



Evaluation brief

Farmer Managed Natural Regeneration
(FMNR) Project, Ghana
October 2018

Farmer Managed Natural Regeneration

Contributing to reduced household hunger in the Talensi District, Ghana.

The context

Climate change, land clearing and unsustainable agricultural practices are leading to declining agricultural productivity and vulnerability of already marginal rural populations in West Africa.

Over recent decades, annual rainfall volumes have declined, forest cover has been rapidly disappearing and arable soils have lost fertility. The results are widespread food shortages and a population that increasingly struggles to meet its needs¹.

The Talensi District is located in the environmentally fragile dryland area of northern Ghana, where almost 80 percent of the population works in agriculture, fisheries and forestry².

Secure livelihoods and food are threatened due to food crises resulting from climate change, poor agricultural practices and population growth. Ghana's Global Hunger Index has almost halved since 2000 (29 percent in 2000; 16 percent in 2017), but the country is still classified as suffering "moderate" hunger³. In light of these factors, Farmer Managed Natural Regeneration (FMNR) is a much-needed natural resource management approach which can help to address some of the multi-dimensional challenges facing the Talensi District.

FMNR is the systematic regeneration and management of pre-existing tree stumps, root systems or seeds, which by periodic pruning and harvesting can lead to the restoration of degraded land. FMNR provides many benefits including timber, improved soil quality, and agricultural diversity and productivity, leading to higher incomes and improved health and dietary diversity.

Evaluation purpose

An evaluation was commissioned for this project with the aim of assessing whether the expected outcomes were achieved and how the beneficiaries have been affected. This evaluation will also help to shape future projects related to FMNR, environmental and livelihood resilience and its related social impacts. The evaluation was undertaken by independent consultants, Training Research and Networking for Development (TREND), with additional data analysis completed by World Vision Australia.

¹ FMNR Hub, Ghana Talensi Project (2013), accessed 17 October, 2018, fmnrhub.com.au/projects/ghana-talensi-project/#.W8bpK2gzblU

² Ghana Statistical Service, 2010 Population and Housing Census; District Analytical Report – Talensi District (2014): 37

³ Global Hunger Index, Latest Global Hunger Index Results; Global, Regional and National Trends (2017), accessed 4 October, 2018, globalhungerindex.org/results-2017/

Project overview

World Vision Ghana, together with World Vision Australia, implemented phase two of the Farmer Managed Natural Regeneration (FMNR) Project in the Talensi District between 2013 and 2017, involving 24 communities.

Following the completion of Phase phase two in 2013, the goal of the second phase was to contribute to household hunger reduction, in line with ongoing Sustainable Development Goals (SDGs). Phase two was funded by Computershare.

The FMNR initiative was adopted to improve the livelihoods and resilience of rural farming communities, as well as increase food yields through more trees and improved soil quality. This addresses hunger issues among local households, as illustrated in Figure 1.

Expected outcomes:

1. Improved household food production, availability and utilisation among people in the Talensi District by 2017.
2. Improved and diversified household income among people in the Talensi District by 2017.

Core project activities:

- Farmer training on FMNR techniques, fire control, promotion of fuel-efficient stoves and enforcement of by-laws for improved natural resource management. Establishment of lead farmer groups and voluntary fire brigades.
- Introduction of new agricultural methods such as compost making, soy bean production, beekeeping and small livestock groups for greater food production and diversity.
- Savings groups established for harnessing income growth and other advocacy and awareness-raising activities with local groups. and government.

Contributing to SDGs 1, 2, 13 and 15



Simplified FMNR program theory

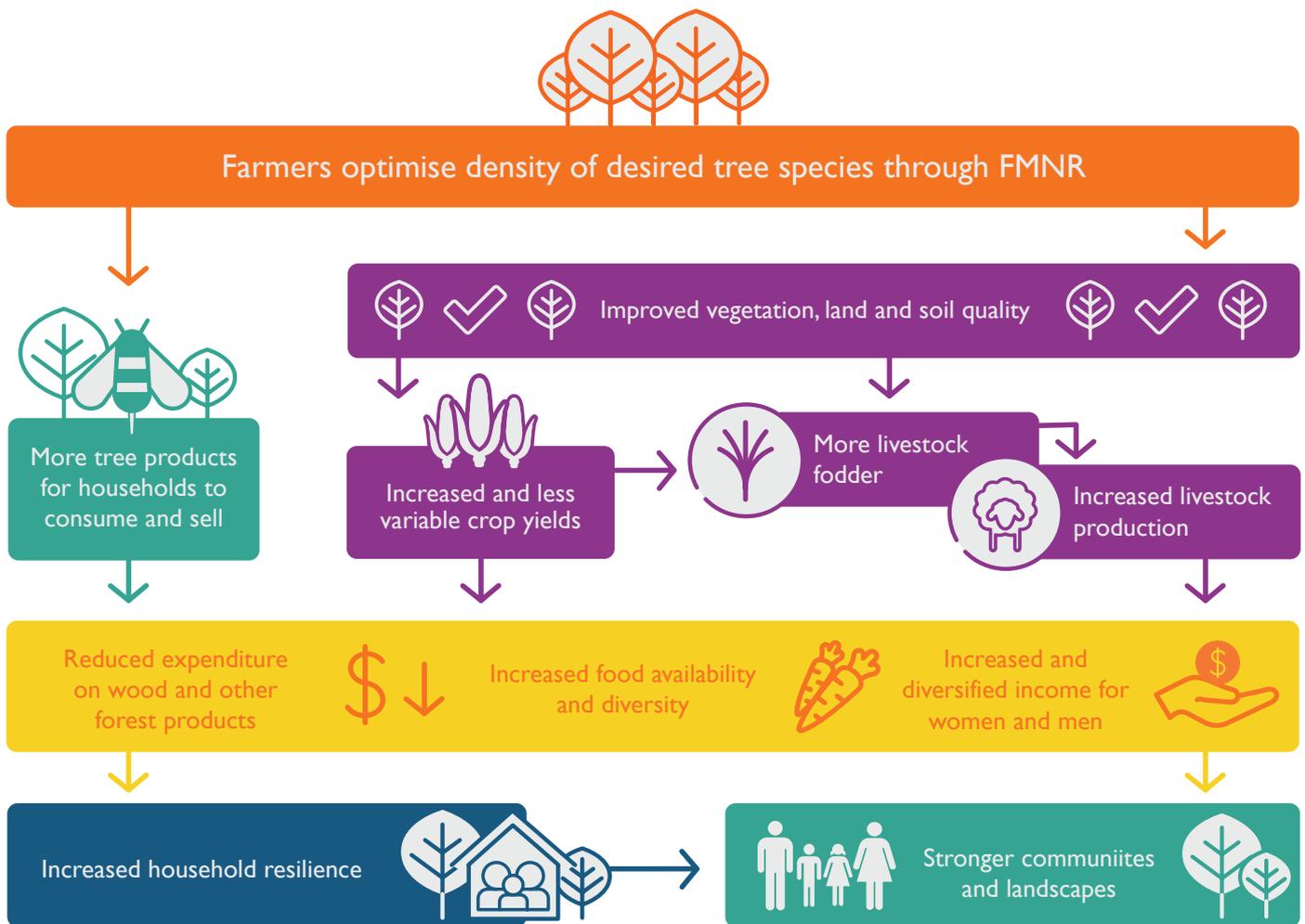


Figure 1: FMNR program theory

Methodology

Talensi FMNR II used a mixed-methods approach to its evaluation, incorporating both quantitative and qualitative data. Data collection methods included the following.

- Survey of 463 households across 24 communities; respondents were household heads, main caregivers and children between ages 12-18.
- Review of documents such as the baseline report and annual project management reports and monitoring data.
- Focus group discussions with groups such as lead farmer groups and savings groups.
- Key informant interviews with relevant council and government department representatives (for example, the Forestry Research Institute and the Ministry of Food and Agriculture).
- Field visits and tree inventories to observe the practice of FMNR and the diversity and coverage of trees.

Household survey data was collected digitally with Open Data Kit, using a pre-tested tool, and qualitative data was manually recorded and transcribed. Analysis was conducted through SPSS for quantitative data and thematic analysis for qualitative. Emphasis was placed on highlighting and analysing the difference between households who participated in the project compared to those who did not, and comparison from baseline to endline. There was also a focus on capturing potentially differing experiences for women and men in the project.

Findings

Outcome 1: Improved household food production, availability and utilisation among people in Talensi District by 2017.

The project's approach was to improve food security through a combination of improved agricultural methods and regreening through FMNR and tree planting of high-value species. Project staff worked with farmer groups to create awareness and build capacity.

The uptake of FMNR among farmers in Talensi was significant ($p < 0.000$), with 96 percent of survey respondents reporting that they practised FMNR on their farms, from a baseline of 85 percent. The number of farmers reporting that they implemented tree management practices such as pruning new shoots or protecting trees from bushfire also increased. Overall, 80.8 percent of farmers reported an increase in the number of trees in the community, from a baseline of 58.7 percent ($p < 0.000$), and fewer are continuing to burn their fields (just 12.5 percent are burning their fields, $p < 0.000$).

There has also been an increase in the uptake of improved soil management practices, with 94 percent of farmers managing the quality of their soil, against 81 percent at the baseline, and 63.7 percent reporting an increase in soil fertility (baseline 15.8 percent, $p < 0.000$). This is likely to have contributed to improvements in food availability. Soil erosion over the last five years has also reportedly decreased, with 34 percent of farmers at baseline and 57 percent at endline noting a decline ($p < 0.000$). Overall there has been a reported decrease in degraded land (54 percent at baseline compared to 82 percent at endline reported no degraded land, $p < 0.000$).

The incidence of household hunger was also seen to have improved, with the percentage of households with one or more hungry months reducing from 86.8 percent to 62.6 percent, a significant decrease ($p < 0.000$). However, the length of time for those households that experience hunger did not appear to decrease (average of 3.3 months). It is also worth noting that at the time of evaluation, there were no households reporting "severe hunger", compared to six percent at the baseline.

This is an important step in reducing hunger in the project area, which was the main goal of the project. The overall change in diet diversity was not significant. This observation may have been affected by seasonal differences due to timing of baseline and endline data collection. The endline period was also subject to agricultural losses due to army worms infesting farms in Ghana's 2017 farming season.



Figure 2: Many farmers reported an increase in soil fertility

Outcome 2: Improved and diversified household income among people in Talensi District by 2017.

The proportion of households reporting income from multiple sources increased from a baseline of 56.5 percent to 95.2 percent. The diversification of income sources is likely to contribute to greater resilience. Access to multiple sources of credit also increased, but it was not significant. The biggest increase was households having access to at least one source of credit; 21.5 percent at baseline, 57.7 percent at endline. This change is attributed to the establishment of the savings groups across the project area. The take-up of savings groups was successful ($p < 0.000$), with the proportion of households belonging to a group increasing from 8.4 percent at the baseline to 76.2 percent at the endline.

“As for *tintung lebge tii* (FMNR), I don’t know where to start. It has helped us in many ways! Our goats go there to graze, our women get firewood, our children get fruits and we also harvest honey from the FMNR site.”

— Participant, lead farmers focus group, Yameriga village.

Sustainability of outcomes

The project has demonstrated signs of sustainability in its outcomes through the conscious efforts made to promote local ownership of the initiative. Solid partnerships have been formed with district decentralised institutions and other NGOs. The establishment of savings groups has also promoted camaraderie, cohesion and unity, as highlighted in focus group discussions. These positive relationships show promising signs of continuity in the uptake of FMNR and the maintenance of the sites where it is practised.

The evaluation did make note that more can be done to empower the residents of the beneficiary communities. In particular, it was recommended that community members need to hold the public service sector providers accountable for the quality and quantity of services which they are legally mandated to offer the communities, such as extension support services for farmers.

Cross-cutting themes

Children's participation

Efforts were made to incorporate children into the programs, such as through the establishment of the environmental kids' clubs. At the time of evaluation, however, most of the clubs were dormant, suggesting that more could be done to sustain the active participation of children. Motivated and interested teachers and facilitators have been identified as necessary for invigorating inactive clubs.

The evaluation also found that parents participating in the savings groups (about 80 percent) are better equipped to save and raise funds to support the education of their children, as noted during focus group discussions.

Children have directly benefitted from the practice of FMNR in their communities – there is no record of “severe hunger”, and just over half of the children surveyed are classified as having “little to no hunger” (64 percent, compared to 36 percent with “moderate” hunger). Subsequent phases of the FMNR intervention should aim to reduce the amount of “moderate” hunger even more.



Figure 3: Parents' participation in savings groups helped pay school fees

Gender

In order to mainstream gender awareness, the project design and implementation made strategic efforts to ensure adequate representation of both men and women in the groups formed in the projects. For example, women comprised 50 percent of the lead farmers groups and the voluntary fire brigade groups.

With regards to the savings groups, the evaluation indicated that overall a greater percentage of the members were in fact women. The increase in access to financial resources therefore benefitted women more than men. This is a positive step as less than 20 percent of the heads of households surveyed are female, yet they are actively engaged in groups formed under the project.

Female lead farmers have commented on their greater sense of empowerment to make decisions for their village in conjunction with the men of the community.

**“We can now sit together
with our husbands and make decisions
for our village.”**

– Female lead farmer, focus group participant.



Figure 4: Leadership roles for women included the voluntary fire brigades

“We loan the monies to ourselves. Some borrow loans to pay for their children school fees, buy clothing, and books. Some also borrow to do ‘small business’. Savings group has helped us a lot in this village.”

– Focus group participant, Kulpelga village

Environmental sustainability and reducing risk

At the core of FMNR is environmental sustainability, and Talensi FMNR II has had a positive impact on reversing the trend of environmental degradation: a total of 718 acres of degraded land has been restored. The evaluation has not identified any negative effects of the FMNR project on the environment.

There has been strong community resilience built as a result of FMNR activities. In restoring degraded land and increasing tree cover, the impact of drought is reduced with trees serving as windbreaks to protect crops and top soil. Incidences of bushfires and soil erosion have also decreased, contributing to an overall decline in the number and severity of shocks that project participants experienced. For instance, the percentage of households experiencing crop failure reduced from 49.8 percent to 38.4 percent, while the percentage of households experiencing loss of main income reduced from 7.1 percent to 2.5 percent.

Recommendations

Overall, the project yielded positive results relating to its goal of reducing hunger and increasing sources of income for households across the Talensi District.

Below are recommendations to maintain and strengthen these results in future projects.

Adjust the design

- Carefully select project support households.**
 The project provided needy households with support packages such as rabbits and improved crop seeds to assist in diversifying income. It was found, however, that some of these assets were not best targeted. More concrete selection criteria are needed, for example, ones which prioritise support for households led by widows or with family members who have a disability. This support should give high priority to persons with disabilities. The project team should verify these households prior to the distribution of income generating assets and tools via the community leaders.
- Ensure follow-up visits to these households.**
 Periodic monitoring of the performance of livestock provided through the project support scheme, including veterinary input, is needed to improve the survival and productivity rate.
- Formalise savings groups.**
 Generally, the operations of the savings groups have been effective, however formalising these groups through registration with relevant public agencies and other rural financial institutions is recommended. This would help strengthen their management structures and mechanisms for mobilising savings.

Scale up

- Train farmers to spread awareness of FMNR.**
 Strategies on sharing the practice should be incorporated into training for farmers and fire volunteers, to help expand the knowledge and practice of FMNR outside of project communities.
- Form an agenda for advocating for FMNR.**
 The level of awareness about FMNR at the national level is low, suggesting more is required to make the practice more visible across more districts. Consider strategies such as airing video documentaries through the media and distributing literature to relevant agencies, as well as strategically engaging with political figures one-to-one.



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