

SMALLHOLDERS FOREST LANDSCAPE RESTORATION (FLR) IN GHANA

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State of deforestation and forest degradation in Ghana

- Ghana has lost over 60% of its forest cover between 1950 and the last century (2.7 million hectares)
- Ghana's deforestation rate is about 2% per year (135,000 ha/year)
- A higher figure of 3% deforestation rate per annum (320,803 ha/year) since 2000 has been reported in Ghana

Factors driving the deforestation and forest degradation in the country include:

Agricultural expansion (50%), wood harvesting (35%), population and development pressures (10%), mining and mineral exploitation (5%), uncontrolled exploitation of wildlife, unsustainable production of wood fuel

Laws & policies

Some laws and policies that regulate tree planting in forest plantations, agro forestry systems and FLR

- Ghana's Shared Growth and Development Agenda II (GSGDA)
- National Climate Change Policy (2012)
- Ghana Forest and Wildlife Policy, (2012)
- The Forest Plantation Development Fund (Amendment) Act 2002 (Act 623)
- Ghana Tree Crop Policy (2011)
- The National Wildfire Policy (2012)
- Forest Law Enforcement, Governance and Trade (FLEGT) policy
- Ghana Cocoa Sector Development Strategy (CSDS) II, 2015

Planting or FLR programs & projects

A number of tree planting/FLR and projects initiated in the country. Significant among them are the following

- Forest Investment Programme (FIP)
- The Forest Plantation Development Fund (FPDF)
- National Forest Plantation Development Programme (NFPDP)
- Forestry Commission to roll out afforestation program for 50,000 youth
- Ghana REDD+ Project
- Environmental Sustainability and Policy for Cocoa Production in Ghana (ESP I)
- Bamboo and Rattan Development Project (BARADEP)

Plantation models

Plantation models in the country include

- National forest plantation development programme (NFPDP)
- Private (taungya) plantation
- Trees-on-farm and permanent tree crop combination model

Incentives

- Forest Plantation Development Fund
- Forest and Wildlife Policy (2012)
- Climate Change Policy (2012)
- National Forest Plantation Development Strategy 2016 – 2041

Smallholders' definition

- Precised definitions of smallholders are elusive
- Looking across a variety of working definitions – for Ghana and elsewhere – several key themes are cited.
 - These are: holding size, wealth, market orientation and levels of vulnerability to risk.
- Holding size is perhaps the most direct and easily introduced indicator of who smallholders are
- **Smallholder farming systems** are perceived to share certain characteristics which differentiate them from large-scale, profit-driven enterprises.
 - These include: limited access to land, financial capital and inputs, high levels of vulnerability and low market participation.
- In Ghana, for example, **smallholdings are considered** to constitute 90–95% of farms and about 80% of total agricultural production

Forest Landscape Restoration (FLR) objectives

Plantations stand in Ghana that have forest landscape restoration as an objective

Currently in Ghana, 2 projects funded by the World Bank and African Development Bank under the Forest Investment Programme demonstrate these restoration efforts, namely:

- Engaging Local Community Involvement in REDD+ (ELCIR+) Project
 - 5,000 hectares of tree plantations are being established,
 - 16,000 hectares of climate-smart cocoa-agroforestry (trees-on-farm) and
 - 1,200 hectares of fuel woodlots;
- Enhancing Natural Forest and Agroforest Landscapes (ENFAL) Project,
 - 40,000ha are being established through enrichment planting

Agroforestry

Agroforestry systems in Ghana include

- **Taungya System:** This involves planting trees with agricultural crops.
- Farmers tend the trees to maturity
 - after three years they move to other lands, mostly in degraded state-owned or managed forest reserves, to repeat the process
- **Trees-on-Farms:** Farmers plant and/ or intentionally reserve timber tree species on their farms.
 - Cropping is often carried out with little disturbance to the trees.
- **Permanent Tree Crop Combinations (PTCC):** farmers integrate timber tree species with perennial tree crops, especially cocoa.
- **Improved Tree Fallows:** a technique for integrating leguminous tree and shrub species in rotation with crops to build up nutrients in farmers' fields

Agroforestry con.

- **Silvopastoral and farmer managed natural regeneration (FMNR) systems:** This is designed for livestock production which combines grass or leguminous species with woody shrub and tree species to provide forage and ecological benefits.
- FMNR is the practice of managing and protecting non-planted trees and shrubs to increase the value of the woody vegetation on farmland

Agroforestry financing

- NGOs
- Ghana cocoa rehabilitation programme
- Out-grower scheme for tree planting

Value chains - Wood and non-wood products

- The generic structure of the NTFPs value chain is likened to **NTFPs commercialization in Ghana**
- The value chain contains the following activities: Production, Collection, Processing, Packaging/ Labeling, Transport, Marketing, Consumption and Policy
- The Potential (with actors) of wood and NTFPs value chain in Ghana include:
 - **Shea butter:** Nut producers, nut traders, butter producers, nut and butter exporters, butter traders and producers of food and cosmetics
 - **Fuel Wood/ Charcoal:** resource, production, transportation, distribution/supply, marketing, consumption and utilization of fuelwood for income-expenditure flows along the chain

Value chains - Wood and non-wood products

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- **Fruits:** producers, input suppliers, exporters, logistical service providers and other key stakeholders involved in the distribution of the product to final consumers
- **Cashew:** Production, Collection, Processing, Packaging/ Labeling, Transport, Marketing and Consumption
- **Timber (Teak):** Smallholder teak tree growers establish, tend and protect plantations till maturity,
- Middlemen or local contractors buy teak trees at the farm gate price ranging Gh¢10-30,
- local contractors turn teak logs into lumber and billets for onwards sale to the domestic market and export market,
- Exporters purchase logs from **local contractors** for onward export,
- Craftsmen transform teak logs into desired products for end-users

Turning teak logs into billets in Akomanda, Ghana



Teak logs



Wood mizer



Processing logs to billets



Volume and value of wood species in stock for sale in 29 domestic timber markets located in different areas in Ghana in 2009

No.	Species scientific name	Species local name	Volume of quantity of lumber/ply wood in stock (m ³)	Value of lumber/ply wood volume in stock (GH¢)
57	Tectonagrandis	Teak	17	92
58	Ricinodendronheudelotii	Wama	17	99
59	Macarangaheudelotii	Opamnini	15	76
60	Afzeliaafricana	Papao	15	60
61	Blighiasapida	Akye	12	74
62	Turraeanthusafricanus	Apapaye	10	75
63	Lanneawelwitschii	kumenini	9	47
64	Entandrophragma utile	Utile	9	72

- ▶ **Teak species is the last 16 timber species** of the total of 71 species in 29 domestic timber market in Darko-Obiri et al. (2009)
- ▶ **Volume and value of teak species** constituted 0.04% and 0.04% respectively of the total volume (46030m³) and value (GH¢253007) of the 71 timber species traded in Ghana's domestic market in 2009
- ▶ **Low volume of teak species in domestic market** may be attributed to **continuous rise in export of this species to the international market to the disadvantage of the domestic market** (fig 2)

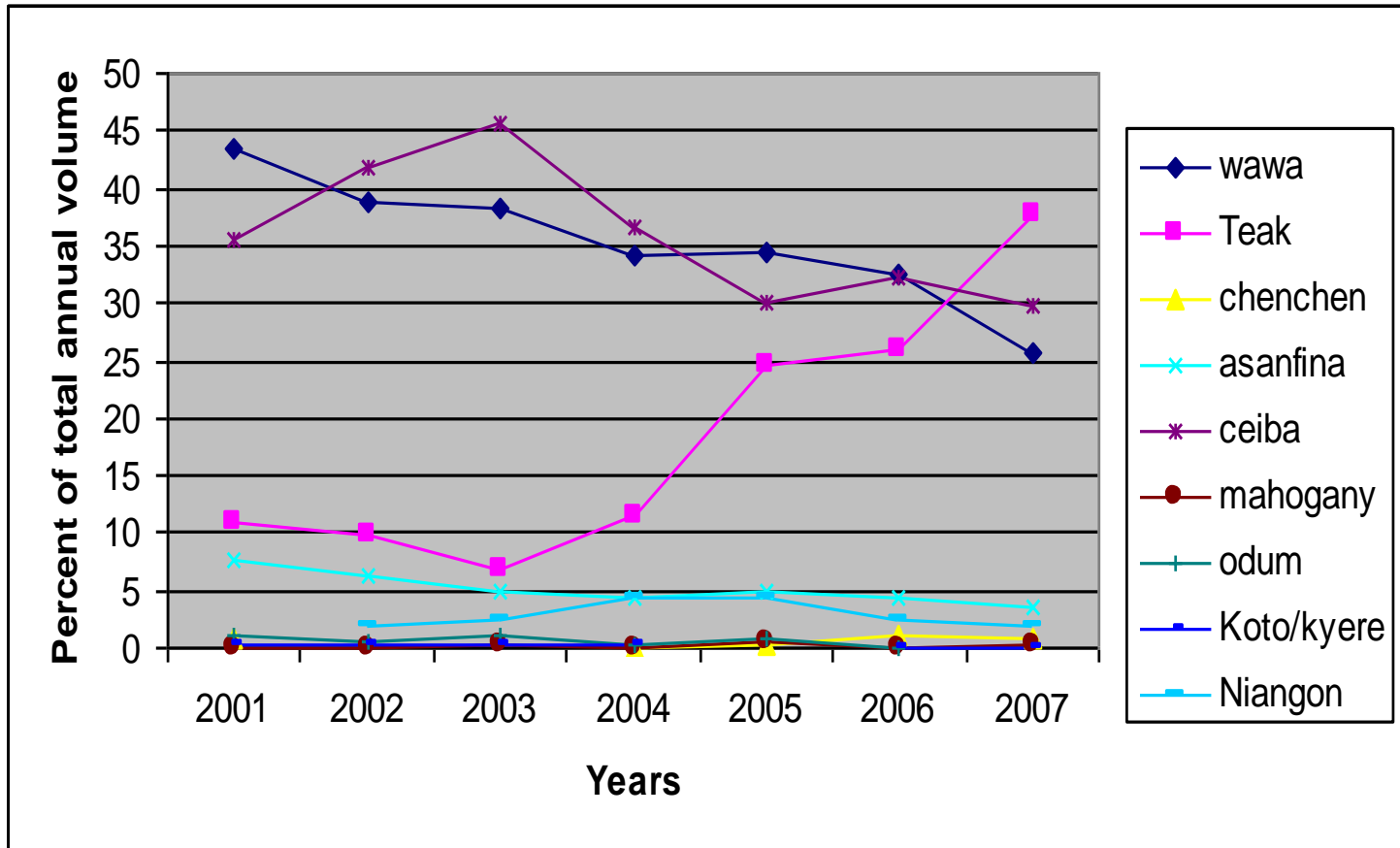


Figure 2: Trends of export of wood species (% of total annual volume) (Owusu and Damnyag 2008)

Carbon monitoring system in Ghana

Ghana has a carbon monitoring system

- Ghana developed its National Reference Level using a continuation of historical trend
- In Ghana's National Forest Reference Level document, the average annual emissions from 2000-2015 was 61.6 million tCO₂e yr⁻¹ and the average annual removal was 610 thousand tCO₂e yr⁻¹.
- Over 66% of emissions due to deforestation,
 - legal and illegal logging made up 28% combined.
 - Fuelwood and forest fire accounted for a minimal percentage of total emissions, making up just 6% and 1% respectively
- Deforestation is the largest source of emissions for Ghana
- It is worthy to note that teak plantations play a significant role in Ghana's carbon stock enhancement activities (REDD+)

SWOT ANALYSIS

The strength of smallholder tree planters are:

- Availability of labour
- Availability of skill mix within the FC
- Experience in implementing various silvicultural and management models of plantation establishment
- Formation and participation in association and networks
- Good international investor experiences
- Availability of lands with suitable soils and climatic conditions for plantation development
- Community enthusiasm in tree planting
- participation in forest fora by local communities

SWOT ANALYSIS

The weakness of smallholder tree planters in Ghana are:

- Inadequate plantation infrastructure
- Inadequate knowledge of best management practices for key indigenous species and mixtures
- Low productivity of existing plantations
- Poor tradition of maintenance of established plantations
- Low capacity of timber processing industry
- Inadequate extension services
- Small nature of land size of smallholder plantation leading to high transaction cost
- Inability of smallholder plantation developers to register their plantation with the FC(government) to secure property rights

SWOT ANALYSIS

Various opportunities exist for small holder tree planters.

These include

- Availability of genetically improved planting material of high-value exotic timber species in other countries
- Knowledge in best practice in plantation management exists and can be acquired
- Strong political will to create jobs through plantation development
- Increasing demand for industrial timber and other wood products
- Availability of Carbon market and payment for environmental services
- Over 60% of the population of Ghana are farmers and offer opportunities for agro-forestry
- Political and economic stability

SWOT ANALYSIS

There are a number of threats affecting smallholder tree planters. These include

- Lack of investment in research and development
- Low stumpage prices of naturally grown timber
- Multiplicity of interest and rights in land ownership off-reserve
- Lack of sustainable financing
- High cost of capital and unwillingness to extend long term credits for Forest Plantation Development
- Illegal farming within forest reserves
- Free-range cattle grazing
- Destruction of forest plantation by wildfires
- Pests and diseases
- Illegal Mining activities

Conclusion

- The report considered smallholder tree planting in plantations and in agro forestry system and their opportunities and challenges in Forest Landscape Restoration in Ghana.
- The key finding is that there is a high potential for smallholder tree planting in agro forestry and in plantation to contribute meaningfully to forest landscape restoration in the country-
 - Providing sustainable bio economy
- The international forest and climate change policies and programmes that the country commit itself to implement
- This finding is supported by the domestic tree planting programmes and strengthening of existing policies and laws in the country.

Thank you
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