

Renew The Land: FMNR in Timor-Leste



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Throughout the developing world, immense tracts of farmland, grazing lands and forests have become degraded to the point they are no longer productive, and this deforestation continues at an alarming rate. Degraded land has an extremely detrimental effect on the lives of farmers who depend on it for their food and livelihoods. Subsistence farmers often make up to 70-80 percent of the population in these regions, and they regularly suffer from hunger, malnutrition and even famine as a consequence. In Timor Leste, deforestation is occurring at an alarming rate. The latest data suggests over 19% of forests and woodland areas have been lost in the last 14 years alone. Natural Resources expert, Tony Rinaudo is very concerned.

(Tony Rinaudo) When trees and forests are cut down one of the reasons why they don't regenerate on their own is because there is a culture of burning the bush here every year in East Timor. The seeds are destroyed, the new growth is burnt and even the grasses are destroyed... So its self-defeating- they are burning in order to get green feed for their animals... And over time, you not only lose the valuable grass species, you are losing soil on this steep slope from the rains that we have here in East Timor. The organic matter, the seed and the topsoil just washes off.

When the rains are not able to soak into the earth, they create erosion and landslides.

(Tony Rinaudo) So if you look directly behind me, a massive landslide has occurred there... just to the left of the landslide, it has been burnt... So there is nothing left to hold the soil and to allow the heavy rainfall that we have in this district to take the time to soak in, instead it runs off, gathers speed and power and it has very erosive force.

Farmer Manuel Da Silva knows only too well the importance looking after the forests.

(Manuel Da Silva) *My father used to say to me, take care of the trees when you grow up. Plant them exactly like I did. So I am following his message by doing the same thing now.*

Like Manuel, his forefathers had recognised the importance of looking after the forest, having a law to protect it, called Tarabundu.

(Manuel Da Silva) *It is signified that it is a heavy rule for farmer and community because it has stopped the bad habit done by the farmer to the forest. Because if you burn the forest, you will get fined; one goat, one pig, money of US \$50, two carton of wine. So people here are scared to do the burning and cutting of the trees because if you burn you have to pay a fine. If you can't then you go to jail. So this law stops people harming the forest.*

Five years ago, Manuel began reforesting his land by pruning back the regrowth on the stumps of old trees that had once been cut down. He was concerned about the backburning practices going on in his community, causing erosion, landslides and threatening to dry up the natural mountain springs.

For the past 30 years, Tony Rinaudo has been encouraging farmers all over the developing world to do the exact same thing, as part of a technique he calls Farmer Managed Natural Regeneration, or FMNR.

(Tony Rinaudo) *This method costs nothing at all. As people have earned more and more income from the sale of this wood, they are leaving more and more stems to regrow. In fact, we say that every stem you leave gives you a profit.*

And now, Tony has returned to Aliou to speak to a new group of farmers about FMNR.

(Tony Rinaudo) *So Just a little revision...this is what Niger looked like in 1980 when I went there. Much deforestation and as a consequence, drought and pest hunger and poverty and many people had to leave their homes. At that time I worked very hard to restore the environment and we planted many species of trees, and we used the best techniques that were known. It was a total failure, the trees died. I was very frustrated, I wasn't achieving anything and I was ready to give up and go home to Australia.*

But I felt that this is where I was meant to be, so I prayed to God to help. I said forgive us for destroying your creation. A gift of your creation. As a result people are hungry and poor, but you still love us. Help us open our eyes and show us what to do.

It's very interesting I had been travelling along this road for the past 3 three years. My eyes were open, but I was blind, because I had not seen what was there all the time. It looks like dessert, but the trees are still there, they are underground. I call it the underground forest.

We would understand that there is as much tree below the ground as there is above the ground with branches. When we cut the tree down, most trees don't die, there is still half of the tree alive, with deep strong roots that can access water and nutrients. And if we give it the opportunity, it will grow back very quickly. I think this is not new for East Timor, when you cut bamboo, it regrows, when you cut certain trees, eucalyptus, other trees, you cut them, they regrow. It's not a foreign idea, it has been practiced here for many generations.

In 2011, World Vision Timor Leste started a partnership called BRACCE – Building Resilience against Climate Change and Environment with communities in the Alieu District. When Tony discovered that Manuel had been practicing all along, he suggested he become a model farmer for his community.

(Tony Rinaudo) So we are in the Alieu district at Manuel Da Silva's farm. We are running an FMNR workshop. Right here the participants are doing a practical session on the pruning. Ok, so we have got several tree stumps here that are close together and they've sent up a number of shoots that are competing with each other for nutrients and for light.

What we are going to do is... you can see one of the original stems here where it has been cut. So what we are going to do is reduce the number of stems and prune some of the side branches so that we can get a taller, straighter tree that will grow faster. So just cutting down some of the competition and some of the side branches so it will grow straighter and taller.

So we've got 1, 2, 3, 4, 5 – that's probably enough for this area. And we can always come back in the future when these are bigger and the competition has increased again, we will leave the tallest ones and cut out the smaller ones.

Maybe for tomato stakes or bean poles. Or if they are a little bit bigger, for some firewood. But maybe in this case our ultimate objective is to grow taller poles so that we can build a house, or for some form of construction.

So we've watched the slides and heard the talks but now this is hands on, and I'm asking that everyone has a turn so they can experience just how simple and quick the method is. So they can go away confident and they can start practicing this immediately when they get home and they can even teach others

Through restoring degraded farmlands and forests, FMNR can double or even triple crop yields and guards against crop loss due to extreme weather events. It provides much-needed firewood and building timber which leads to diversified farm incomes; halts wind and water erosion; increases soil fertility and organic matter; increases the water table, sees the return of dried up springs; and it provides shade and fodder for cattle, increasing their condition and value. Studies show that, in Niger, farmers practising FMNR in its most sophisticated form can increase their incomes five-fold.

In Niger the results were dramatic, it was amazing. This is what Niger looked like in 1980, and in 6 months, they stopped burning, they managed the livestock and stopped cutting. In 6 months, the trees are coming back at 1 m tall. Because they stopped burning, there is now straw from the crop, and it is like a blanket, protecting the soil. So there is more moisture in the soil. This is 1 year later and this is three years later.

So here's the question, this soil is very infertile, its pure sand. Here (in Timor) you have clay/heavy soil. Here (in Niger) you have 300/400mm mm of rain. In East-Timor, you have more than 1000mm. So here is the question. If in Niger this is possible in three years, what is possible here?

In the past three years in shallow soils and dry hills, trees have grown about 3-4 meters and the bushy shrubs that existed in some of the best locations have transformed into 6 meter tall trees. However success can't continue unless everyone works together, plans, consults and dreams big.

(Community leader) The good thing about FMNR is that the cost is very low. All we need to do is make the time and have the commitment to practice it.

The community has been so successful that in April this year they will get the opportunity to demonstrate the benefits of FMNR to other communities, NGO's and the government when they host Timor Leste's inaugural Farmer Managed Natural Regeneration conference.