

# **World Vision Farmer Managed Natural Regeneration (FMNR) Approach- A Catalyst for Sustainable Wood Fuel production in Ghana**

**World Vision**



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- Woodfuel (charcoal and firewood) is the main source (70%) of energy for cooking for most households in Ghana (Phosiso, 2017; GSS, 2019)
- Woodfuel is used by households for; domestic & commercial activities, and serves as diversified livelihood strategy - a safety net against economic shocks.
- Woodfuel value chain activities creates employment for number of households thereby reducing poverty

# PROBLEM STATEMENT

## Sustainable Fuelwood Dilemma

### Fuelwood Demand

- Increasing human population
- High fuel prices
- Scarcity of other sources of fuel
- High levels of poverty
- Geographical location of rural Hhs

### Fuelwood Supply

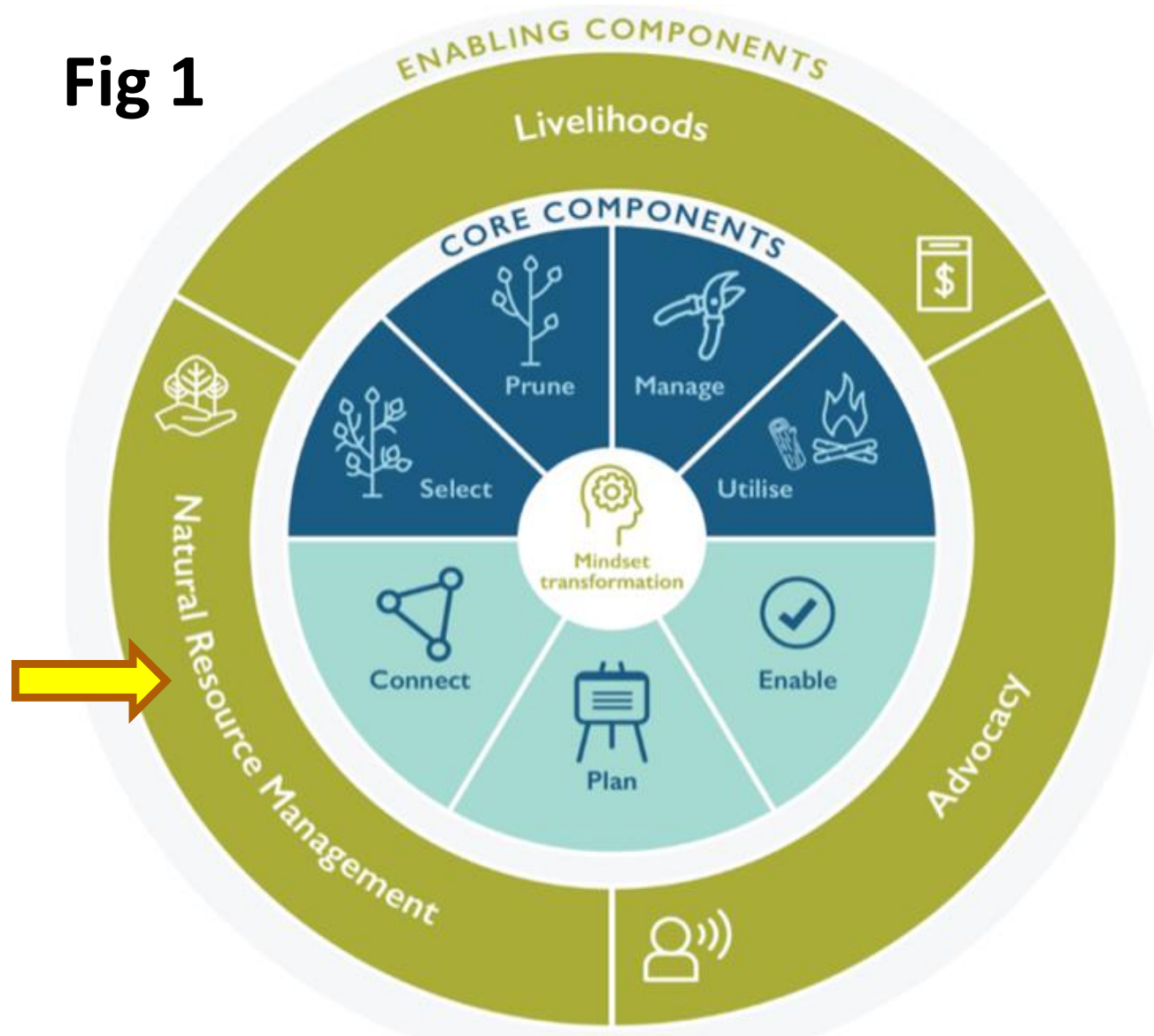
Declining fuel wood supply due to;

- Depleting resource base
- Forest degradation
- Rapid urbanization
- Unsustainable production practices

- Little empirical evidence exist on how rural households meet their fuel wood needs sustainably in Ghana
- In response to this, World Vision Ghana (WVG) in 2009, initiated FMNR project in the Talensi District in the Upper East Region of Ghana.
- This paper therefore presents evidence from the field on how Farmer Managed Natural Regeneration (FMNR) Approach of World Vision has served as a catalyst for sustainable wood fuel production in Ghana



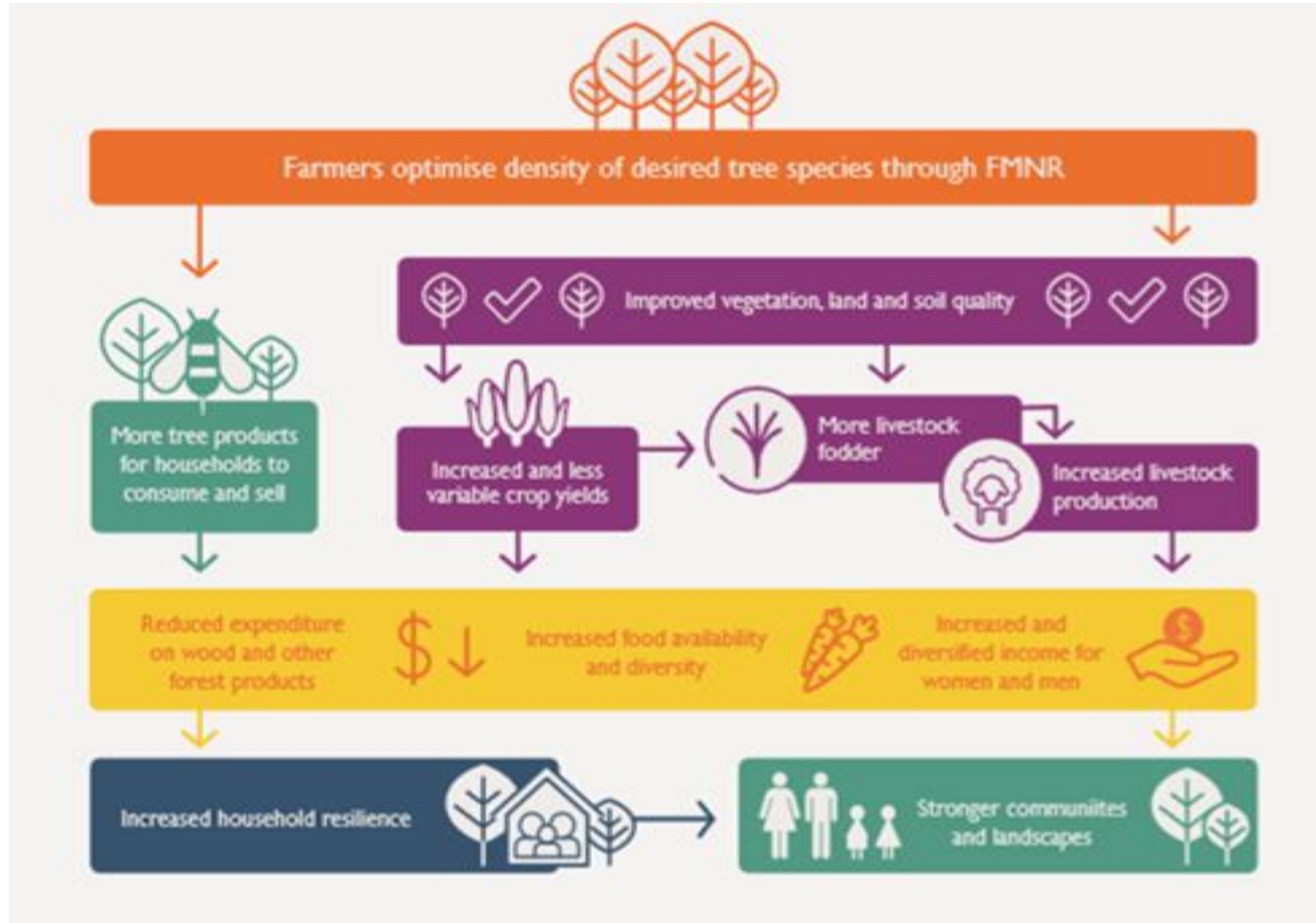
Fig 1



FMNR: Systematic regeneration of trees from living tree stumps, shrubs & seedlings to grow to become trees.

# Conceptual Framework:

Fig 2



# OBJECTIVES

	OBJECTIVES	METHOD OF ANALYSIS
General	To evaluate FMNR Project against its expected outcome and draw lessons to shape other future projects and influence policy	<ul style="list-style-type: none"><li>▪ Evaluation approach (Mixed approach (quantitative and qualitative) was used</li></ul>
Specific Objective in relation to the conference	<b>To assess the potential of FMNR as a sustainable source of fuel wood to small holder farming households in U/E region of Ghana</b>	<ul style="list-style-type: none"><li>▪ <b>Mixed approach</b></li><li>▪ <b>Photovoice, CBPR method</b></li><li>▪ <b>Descriptive statistics</b></li><li>▪ <b>Monitoring results</b></li></ul>



# METHODOLOGY

**Data Source:** Primary and Secondary data.

**Study Area:** Talensi, Upper East, Region.

**Sample size:**

463 households comprising both lead farmer households and neighboring farmer households was sampled.

**Sampling Procedure:** Multi staged Approach

Level	Sampling Method	Tools	Data Analysis
District	Purposive	Hhs survey, focus group discussions, key informant interviews and observation, photos, video	SPSS, STATA, Photovoice- SHOWeD Analysis
Community	Purposive		
Household	Simple Random		

# RESULTS AND DISCUSSION

## Demographic characteristic of Respondents

### Sex of Respondents

- 28% of FMNR lead farmers were women
- 72% of FMNR lead farmers were men

### Educational Level of Respondents

- 67 % of FMNR Lead farmers had no formal education
- 13% Primary & Junior High School
- 15% Senior High
- 5% Tertiary level

# RESULT AND DISCUSSION

**Table 1: Householders' Perception of Change in Firewood Availability in the Project Area**

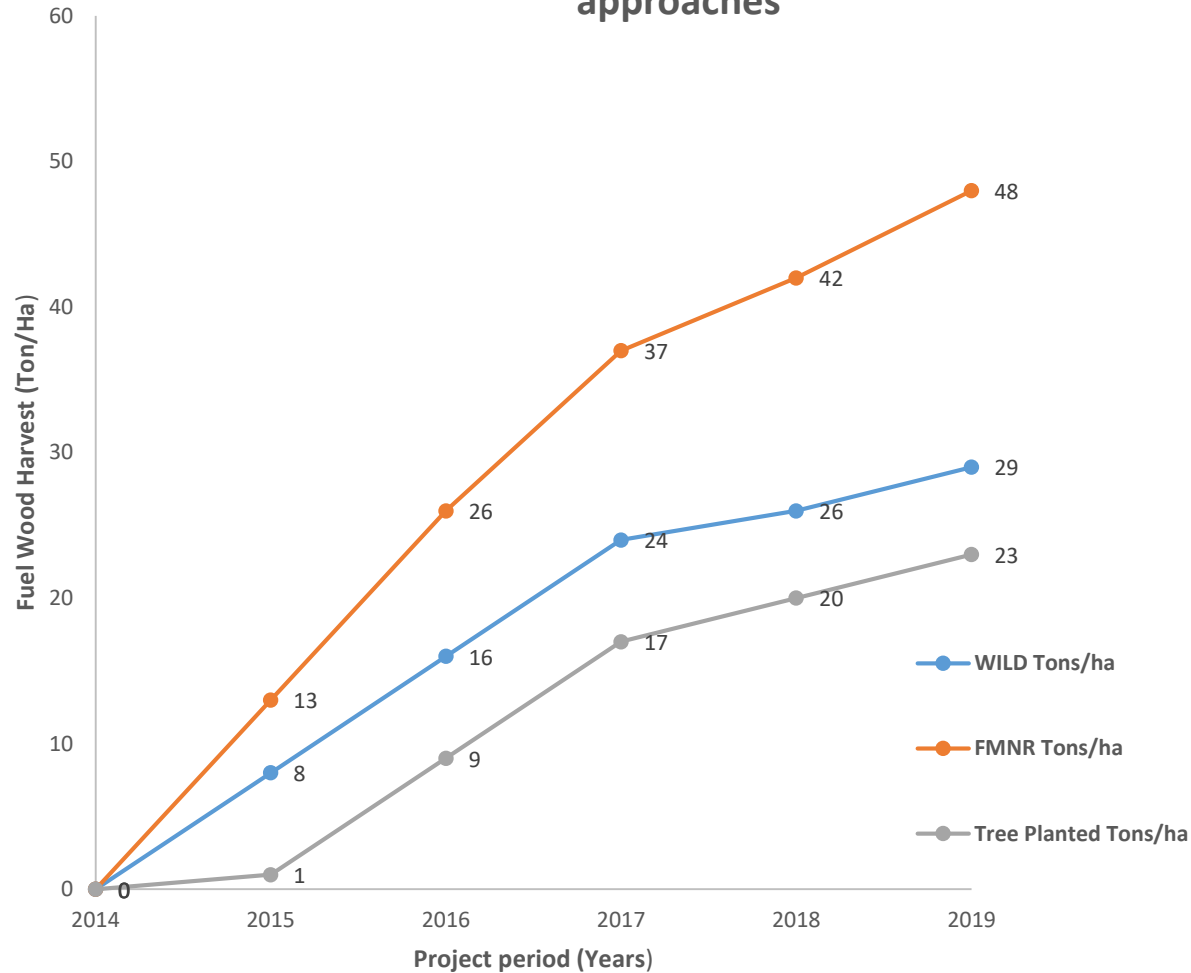
Has availability of firewood increased or decreased in the last 10 years?	Baseline (2014) (%)	Evaluation		
		Lead HH (%)	Neighbouring HH (%)	Total (%)
Decreased	64.9	25.6	24.4	25.1
Increased	27.2	<b>58.0</b>	<b>50.7</b>	<b>54.4</b>
No change	5.4	14.3	21.3	17.7
Don't Know	2.4	2.1	3.6	2.8
Total	100 (n=368)	100 (n=238)	100 (n=225)	100 (n=463)



Source: World Vision FMNR Evaluation Report

# RESULT AND DISCUSSION

Graph of fuel wood from different land restoration approaches



Source: World Vision FMNR Fuel Wood Monitoring Report

- Community FMNR field from 5 comm recorded fuel wood harvest of 48 Ton/Ha, as against 29 Ton/Ha from Wild and 23 Ton/Ha from tree planting.
- FMNR b'cos rapid, high growth rate, pruning and management of tree regrowth, minimal bushfires, indiscriminate cutting of trees
- Studies agrees with - Harvey *et al*, FMNR encourages sustainable harvesting practices and community forestry



# RESULT AND DISCUSSION



*"We never expected trees growing so quickly and harvesting firewood so early in the project".*



**2014**

**IT WORKS !! A FOREST CREATED IN 4 YEARS THROUGH  
FARMER MANAGED NATURAL REGENERATION**

**2018**



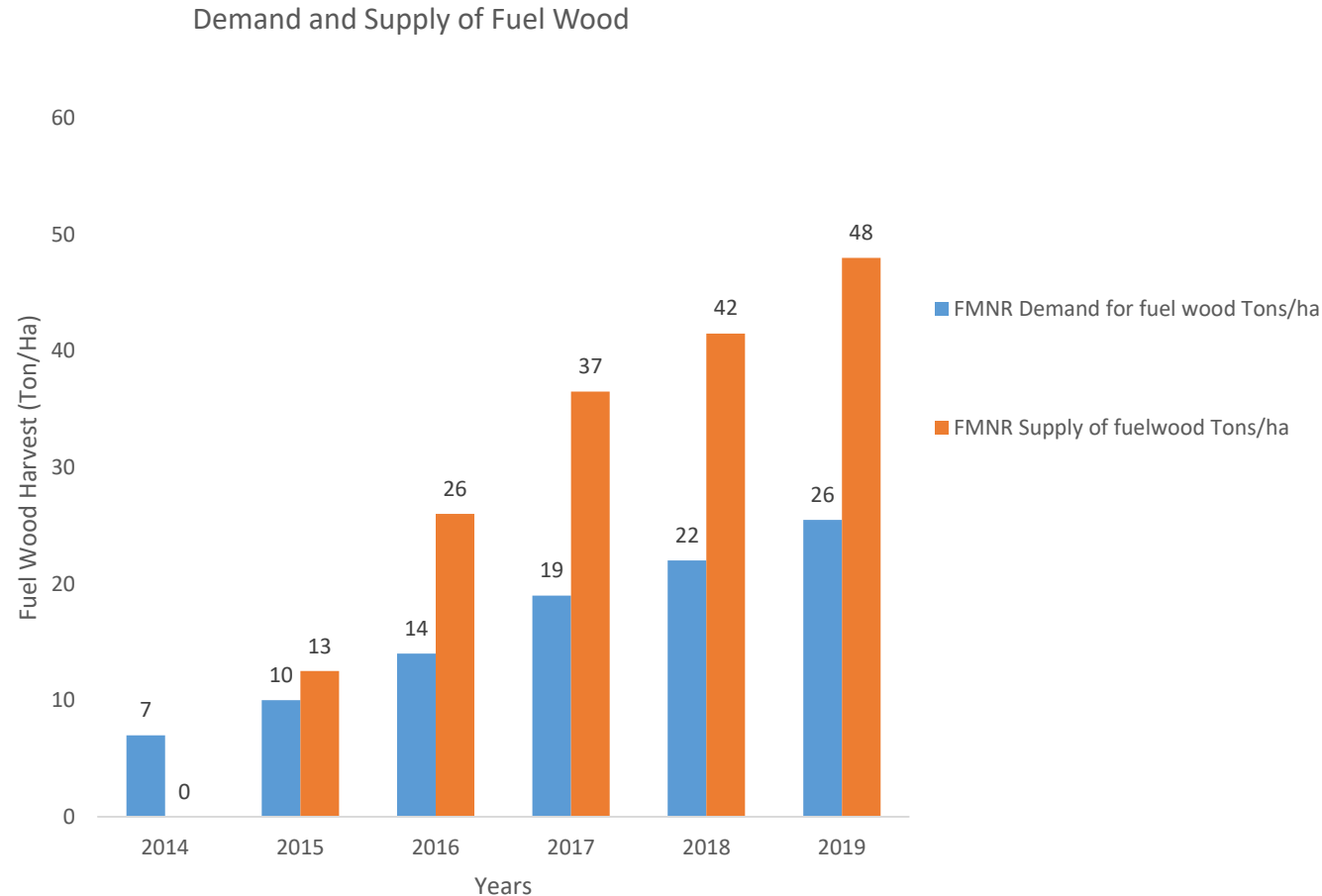
# RESULT AND DISCUSSION



**FMNR project-** *Fuel wood harvested as a by-product of the thinning and pruning activity practiced through FMNR. Women reporting relief from long walks in scavenging for wood fuel (Talensi, 2017)*



# RESULT AND DISCUSSION



- Community FMNR field from 5 comm recorded fuel wood harvest of 48 Ton/Ha, as against 26 Ton/Ha in 5th Year of implementation.
- After 2<sup>nd</sup> Year, Firewood has met domestic needs and years after sales started for income - which is a motivating factor in the uptake of FMNR



# RESULT AND DISCUSSION



- **Firewood has met domestic use and even for sale - which is a motivating factor in the spontaneous uptake of FMNR by farmers**



# RESULT AND DISCUSSION

## Energy Efficient Stoves



*FGDs with women groups found that households that adopted the improved cook stoves were using less fuel wood thus justifying the efforts at promoting improved cook stoves in the project area*

**FMNR fuel wood for cooking** *"This picture shows FMNR beneficiary Celicia using fuel wood harvested in energy efficient stove to prepare porridge for sale."(Female, 42 years, Talensi)*

# CONCLUSION

- The importance of fuel wood cannot be overlooked. Fuel wood contributes to economic prosperity of rural households including women.
- The FMNR approach- Identified as one of the effective approaches to sustainable fuel wood production b'cos of high rate of growth & regenerative capacity. Within 2<sup>nd</sup> year of practicing, Hhs started meeting domestic fuelwood needs, and the years later producing surplus fuelwood, creating a sustainable income stream.
- Household demand and use of fuelwood was less in FMNR communities b'cos of adoption and use of energy efficient stoves during the life cycle of the project



# RECOMMENDATIONS

- Ministry of Environment, Science, Technology & Innovation(MESTI) should formulate favorable law and policies for sustained woodfuel supply- tree ownership, user and legal rights to sell sustainable harvested fuelwood.
- District/municipal assemblies should create certified, legal, fair, transparent markets for wood fuel.
- Forest resource management practionners should train rural households on sustainable fuelwood production & mgt. practices - FMNR and energy efficient stove production

# RECOMMENDATIONS

- Ministry of Environment, Science, Technology & Innovation (MESTI) should create and manage database on woodfuel production and consumption to inform decision making
- Traditional authorities should support women to have access and control over land, natural resources & its benefits for increased participation and upscale of FMNR interventions

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