursting with life. There were many fish in the rivers and even crocodiles and hippos at times.”



“The sad thing is we all take water runoff for granted now.” I added, “And in addition to this runoff and erosion of soils, many soils have degraded due to the practice of ploughing. This destroys the structure of the soil, which means water can’t infiltrate easily and so it runs off.”

“It is a downward spiral of soil destruction,” lamented Joyce.

### **The Problem with Modern Farming Methods**

Ploughing inverts the soil resulting in carbon being lost to the air. Carbon is essential for healthy, climate resilient soil. Ploughing also destroys fungi that create soil structure. Chemical fertilisers and pesticides add to this destruction of the soil by killing the micro-organisms that create good soil structure. The end result is soil that has little structure and a hardened surface that prevents rainfall soaking in, increasing erosion and runoff.

## **Looking at whole landscapes**

“I heard that what we call contour ditches in Zimbabwe,” said Chipo, “are in fact diversion ditches to take water away from fields. They are not on level contours at all. The colonial government, in their top-down manner, made them compulsory to have in your field. While they may have helped stop gully formation they did not stop the loss of runoff water.”

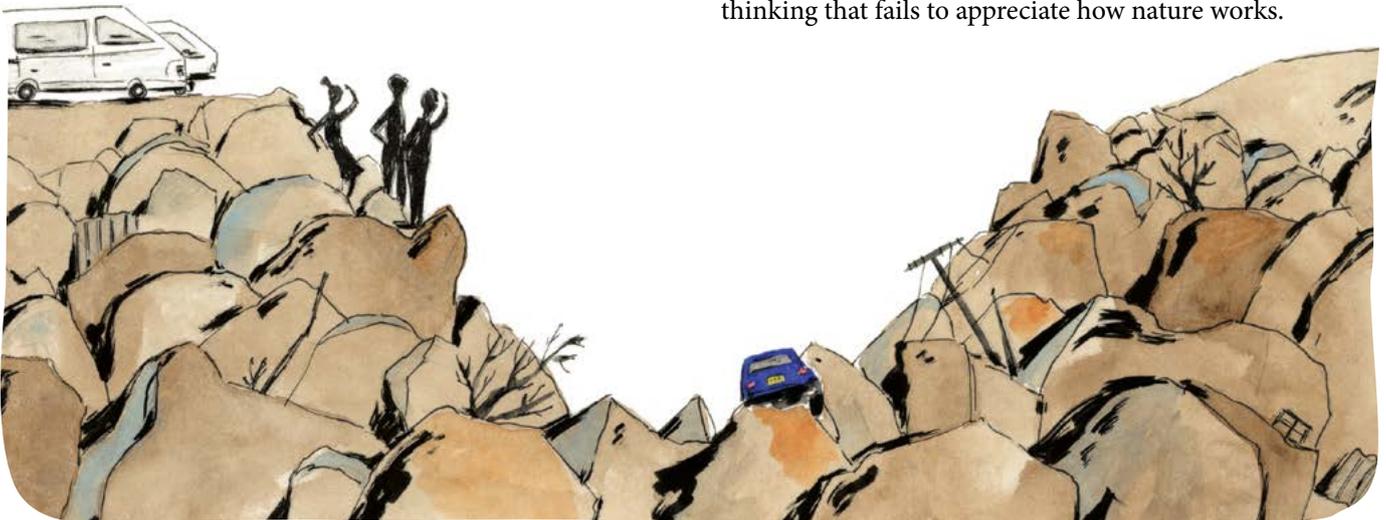
### **The value of level contours**

A proper contour is formed by joining all the points in a landscape that are at the same level. Effective water harvesting practices use these dead-level contours to dig horizontal ditches for catching, slowing down and sinking water. Water running down the soil surface is destructive. Water that sinks into the soil is productive.

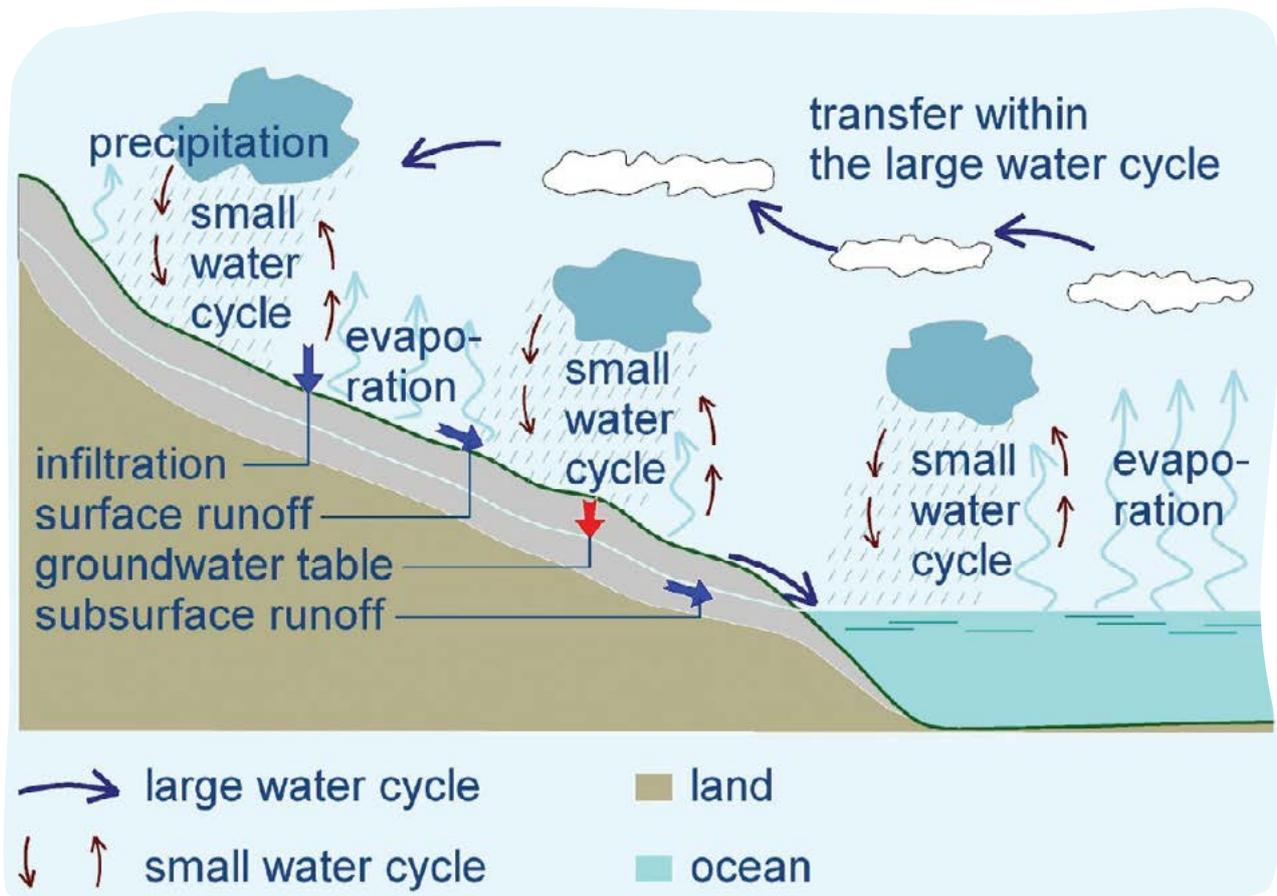
“You are right,” said Tawana, “These diversion drains were an example of treating a symptom. There was no thought about managing the landscape, and how the field is connected to its surroundings. In my area, people have cut trees at the top of the hill and now they complain that their springs have stopped, and the fields are dry. In the past there used to be strict controls on who and where people could cut trees because our ancestors understood the bigger connections between things.”

“Exactly! Living landscapes are interconnected.” I added, “We need to look at how to manage landscapes in an interconnected way. Everything is connected to everything else. We have to keep reminding ourselves of this when we think about landscapes.”

We walked quietly to the two waiting mini-vans and climbed in. I could tell that they were still in shock to see a once bustling business centre with shops, government offices, homes, gardens flattened by a river of stones. Even though they had not experienced such devastation back home, they knew that their own landscapes were slowly dying, suffering the same fate, brought about by ‘factory mind’ thinking that fails to appreciate how nature works.



## Big Water Cycles and Small Water Cycles



(Illustration: from *Water for the Recovery of the Climate - A New Water Paradigm* by M. Kravčík, J. Pokorný, J. Kohutiar, M. Kovác, E. Tóth, 2007, page 20)

There are two kinds of water cycle: the big water cycle and the small water cycle.

The big water cycle is the one we hear most about. That is the cycle that brings water from the oceans. In Africa what we all know as the Inter Tropical Convergence Zone (ITCZ) drives this.

What people often do not think about are the small water cycles. In a healthy inland environment away from the sea, up to 40% of the rainwater that

falls does not originate in the sea. It comes largely from the transpiration of trees, grasses, crops, and any plants that are alive.

So, the less trees, grasses, crops and other plants that are growing, the less of this water falls as rain. Furthermore, it is the multitudes of tiny bacteria blowing up into the sky from the leaves of trees that most effectively condense water vapour into raindrops. Healthy landscapes thus create their own rain.