

A different take on climate change

"Our rain used to be more reliable," Amai Moses said to me when I visited her many years ago. We were seated in her round thatched kitchen, whose walls were made of mud. The smoke drifted up and out through the roof. The inside thatch was black from years of smoke passing through. A few maize cobs hung from the rafters, grown to eat green mealies not for grain. The smoke kept them free of weavils. This was the seed for next year. On a shelf were many jars all filled with different seed. I counted over 30. Amai Moses was one of the few seed custodians left in the area. The government's relentless drive to push 'modern' farming had sidelined people like Amai Moses. Mixed and diverse cropping was considered backward and unpatriotic by the government extension staff. So Amai Moses did her cropping in a field hidden from public view.

"That was when we had more trees. Trees bring rain. Yet you can't receive the master farmer award if you have even one tree in your cropping areas," continued Amai Moses. Was she opening up to me because I was an outsider who had shown interest in her mixed cropping fields? Who didn't think she was 'backward'? We spent a long time discussing all her different crops and the varieties of each that she grew and what each was good for. That was over 30 years ago. Since then tree removal has speeded up all over the country.

I came away thinking about Amai Moses' remark on trees. Did cutting of trees really affect local rain? Wasn't rain affected by much bigger forces? I puzzled over this for many years and it was only when I learnt about the role of the small water cycles, especially for places well inland from any ocean, that I began to really understand the role of trees, and in fact all vegetation, in the climate. Understanding (to some extent!) the part the small water cycle plays has been one of my biggest insights into climate change and their potential to help the climate cool the Earth and build local resilience. Amai Moses knew that - we underestimate indigenous knowledge to our peril.

"Professor Millán Millán is a strong, often lone, voice within the scientific community, arguing that changes in land use have profound effects on climate patterns.His work points to a clear connection between landscape alteration and climate, a subject generally absent from high-level discussions about climate change, which typically focus solely on parts per million of carbon dioxide in the atmosphere." (P.178, *The Reindeer Chronicles: And Other inspiring stories of working with Nature* - by Judith. D. Schwartz)

Millán Millán found in his studies that "Water that evaporated from the Mediterranean Sea would fall at higher elevations some sixty to eighty kilometres inland - the moisture climbing up the slope, as if on a staircase, via the orographic effect that lifts and then cools the air mass so that it condenses to form clouds and rain. The culmination of several land-use changes over time

- deforestation, the draining of marshes for agriculture, construction on wetlands, shrouding soil with houses, asphalt, and concrete, and an increase in wildfires - has resulted in less evapotranspiration along the sea's path. On its own, the vapour carried from the Mediterranean was never sufficient to elicit rainfall, he says. The moisture rising from the land, emanating from moist soil and transpiring from vegetation, was the trigger that made it happen." (P. 181, The Reindeer Chronicles...). That last sentence strikes such a chord with what seems to be happening here in Zimbabwe. Often the clouds build up and build up but then it fails to rain; perhaps also there's a lack of pseudomonas bacteria from tree leaves to act as a nucleus for raindrops to condense on.

(It would be very good if we could do an interview with Millán Millán for the BFG, or he writes something; his research over years illustrates this connection between land use and climate change)

There has been a fundamental failure in the way in which the idea of climate change has been communicated, based on a misunderstanding of human cognition, social and behavior change and the systematic nature of the challenge. Rare is an organization focused on motivating individuals, their communities, and their local leaders to adopt behaviors that benefit both people and nature. Check out their website www.rare.org. They might be interested in helping develop this guide.

We often refer to material objects as "priceless" but not natural resources. Nature is seen as a commodity to be bought, sold and traded.

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