



REGENERATION-REJENERASAUN

Farmer Managed Natural Regeneration

Developing for a changing future

by **Samaresh Nayak**

WVTL country director

The El Niño Southern Oscillation is known to have a significant impact upon rainfall in Timor-Leste. As we approach the next twelve months we must do so with hard work and comradery. Recent predictions forecast a delay in rainfall throughout Timor-Leste, rainfall over a shorter time span and an overall decrease in the quantity of rain. We must rely on each other and

change our approach to ensure that the children, families and communities of Timor-Leste have enough food to sustain themselves during a drier year to come. It is during these times that we are reminded of the need to militate against the negative effects of a varying climate, to plan ahead and to share our knowledge.

This month also brings an old friend to our shores. Tony Rinaudo, the FMNR Guru, will be in Timor-Leste over a few days in September to consult on the Asia-Pacific Rainforest Recovery Plan in which World Vision Timor-Leste will be a part of

We are continually thankful for all the support that we receive and our relationship with the Ministry of Agriculture and Fisheries (MAF) that is always growing. We are excited to welcome the arrival of our new FMNR advisor who will begin working in MAF from mid-October to further this relationship.

Preparing against El Niño

To attempt to improve resilience over the next twelve dryer months Seeds of Life have suggested the following:

1. Warn farmers of possible delayed wet season
2. Encourage planting larger areas
3. Conservation agriculture
4. Improved Varieties
5. Secure Fencing

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Editorial: FMNR as an idea

A simple idea has the power to make great change; it has the opportunity to transcend boundaries and language; it has the chance to change circumstances. Such an idea is FMNR.

The practice of FMNR is one that has been present in many societies for centuries, under a local guise. Unifying such practices and escalating them to global proportions under one term 'FMNR' provides the opportunity to increase accessibility to the notion for

all. A 'package' deal, a platform by which conversations, ideas and exchanges can center.

Attending the 'Beating Famine Conference' 2015 (page 4) in Lilongwe, Malawi in April gave us the chance to see such an idea in action. The transfer of knowledge and experiences was rife. The conference extended to agricultural practices beyond FMNR and focused upon holistic answers, approaches that understand the underlying connections of society and nature.

Here in Timor-Leste we are attempting to tackle all levels from individual farmers to government departments. Our challenge now is to further this idea and spread it, promote it, mold it to local contexts, revive it, expand it beyond Timor-Leste and into our partner countries in the PTL. To maintain the motivation and see a greening of these countries with people who do not feel the full brunt of climate change, people who are food secure and thriving.

This is what we hope for our future.

Our People: Forefront of FMNR



Natalino Cardoso Henriques is Bobonaro municipality Bobonaro Acts on Climate Change (BACC) project co-ordinator. The aim of the BACC project is to increase the resilience of households and communities in the Bobonaro municipality to the negative effects of climate change. Including resilience against natural hazards but also a focus upon improving livelihoods and concentrating on efficient fuel use from renewable sources.

Prior to working at World Vision, Natalino was a Lecturer at Ermera's East Timor Coffee Academy with an interest in post-harvesting. However, he became interested in World Vision

by its clear mission and vision and their desire to support the community. This was seven years ago and since then Natalino has been involved in three different projects, including his current role.

Natalino grew up in Maliana and consequently wants to see his municipality thrive, particularly after the birth of his daughter nine months ago. "When I first saw the advertisement for the BACC co-ordinator, it touched me to work on this project as it was really connected to the Bobonaro situation and luckily I was the one selected" says Natalino. Since the onset of the project in 2013 22 FMNR plots have been created in the three subdistricts of Bobonaro, Lolotoe and Balibo.

"What we must do is align our staff's theoretical knowledge with the farmer's practical knowledge. When

you look around Bobonaro it is an open area and not very green. So we must plan to do FMNR and reforestation practices together. We use terracing and plant trees to prevent erosion and landslides" Natalino says.

One of the greatest challenges to FMNR in Bobonaro municipality is trying to get everybody on board. Because all of the areas in which FMNR have been set up are communal areas it is sometimes difficult to manage the removal of trees.

FMNR has the potential to really fight against the negative effects of climate change in Timor-Leste. Natalino hopes that this idea will spread to cover all the regions of Bobonaro municipality and further afield, to raise awareness of greening and replanting the hillsides of Timor-Leste in addition to the government taking the notion and increasing awareness for reforestation.

Linking FMNR with Food Security & Sustainable Livelihoods

The Story of *Tithonia diversifolia* In Timor-Leste

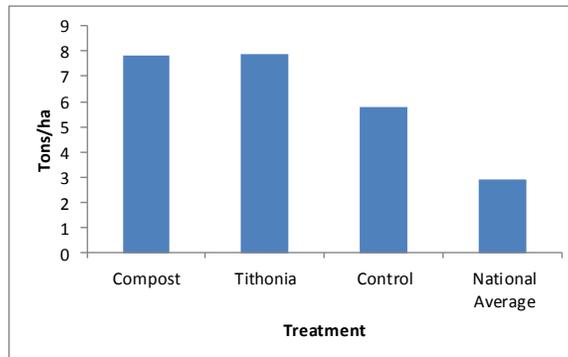
Low soil fertility is one of the major causes of low agricultural productivity in Timor-Leste. As a result World Vision Timor-Leste (WVTL) have been searching for reliable and scalable soil improvement techniques.

Considering the challenges and realities in the field, WVTL have to come up with an alternative soil fertility mechanism that would address the major challenges and have the following parameters:

1. Have reasonably high macro (NPK) and micro nutrients
2. Release soil nutrients in a reasonably short period of time
3. Be of organic origin
4. Could be available in sufficient quantity in close proximity
5. Sustainable source
6. Have the lowest cost possible
7. Short processing time
8. Technically simple
9. Reliable results
10. Other factors

In order to insure better agricultural production, demonstration trials on

green manure of *Tithonia diversifolia* as well as compost/livestock manure were conducted in integration with increased plant population (through decreasing the spacing between plants in a given area).



Graph 1: Demonstrating the average maize yield in Tons/ha in WVTL's maize demonstration plots in the municipalities of Aileu, Baucau and Bobonaro with the national average

The combined effect of soil treatment and increased plant population resulted in very encouraging results:

As it is shown above, the demonstration plots conducted in Aileu, Baucau and Bobonaro districts have resulted in an average of 7.8 ton/ha of maize, which is a 271.4% increase, as compared with the 2.9

ton/ha of the national average for maize yield. The increase in the yield is due to the combined effect of the application of *Tithonia* green manure as well as the increase in the plant population.

Since increasing the population of plants should be complemented by the addition of soil nutrients, the combined effect is attributed to the application of *Tithonia* green manure.

The results of the farmer's demonstration trials indicate the potential of *Tithonia diversifolia* as an alternative, low cost and reliable organic source of soil nutrients.

It also affirms the potential of integrated FMNR practices in improving agricultural productivity, food security and resilience of livelihoods.



FARMERS CORNER

Joao de Deus, 50 years old, and Joao "Mawar", 47 years old, are both leaders of World Vision farmer groups in their village of Lourba, located in Bobonaro municipality. Their community has been working with World Vision for the past five years first with the "Smile project" and more recently with Bobonaro Acts on Climate Change (BACC) project. Over

this time they have learnt how to make terraces and nurseries as well as improving their crop yields and have begun constructing a compost house.

Collective activities under FMNR began in 2013 and so far they

have planted mahogany, teak, jackfruit, orange trees and avocado.

"Our FMNR sites are close by. We understand the process well so we can create new sites when we need. However, we build walls of rocks near the river, to stop erosion, before the rainy season begins".



Farewells



Segenet Tessema
Agriculture and Climate Change Specialist

Segenet has been with World Vision Timor-Leste for two years and will sadly be leaving to embark on a new assignment in Malawi. During his time here Segenet has been the forerunner in the promotion of *Tithonia diversifolia* as a source of increasing soil nutrients. In addition, he has been a significant driver to the fruition of this bulletin and its creation.

We wish him all the best and look forward to seeing all he will achieve.

Beating Famine Conference

During the month of April three World Vision Timor-Leste staff and one volunteer had the opportunity to attend the 'Beating Famine Conference 2015' held in Lilongwe, Malawi. The conference explored key issues regarding to finding sustainable and affordable means to mitigate the negative effects that climate change has upon food production and improving the land.

A conference that featured FMNR heavily and included the launch of the FMNR report. A recommendation for improving landscape and food security.

For more information:
<http://beatingfamine.com/>

Welcome

Roni Pati Tpoi
Agriculture and Food Security Technical Specialist



Roni was born in Covalima, Suai located in to the West of Timor. He joined World Vision in August 2015 as our Agriculture and Food Security Technical Specialist after seven years of experience in the Ministry of Agriculture and Fisheries as an assistant officer in the department of plant

protection. "I am a hardworking and simple guy who likes to motivate people while creating a fun working environment" says Roni. Roni has had the opportunity to complete a Bachelor's degree in Agriculture in Punjab Agricultural University, India in 2008 and a Masters at the University of New England in Australia at the end of last year. "During my time at World Vision I want to increase farmer production through mixed farming and introduce new techniques which have not yet been introduced to Timor-Leste".

RECOMMENDATIONS FOR APPLIED RESEARCH

To address the real challenges that are being faced by communities in Timor-Leste we must contextualise FMNR with the farming systems and agro-ecological zones of Timor-Leste. The following are suggested areas of research, although research is by no means are limited to these:

1. Identification of potential tree, shrub, herb and crop species for FMNR purposes
2. Identification of suitable plant species that address specific economic or environmental challenges
3. Designing of suitable FMNR measures for diverse agro-ecological zones of Timor-Leste

4. Researching suitable protection, generation and tree management techniques for diverse potential crops

5. Researching the integration of FMNR with other conservation and livelihood intervention techniques

6. Researching the impact of FMNR on the water cycle, floods and droughts

7. Researching the impact of FMNR on crop yield on agricultural land

8. Researching the impact of FMNR on livestock production

9. Researching the impact of FMNR on household income

10. Satellite mapping for measuring baseline and spread of FMNR over time

Regeneration-Rejenerasaun is a quarterly bulletin to promote and communicate FMNR methodology in Timor-Leste. It is published by WVTL in cooperation with the National FMNR Working Group and the National Directorate of Forestry and Watershed Management.

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