

# FMNR: Improving food security through agroforestry

**The world needs sustainable solutions to deforestation and food insecurity more than ever before. 13 million hectares of forest continues to be lost every year<sup>1</sup> and land degradation has reduced the productivity of 23 percent of land worldwide.<sup>2</sup> Rising temperatures and land degradation are some of the leading causes of forced migration, conflict and severe food insecurity, compromising and concerning the very existence of humanity. We need to take action immediately.**

World hunger is on the rise for the third year in a row, and more than 108 million people are considered food insecure<sup>3</sup> – defined as lacking consistent access to sufficient and nutritious food options.

Unsustainable farming practices in already degraded rural environments have resulted in hunger, poor nutrition and abject poverty for smallholder farmers. Across Africa, four-fifths of chronically undernourished people are smallholder farmers.<sup>4</sup> This has also contributed to mass labour migration to urban areas, leading to dysfunctional rural communities.

Without access to the tools and resources to generate an income, families struggle to survive. Trees have the power to improve the livelihoods of farmers and the environmental conditions required for better crop yield. Introducing Farmer Managed Natural Regeneration (FMNR) has proven to improve food security and resilience for smallholder farmers and their families.

## What if we could address food insecurity and deforestation with one amazing agroforestry technique?

World Vision's integrated FMNR approach is significantly contributing to improving food security in many communities around the world. The simple technique helps improve access to food and nutrition, increases crop yields and improves livestock production. Regenerating trees on cropland promotes increased crop growth during the dry season by providing shade and reducing evaporation from soil. Fallen leaves from trees act as a natural fertiliser to improve soil fertility, and trees provide a buffer against climatic extremes, including windstorms and droughts, which directly affect crop yields.



A smallholder farmer in Malawi has doubled his peanut yields.

These benefits are further amplified in the integrated FMNR approach through the introduction of climate-smart agricultural techniques such as introducing climate adaptive and high-yield seed varieties. Integrating Market System Development programming improves farmers' linkages with other value-chain actors and their access to markets, thereby supporting farmers to increase their income. These multi-faceted benefits support farmers to improve their food security all year round, especially in the dry season.

World Vision's integrated FMNR approach benefits not just the environment, but the communities who rely on the land for survival. Farmers can increase their food and timber production and resilience to climate extremes, put more food on the table, and earn and save more income.

1. International Union for Conservation of Nature, 2019 "Facts and Figures on Forests" [Online]. Available at <https://www.iucn.org/content/facts-and-figures-forests>

2. The Guardian, "Human society under urgent threat from loss of Earth's natural life" [online]. Available at <https://www.iucn.org/content/facts-and-figures-forests>

3. World Food Programme 2018 "108 Million People In The World Face Severe Food Insecurity – Situation Worsening" [online]. Available at: <https://www.wfp.org/news/news-release/108-million-people-world-face-severe-food-insecuritysituation-worsening>

4. Montpellier Panel, 2013, "Sustainable Intensification: A New Paradigm for African Agriculture", Imperial College, London

# 6

**million hectares**

reforested in a 20-year  
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# 25

**countries**

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## Implementation of an integrated FMNR approach

FMNR is being practised in 25 countries around the world, from Rwanda to Indonesia, and has been proven to double farmers' crop yields. In Niger alone, FMNR has reforested more than five million hectares in two decades – change so significant you can see it from space. Before FMNR was introduced, the almost total destruction of trees and shrubs contributed to chronic hunger and periodic acute famine. Without protection from trees, crops were damaged by windstorms and farmers often replanted crops up to eight times in a single season. Introducing FMNR reduced hunger periods from over six months to three months or less<sup>5</sup> and has generated around \$1,000 per household and US\$900 million per year across the country.

Farmers using the technique are diversifying their incomes, accessing a range of nutritious foods and finally breaking out of poverty. Springs that were once dried up for decades are coming back to life. Trees are putting more organic carbon back into the soil. Even biodiversity has improved.

In Talensi, Ghana, 575 households adopted World Vision's FMNR approach and the social return on investment was found to be 6:1 at the end of three years. "[Community members] can get wildlife from there now that bush burning and destruction of forests has disappeared. They are even coming back to breed. This means meat. Before the land was so bare, there was nowhere for these animals. Now that there is natural regeneration of the shrubs, it is returning to how it was 100 years ago – forest," Edward Agumah, Ministry of Food and Agriculture, Ghana says.

## A collaborative research partnership

To continue the global FMNR movement, World Vision needs your help. It is time to take FMNR to the next level.



FMNR has helped Kahwa increase her crop yields.

We know that FMNR increases tree density and can dramatically increase crop yields, but we want to work with the research community to develop deeper and more contextualized insights into the practice that is changing lives. To continue making an impact, we need to understand local communities' tree preferences and whether all communities experience the same benefits from an increase in tree density. In this age of climate change and declining land quality, the time to step up is now. FMNR already has the farmers' vote – now we are asking the research community to join us.

5. Gubbels, P., 2012, "Harnessing Small-Scale Agriculture for Resilience and Improved Child Nutrition" in *Ending the Everyday Emergency: Resilience and children in the Sahel*, World Vision/Save the Children, London; Reij, C., Tappan, G., and Smale, M., 2009, "Re-Greening the Sahel: Farmer-led innovation in Burkina Faso and Niger" in Spielman, D. & Pandya-Lorch, R. (eds), *Millions Fed – proven successes in agricultural development*, pp 53-58, International Food Policy Research Institute, USA

Please contact [FMNR@worldvision.com.au](mailto:FMNR@worldvision.com.au) if you would like to contribute towards the global research into FMNR.

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