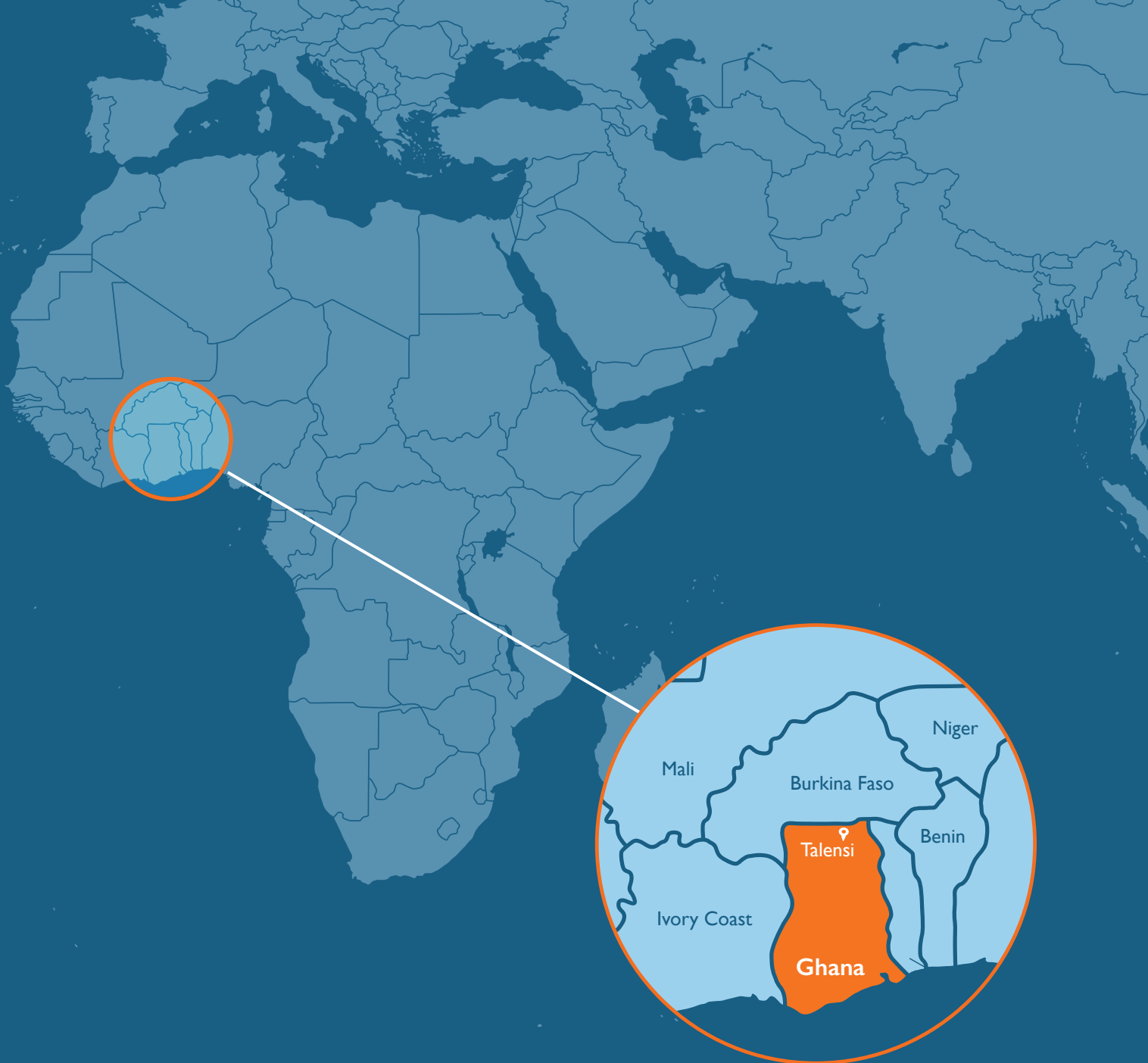




**Ghana Talensi Farmer  
Managed Natural  
Regeneration Project  
Phase 3, Talensi, Ghana**

Impact Brief -2017-20



## About this report

This impact brief summarises the results of World Vision's Ghana Talensi FMNR Phase 3 project, which took place from 2017-20. It is based on an evaluation of project outcomes, completed by the World Vision Ghana monitoring and evaluation team: Agnes Kyerewaa Obeng (Senior Programme Effectiveness Manager), Leonard Napogbong (PM&E Manager), Benamba Chanimbe (PM&E Coordinator), in partnership with the Ghana Talensi FMNR project. Additional data analysis and review was provided by Katie Chalk and Genevieve Morley, World Vision Australia.

The Ghana Talensi FMNR Phase 3 Project was supported by the Australian government through the Australian NGO Cooperation Program.

## Context

Approximately 80% of the rural population in Ghana are farmers<sup>1</sup>. However, the agriculture sector contributes just 23% to national Gross Domestic Product (FAO & FAPDA, 2015). Dependency on the land to survive, without economic development opportunities, keeps many of these farmers vulnerable to food insecurity and multi-dimensional poverty, with children, women and youth worst affected.

The Upper East Region of Ghana is a rural location with the third highest poverty rate in the country (Multiple Indicator Cluster Survey (MICS), 2018). Here, despite availability of arable land, complex economic and environmental factors prevent farmers from moving out of poverty. In 2007, then again in 2015 and 2018, Ghana's Ministry of Food and Agriculture (MoFA) reported land degradation amid a changing climate, through deforestation from inappropriate farming practices, overgrazing and felling trees for wood and charcoal, and bush fires including those deliberately lit to clear land for farming. This has left fragile soils exposed to erosion and poor water retention, leading to poor crop yields, food insecurity and increased poverty.

Talensi is an example of this complex development challenge, an environmentally fragile dryland (non-irrigated) area of Eastern Ghana. In recent decades, its population, mainly subsistence farming or pastoralist families excluded from profitable production or value chains, had seen annual rainfall decline, forest cover and associated biodiversity disappear and loss of productivity from increasingly infertile soil. World Vision's response to this situation was the Ghana Talensi Farmer Managed Natural Regeneration (FMNR) project, which aimed to restore food security, household resilience and income opportunities from community-led natural resource management.

### What is FMNR?

Farmer Managed Natural Regeneration (FMNR) is both a community mobilisation approach for landscape restoration and a specific technique to regenerate trees. Living tree stumps and self-sown seeds are re-grown into usable trees by pruning and protecting them. The regeneration of trees (which is generally faster and less expensive than planting trees) restores and builds natural assets and makes agricultural activities more productive, increasing income, as well as food and water availability. FMNR can be considered in any agricultural, livelihood or development project where tree regeneration will contribute to long-term well-being and where the physical conditions for FMNR exist.

FMNR is also an empowering form of social forestry or agroforestry, giving individuals and communities the responsibility to nurture trees and reap the rewards from the sustainable harvesting of wood and non-timber forest products. Even before environmental commitments and policies grow, it is clear that regenerating trees provide fodder, shade, and soil nutrients. As a natural resource management intervention, FMNR is a rapid, low cost and easily replicated community-led approach to restoring and improving agricultural, forested and pasture lands.



Low rainfall and environmental fragility make the drylands of Talensi, Ghana, extremely susceptible to further degradation from climate change

<sup>1</sup> Ghana Statistical Service (GSS) Ghana living Standards Survey Round 7 (GLSS R7)

## Project overview

The Ghana Talensi FMNR initiative has been in place since July 2009, representing over 10 years of collaboration on community land management and Farmer Managed Natural Regeneration, in communities already engaged with World Vision through an ongoing (sponsorship-funded) development program. The longevity of community partnership in Talensi provides an opportunity to understand change over time through FMNR, especially in terms of sustainability and community ownership. Phase 1 (2009-2012) worked with nine communities; the expansion in Phase 2 (2013-2017) with 31 communities, and Phase 3 (2017-2020) with 25.

Using FMNR as the core approach, this third phase aimed not only to improve environmentally sustainable land management practices, but to also reduce the significant and complex drivers of food insecurity and poverty faced by farmers in Talensi.

This Impact Brief summarises the findings from the final Phase 3 evaluation, while acknowledging the foundations set earlier in Talensi, and focusing on the outcomes for communities as a result of improved environmental management and farming practices.

### **TALENSI FMNR GOAL: Improved household food security and resilience for 8,000 people, especially the most vulnerable and their families, by addressing land degradation through FMNR and farmer managed agroforestry systems**

#### **Expected outcomes:**

1. Improved household food security among 8,000 people
2. Improved environmental management & stewardship among 2,000 people
3. Improved households' savings and income among 2,625 people

#### **Achieved through**

- Farmer Managed Natural Regeneration (FMNR)
- Diversified income sources from improved agriculture, livestock and forestry industries (sustainable timber, honey, shea nut)
- Gender-sensitive value chain engagement (processing and marketing shea nut products)
- Economic resilience through Savings Groups, emphasizing the participation of women
- Community engagement in policies and bylaws to protect restored land from future degradation

### **About the evaluation**

As the project closed, the WV Ghana team conducted an impact evaluation to compare results with intended outcomes agreed in 2017, including comparing baseline with endline statistics. The mixed method evaluation used quasi-experimental comparison (before and after) wherever possible. However, COVID-19 restrictions on movement over this time created an unavoidable variation to sampling methods between baseline and final survey. Instead of using a statistically significant sample size, the evaluation team combined Limited Participant Participatory and Remote Approach (LPPRA) and Lot Quality Assurance Sampling (LQAS) method. The team conducted slightly different surveys for three types of participants: household heads (male and female), youth, and women. Each survey talked to 19 people in each of five 'Supervision Areas': 95 people

per participant type, and 285 people overall. In addition, the evaluation used secondary information from district government records and used semi-structured interviews with project participants and implementing partners to provide qualitative background and validation.

#### **Limitations:**

- Limited baseline/endline comparability, though trend analysis can still draw conclusions on outcomes.
- Challenges including people with disability, due to random sampling and small numbers overall.
- Potential bias due to staff involvement in the data collection: this risk was reduced by using multiple information sources including direct records from government and community groups.

## Findings

### Outcome 1: Improved household food security among 8,000 people

The evaluation found food security had improved (see Table 1 below), with improved diet diversity and a reduction overall in the number of households who had experienced at least one month of food shortage in the last year. The results also demonstrate the ongoing challenge of food security in Talensi. While the LQAS data shows a substantial shift compared to baseline across all measured areas, around two out of five households still experience 'hungry months'.

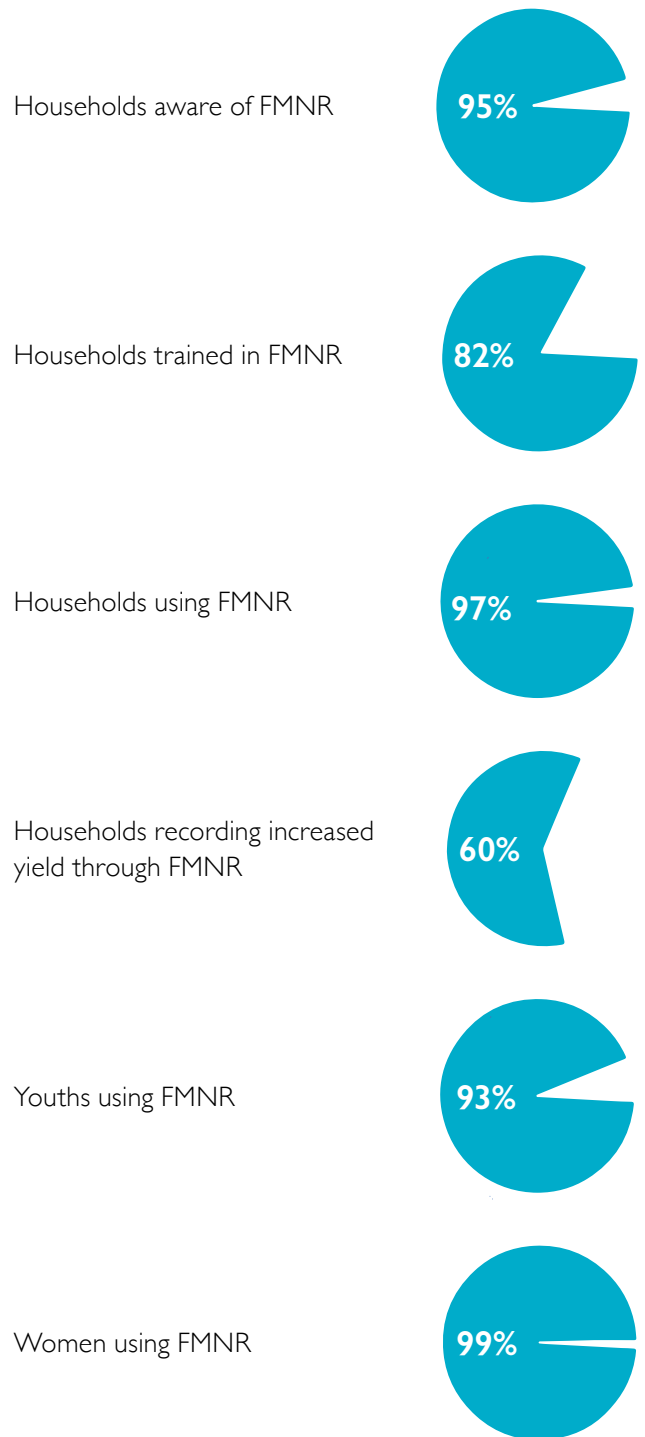
Available indicator comparison		
	2017 Baseline	2020 Endline
Households with Sufficient Diet Diversity (HSDD)	44.5%	55.8%
Households with Acceptable/High Food Consumption (>42) (HFC)	20%	24.2%
Households with one or more 'hungry months' in the previous 12 months (MAHFP)	68.2%	41%
Youths with one or more 'hungry months' <sup>2</sup> in the previous 12 months	43%	27.4%

Connecting these results to the FMNR project, 82% of surveyed households had a member who had trained in FMNR practices through the project and 97% were using the practices – more than those who had received direct training. Of these, 60% of households reported increased farm yield, from the same plot of land previously used, as a result of better soil management and land care.

**“Pruning of shrubs in the farm and allowing the leaves to decompose is very helpful. I have noticed that in my farm where there are no shrubs, I did not get yield like where I have been pruning and allowing the leaves to decay. This is the same size of land with the same seeds I am talking about.”** ”

Male farmer, focus group

Figure 1: FMNR take-up measures (n=95 across all categories: household, youth, women)



2 Months of Inadequate Household Food Provisioning (MAHFP) has been defined as the time between stock depletion and the next harvest (Bilinsky and Swindale, 2007)

## Post-Harvest Practices

To ensure year-round food security, it is not enough to grow more food. Cyclical weather patterns usually mean one to two grain harvests a year. Even with a bumper harvest, if it is not stored adequately the food will spoil. Improved post-harvest practices are also an adaptation to climate change as they ensure a greater safety net of produce if crops fail due to climatic variability. Approximately 150 kilograms of food is lost **per capita** in sub-Saharan Africa each year due to spoilage between production and retail or consumption (FAO figures, 2018).

The Ghana Talensi project supported improved post-harvest storage practices such as:

- Dehusking and threshing, which helps products to dry out without becoming mouldy
- Purdue Improved Crop Storage (PICS) bags, reusable double-layered bagging that keeps insects and moisture out
- Reduced use of chemical treatments, which are used to dehydrate food but can be toxic if consumed too early after treatment

Threshing and dehusking was already a common practice among farmers, and did not increase in uptake in the three years. However, a significant shift in post-harvest practice was found in the use of PICS bags, which went from 6% at in 2017 to 73.9% in 2020. Participants in focus groups said it could have been more, if more bags had been available and recycled through the community as intended. The results of improved food storage can be seen in the reduced 'hungry months' measured in households; participants also said that they did not have to consume chemically treated produce early, as alternative food was still available.

Available indicator comparison		
	2017 Baseline	2020 Endline
Households using post-harvest loss reduction techniques (dehusking, threshing, storage)	83%	81%
Households using PICs bags for storage	6%	73.9%

## Outcome 2: Improved environmental management & stewardship among 2,000 people

The project has excelled in land management and reforestation among the communities taking part in the project. From a baseline figure of 79 trees/shrubs per hectare, in just three years the final figure is an average 521 trees/shrubs per hectare. Previous phases have contributed to this, as evidence of the effectiveness of FMNR for household and community food security has been key to take-up and policy support. While most households learned about FMNR directly through

project and community activities, 27% learned from community members and agriculture extension officers. This result suggests a community-led movement towards FMNR is building, increasing the likelihood of sustainability. Tree restoration and soil management are two practices contributing to results across food security, environment and income. Land protection is a third element, with increased levels of awareness and prevention of ecological damage caused by 'slash and burn' fires or livestock grazing. Within this, disaster risk reduction activities such as community firefighting have directly addressed high levels of economic and environmental shock from bushfires.

Available indicator comparison		
	2017 Baseline	2020 Evaluation
Number and percentage of communities that are engaged in FMNR	16	25 (100%)
Proportion of households/farmers that manage the quality of their soil	0	93.7%
Area of land under FMNR protection or rehabilitation	0	220.36 hectares

### Outcome 3: Improved households’ savings and income among 2,625 people

A foundational step towards financial stability was Savings for Transformation groups, implemented in all 25 communities to support household savings and credit. Focus groups described benefits of Savings for Transformation ranging from credit for farm expansion and business start-up to meeting family needs such as health, education and shelter. Of women taking part, 93% had increased their income as a result, and 87% of women with a regular income had accessed credit from the Savings for Transformation groups.

**“The teachings we have gotten on how to plant, control weeds and how to prevent erosion is making us get more results from our farms.”**  
 Male farmer, Talensi

The household survey asked households whether they had been able to withstand an economic shock or natural disaster in the last year. While the results were lower than at baseline, this was actually a positive result. **Focus groups confirmed decreased bushfires, better soil and less crop failure had reduced the level of disasters faced by the community; the question was relevant to far fewer households.**

#### What is Savings for Transformation?

Savings for Transformation aims to decrease poverty, improve well-being and resilience, particularly for ‘unbanked’ households and with a focus on gender equality. Groups accumulate savings over time and access loans more easily, leading not only to increased investment in business but also a smoother cash flow, more and better food, improved shelter, education and other expenses for children, and more. A communal social fund is available through the group for members to draw on if they face financial shocks, such as the loss or illness of a family member.

Savings for Transformation groups provide a critical engine for economic opportunity, social solidarity and safety net for many families in vulnerable situations. This alleviates financial stress and reduces the need to resort to negative coping mechanisms: predatory money lending, selling productive assets and – in the worse cases - child labour or child marriage. Groups actively include marginalised community members (particularly women, people with disabilities and the poorest), increasing individual confidence, self-esteem, and leadership skills of vulnerable members and enhancing inclusive community participation. As self-governing entities, S4T groups are sustainable and often spontaneously replicated through the community, because they are simple and effective group enterprises to follow.

Indicator comparison		
	2017 Baseline	2020 Evaluation
Proportion of households who faced a disaster and were able to employ an effective disaster-risk reduction or positive coping strategy	66%	54.7%
Proportion of households with a secondary source of income	6.6%	97.3%
Proportion of households who report having access to sufficient credit	25%	97.3%

### Effective local value chains

**Beekeeping** across 16 communities proved to be an environmentally responsible and sustainable industry for youth aged 16 to 30, encouraging their connection and action on protecting forests. In focus groups, beekeepers confirmed the business was profitable with low upfront capital needed, and demand often exceeding supply. People with disability could also participate in beekeeping more easily than other forms of agribusiness.

**Shea butter processing** was found to be suited well to women who already do most shea nut harvesting in Talensi. Over the project cycle it gradually became a primary income source in participating households, with FGDs confirming it was more profitable compared to other ventures such as farming. However, the evaluation found it was harder for women to raise the necessary capital for large scale processing, limiting their engagement at higher levels of the value chain.

**“We have to begin looking at this shea butter thing more seriously. I can say that for the past year, the money my wife made from the sale of shea butter is three times what I made from crop farm for the entire year.”**

Male farmer; Focus Group Discussion

**Goats** are locally preferred by butchers and their clients over other animals, meaning they can be sold at a good profit; they also breed relatively quickly. While almost all households had been raising livestock before the project, households with goats demonstrated strengthened ability to absorb disasters such as loss of crops or other financial setbacks. On average, households added 300 cedis (around \$70) to annual income as a result of keeping goats.

**“I am a butcher... when I sell goats and sheep, the goat meat sells in an hour, but the sheep meat can take over a week. People buying meat on daily basis prefer goat.”**

LVCD participant, Focus Group Discussion



Through the project, women learned and gained confidence to expand livelihoods options such as small shops selling produce.



# Results for gender, disability, youth

## Gender and youth

The evaluation found:

- Strong results for women’s participation, especially in Savings for Transformation groups, credit and loans
- Strong potential for expansion of women’s economic participation in the value chain for shea nut butter, as this is more profitable than farming; however, that women’s involvement reduces as the value chain progresses.
- Good results for youth participation, food security and local value chain, with beekeeping a productive and lucrative market for young people to join.
- Mainstreaming of inclusion for people with disability into project interventions
- 45 direct participants with disability (farming, value chain); nearly 1,000 taking part in associated activities

Results of advocacy for disability inclusion were not measured; people with disability were not interviewed or sampled purposively in LQAS, noted as a limitation to this study.

**“This project... has opened our mind more and women especially have become more relevant than before. We now see women bring on the table varied ideas and contributions that is helping us built on our challenges. We have obtained our lessons and, in all matters, positions and engagements, we ensure the representation of both men and women”.**

Male farmer; focus group discussion

**“I am planning to make the hives and place them in vantage points in my farm... With the bee keeping, you make your own decision unlike crop farming where our parents control everything”**

Youth beekeeper; focus group discussion

**“As a woman... I feel some sense of fulfilment because I now I can provide for my own needs and do not need to depend on anyone”.**

Female shea butter processor; FGD



Fuel efficient mud stoves helped to reduce use of firewood, also saving time needed to collect wood for household needs.

## Conclusions: Impact, Inclusion, Sustainability

Noting the significant food security challenges of this region, FMNR has consistently shown its value in linking agriculture, environment and social change together to address key issues. The evaluation found Phase 3 of the FMNR project has been successful in meeting its targets and has high potential to meet future needs. With strong and feasible sustainability plans developed by communities, the roles of lead farmers, fire volunteers and Savings for Transformation groups is clear with good potential for expansion. This consistent will and forward planning is likely to lift environmental and economic benefits further after the project closes. In all 25 communities, by-laws have been developed and are now at various stages of implementation. The uptake of energy-efficient cookstoves has decreased firewood usage while branches from FMNR pruning are providing renewable wood supply for fires and other uses.

While the needs of women and other vulnerable groups were covered to a degree through mainstream activities and outcomes, the evaluation noted the project missed opportunities for more deliberate programming and closer monitoring on gender and disability. The value of LVCD and Savings Groups was clear, and higher for women than men; this finding can now be promoted for strengthened results in inclusive employment and management opportunities for vulnerable groups.

A side benefit of the FMNR approach in Talensi has been strengthening community bonds and cohesion across the different groups and families participating in agriculture value chains. Coming together of diverse individuals to form groups, manage affairs, support each and many others is promoting peace within project communities and beyond. The two main ethnic groups in Talensi work together collaboratively on land management, while the inclusion and valued participation of women and youth in agriculture and associated industries has been noted broadly in focus groups and interviews.

**“The FMNR project has come to soften all our struggles. We used to farm even larger lands than today but could not get the kind of high produce we are experiencing now.”**

Lead farmer (male), focus group discussion

The project’s final phase is starting to see impact emerge, in areas of sustainable farming and markets, profitable enterprise at different stages of the value

chain, better food availability and reduced hungry months. Results of this on child wellbeing - for instance, decreased rates of malnutrition, better school attendance and learning outcomes or greater opportunities for participation - has not been evaluated due to the limitations to methodology. It is hoped that future study could return to Talensi to look at the impact of the three phases together in addressing food security, environmental and social needs of communities through FMNR.

**“We have organized ourselves and meet regularly (every 2 months) as a community to sit and discuss the way forward in fighting bush fire... World Vision will not forever be with us, and by so doing the chief and “tindana” have taken it as a responsibility to fight to continue with the initiative. The tindana would invoke the gods if anybody contrary and burns the bush, this will put fear in the people not to engage in bush burning. Even if it is a mistake, you will pay a goat and some fowls.”**

Lead farmer (male), focus group discussion

### Summarised recommendations

The following recommendations were provided to World Vision Ghana at the conclusion of their final FMNR Talensi Phase. They are also relevant for broader consideration from partners working in environmentally sensitive food security and market expansion.

- 1. Continue to expand engagement in Local Value Chain Development with women and youth as primary participants.** Data showed huge potential for poverty alleviation through LVCD especially when expanding existing opportunities. For the Talensi project, this was shea trees and nuts. It also showed that women and youth have fewer opportunities than adult men to engage in high profit enterprise and are usually limited to farmer/producer roles. Private sector interest and investment in local processing creates employment and business ownership further along the value chain of profit and community status.
- 2. Build on success of Savings for Transformation as a model for food security and women’s empowerment.** Other development agencies as well as district governments and private / banking sector

should consider Savings for Transformation as an inexpensive and community led approach to expand business operations through low interest credit and loans. The evaluation found it had been highly beneficial for women. Savings for Transformation demonstrated potential for creating businesses, empowering households (especially caregivers) to take decisions on the needs of children and their entire household and above all ensuring food security.

**3. Promote FMNR as a holistic farming package to improve yield, food security and resilience.**

The results build a strong case for Ghana to continue promoting the FMNR ‘package’ and the lead farmer approach to training and supporting farming communities, based on FMNR’s proven benefits of improved soil fertility, increased crop yield, improved livestock survival and many others, through cost-effective community-led practices.

**4. Secure commitments for more FMNR interventions in Talensi.** The project’s three phases provide an opportunity to look at long-term social, economic and environmental impact of the FMNR

approach. While it was found to deliver results, it has not yet been sufficient to overcome hungry months and cyclic shortages. Partners should find ways to document, promote and continue the food security and land management results in Talensi, in ways that can strengthen national-level commitment to regreening Ghana.

**A recommendation for World Vision Australia**

World Vision Australia recognises that Talensi has hosted one of the longest implementation periods for FMNR in World Vision history, with significant potential to learn from the observations and adaptations over time. This is an ideal site for ‘post-evaluation’, returning to Talensi as a case study to test sustainability, refine community approaches and taking lessons forward to other projects and sponsorship-funded development programs for long-term climate and environment results.



The community firefighting groups formed in earlier phases continue to be effective in reducing occurrence and severity of bushfire



Communities held regular meetings to agree on by-laws to protect their local environment.

## **When you commit to humanity amazing things can happen!**

In Talensi, Ghana, farmers and other primary producers have reversed environmental degradation and its effects through Farmer Managed Natural Regeneration. This World Vision project demonstrates the long-term positive impact for families, local economies and entire communities that sustainable land management can bring.

**For more information, contact**

Sarah McKenzie, FMNR Advisor, Climate Action and Resilience, World Vision Australia;

[sarah.mckenzie@worldvision.com.au](mailto:sarah.mckenzie@worldvision.com.au)

World Vision ANCP desk: [ancp@worldvision.com.au](mailto:ancp@worldvision.com.au)



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