

GHANA'S POSITIVE EXPERIENCE IN FOREST MANAGEMENT PLANNING FOR INCREASING BIOMASS SUPPLY AND CONTRIBUTING TO FOREST LANDSCAPE RESTORATION AND CONSERVATION

BY

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1.0 GENERAL INTRODUCTION

Historically Sustainable Forest Management in Ghana has varied over time with changes in social, political and economic conditions.

A decline in Forest Management practices in the past posed a hindrance to sound environmental conservation.

Factors that militated against Sustainable Forest Management included the following;

- The absence of a clearly defined management objective to focus management prescriptions.
- Multiplicity of interests over lands under timber concessions outside forest reserves
- Mass clearing of forests in the 1960s for agricultural purposes particularly cocoa plantations, which had then become a very attractive industry.
- Inadequate legal framework to control indiscriminate felling of trees outside forest reserves.

2.0 POLICY AND LEGAL REGULATORY FRAMEWORK FOR FOREST MANAGEMENT PLANNING IN GHANA.

2.1 POLICY FRAMEWORK

- The colonial 1948 forest policy allowed for limited control of timber exploitation in un-reserved lands.
- The 1994 Ghana forest and wildlife policy sought to maintain and improve timber production potential of all forest resources including those not dedicated to permanent forestry. This change in policy was precipitated by several factors some of which were:
 - Increased pressure on forestland for agricultural purposes,
 - Growing concern for ecological importance of biodiversity,
 - The need for Institutional reforms

POLICY FRAMEWORK

- Increasing need for wider stakeholder participation in resource management.
- The then global concern about the environment and national development as reflected in various international conventions.
- The role of forestry in promoting rural development
- The concept of people's participation in the forest resource management and environmental conservation in general.

2.2 THE CURRENT FOREST AND WILDLIFE POLICY

- The most current Forest and Wildlife policy was formulated in 2012 to achieve the following objectives;
- Managing and enhancing the ecological integrity of forest, Savannah, wetlands and other ecosystems.
- Promoting the rehabilitation and restoration of degraded landscapes through forest plantation Development, enrichment planting and community forestry.

THE CURRENT FOREST AND WILDLIFE POLICY

- Promoting and developing mechanisms for transparent governance, equity sharing and peoples' participation in Forest and Wildlife Resource Management.
- Promoting the development of viable forest and wildlife-based industries and livelihoods, particularly in the value-added processing of forest and wildlife resources.
- Supporting the implementation of the forest and wildlife policy objectives and programs

2.3 LEGISLATIVE FRAMEWORK

- The enactment of the new Timber Resources Management Act 1997 (Act 547) of 1997 and later its related Legislative Instrument, LI 2254 of 2017 namely Timber Resource Management and Legality Licensing Regulations, have replaced the concession system with a process of competitive tender under the Timber Utilization Contracts.
- The TUC system obliges operators to work within the framework of prescribed environmental and resource conservation standards and these are seen in the areas of;
- minimization of logging residue;

LEGISLATIVE FRAMEWORK

- minimization of residual tree damage during logging
- contribution towards the socio-economic development of communities in operational areas,
- commitment to landscape restoration to mitigate the possible adverse, environmental impacts of their operations and
- Protection of rivers, streams and biodiversity in general.

3.0 SIGNIFICANCE OF SUSTAINABLE FOREST MANAGEMENT PLANNING

- Sustainable Forest Management thrives on the development of management plans which are significant for achieving the following;
- Setting out approved management objectives and specified actions to facilitate communication to the resource owners.
- Translating national forest policies into a well thought-out strategic framework that facilitates the preparation of annual operational programs for sustainable management of Forest Reserves.

SIGNIFICANCE OF SUSTAINABLE FOREST MANAGEMENT PLANNING

- Regulating forestry activities for a set period through the application of prescriptions that specify targets, actions and control arrangements.
- Forming part of the general forest management system that regulates protection, inventories, yield determination, harvesting, silviculture, conservation, monitoring and control and other operations.
- Providing continuity in managerial operations over time to formalize institutional arrangements and provide a basis for monitoring forest activities.

4.0

4.1 SUSTAINABLE FOREST MANAGEMENT PLANNING FOR BIOMASS SUPPLY AND LANDSCAPE RESTORATION (HISTORICAL PERSPECTIVES)

- The Forest Ordinance Cap 157 of 1927 allows forest fringe communities to extract dead wood from the Forest Reserves for domestic consumption as a communal right.
- Forest plantation in Northern Ghana (Upper East, Upper West and Northern Regions) estimated to cover 2,553 ha were primarily established for fuel wood production and environmental protection.
- In the coastal savannah zone, a number of wood-fuel reserves were established to serve as a sustainable source of supply of wood fuel for use in smoking by members of the vibrant fishing industry.

NS- Northern Savanna, CS- Coastal Savanna

Table I list of wood-fuel plantations in the Northern and Coastal Savanna zones of Ghana

Name of Forest Reserve	Name of Forest District	Name of Community	Region	Ecological Zone	Size(Ha)
Buligu	Yendi	Yendi	North	N/Z	5,670
Morago River	Gambaga	Nasia	North	N/Z	3,976
Singsagble Wuni	Tamale	Zoborgo	North	N/Z	7,380
Nassia Trib	Walewale	Nasia	North	N/Z	31,469
Yereda	Damongo Bole	Banda	North	N/Z	42,481
Fiankonya	Tema / Ada	Ayikuma	Greater Accra	C/S	552
Dechidaw	Tema / Ada	Afienea	Greater Accra	C/S	368
Chipa	Tema/Ada	Kodiabe	Greater Accra	C/S	2,414
Yenku	Winneba	Onyadze	Central	C/S	2,120
Senya Breku		Senya Breku		C/S	104
Gomoa Akyenfo		Mumford		C/S	266
Winneba State		Winneba		C/S	160
Brimso	Cape Coast	Brimso	Central	C/S	1,062
Ankaful Woodfuel	Cape Coast	Akutuase	Central	C/S	210
Komenda Woodfuel	Cape Coast	Komenda	Central	C/S	210
Inchaban	Takoradi	Inchaban	Western	C/S	254
					98,696

From the table, these inferences can be drawn;

Ghana reserved total Forest Reserve area of **2,408,346 Hectares**, out of which **98,696 (4.09%)** was deliberately dedicated to wood-fuel production.

4.2 DEVELOPMENT OF PRIVATE WOODLOTS THROUGH THE RURAL FORESTRY INITIATIVE

- The defunct Forestry Department established a rural forestry unit in the early 90s to promote the development of private woodlots across the country
- The rationale was to reduce the pressure on Forest Reserves by providing opportunities for individuals and communities to develop woodlots to satisfy their own domestic wood energy requirements
- The Forestry Department provided technical advice, free seedlings, and world food program commodities such as rice, sardines and cooking oil as incentives for sustaining the interest of rural farmers.
- The intervention rather made wood readily available for commercial charcoal production in parts of the country.

Trees harvested from a private plantation for Charcoal Production



5.0 CURRENT PERSPECTIVES OF STAKEHOLDER PARTICIPATION IN LANDSCAPE RESTORATION FOR INCREASING BIOMASS PRODUCTION

5.1 INTERNAL INSTITUTIONAL ARRANGEMENT

Under the auspices of the Ghana Forest Plantation strategy wood fuel plantation development currently focuses in the Savanna and transitional zones due to the following reasons;

- i. Ecologically fragile nature of these zones
- ii. The prevalence of commercial and unregulated charcoal production in these areas. Revenues generated from the issuance of charcoal conveyance certificate is spent on seedling production for free supply to private woodlot developers who own degraded landscapes in these areas and are willing to dedicate them to the establishment of woodlots

TREE SEEDLINGS DISTRIBUTION BY FORESTRY COMMISSION FOR 2018/2019

REGION	DISTRICT	2018	2019	SPECIES RAISED
		Seedlings Distributed	Seedlings Distributed	
GT. ACCRA	Tema	32,420	41,461	
EASTERN	Donkorkrom	52,723	45,360	cassia, Teak, Albizia lebbeck, Blighia sapida.
	Somanya	30,000	19,925	cassia, Mahogany,
	Begoro	-	12,509	Blighia, Cassia, Royal Palm, Adenantha, mimusop, Bauhinia, rain tree, Montalis, Teak, Polyalthia,
VOLTA	Nkwanta	16,150	16,972	
	Denu/Sogakope	-	50,000	Mahogany, Teak, Cassia, Acacia,
	Jasikan	-	33,500	Teak and Cassia
BRONG AHAFO	Atebubu	50,000	50,000	Cassia, Acacia
	Kintampo	42,530	28,906	Mahogany, Neem, Cassia
	Sunyani	-	27,925	
NORTHERN	Bole	36,017	25,650	
	Buipe	19,194	8,082	Cassia

TREE SEEDLINGS DISTRIBUTION BY FORESTRY COMMISSION FOR 2018/2019

NORTHERN	Tamale		48,324	
	Walewale	-	19,250	Mahogany, Teak, Cassia
	Yendi	-	60,000	
UPPER EAST	Bolgatanga		9,978	
	Bawku	-	-	
	Navrongo	-	30,000	cassia, Albizia lebbeck, Mahogany
UPPER WEST	Lawra	37,520	55,925	
	Tumu		15,027	Cassia, Gmelina, Eucalyptus, Neem
ASHANTI	Offinso		16,286	Neem, Teak
	Kumawu	-	-	
	Mampong	6,102	39,030	
CENTRAL	Winneba	-	17,502	Cassia siamea only
TOTAL		322,656	671,612	
				19

5.2 FOREST FRINGE COMMUNITIES THROUGH THE MODIFIED TAUNGYA APPROACH

- The Modified Taungya System component of the National Forest Plantation Development Programme (NFPDP) was an innovation which was introduced to provide a form of incentive to farmers in the forest fringe communities to engender and sustain their interest in the degraded forest restoration agenda.
- It was therefore deliberately and technically designed on the basis of a governance structure of project implementation which involved community farmers from decision making through project operations to benefit sharing.

FOREST FRINGE COMMUNITIES THROUGH THE MODIFIED TAUNGYA APPROACH

- This new approach which could best be described as Forestry of the people, by the people, and for the people marked a departure from the old traditional system in which farmers were entirely excluded from decision making and only allowed a maximum period of three to four years to stay on the same parcel of land allocated to them to cultivate and harvest prescribed food crops from among tree crops after which they were ejected from the land at a time the tree canopy would have closed.

FOREST FRINGE COMMUNITIES THROUGH THE MODIFIED TAUNGYA APPROACH

- The Modified Taungya System is therefore a paradigm shift in sustainable forest management in Ghana which was a colonial legacy characterized by a policing mentality and strictly devoid of stakeholder participation with an avowed intention to satisfy the technical and financial aspirations of Technical bureaucrats and the Central Government respectively.



Degraded areas in Yaya and Tromeso Forest Reserve before restoration



Degraded areas in Yaya and Tromeso Forest Reserve before restoration



PLANTED SITES IN YAYA FOREST RESERVE



Firewood harvesting at logged plantation site



UTILISATION OF LOGGING OFFCUTS AND DEBRIS FOR CHARCOAL PRODUCTION



REJECTED PIECES OF WOOD USED FOR FENCING AND CONSTRUCTION OF FOOD STORAGE BARNES IN THE FARMING COMMUNITIES



BEEHIVES FOR HONEY PRODUCTION AT THE PLANTATION SITE



Extension of the National Electricity Grid through communal funding from the sale of trees



5.3 INSTITUTIONAL COLLABORATION FOR THE DEVELOPMENT OF WOODLOTS IN EDUCATIONAL INSTITUTIONS

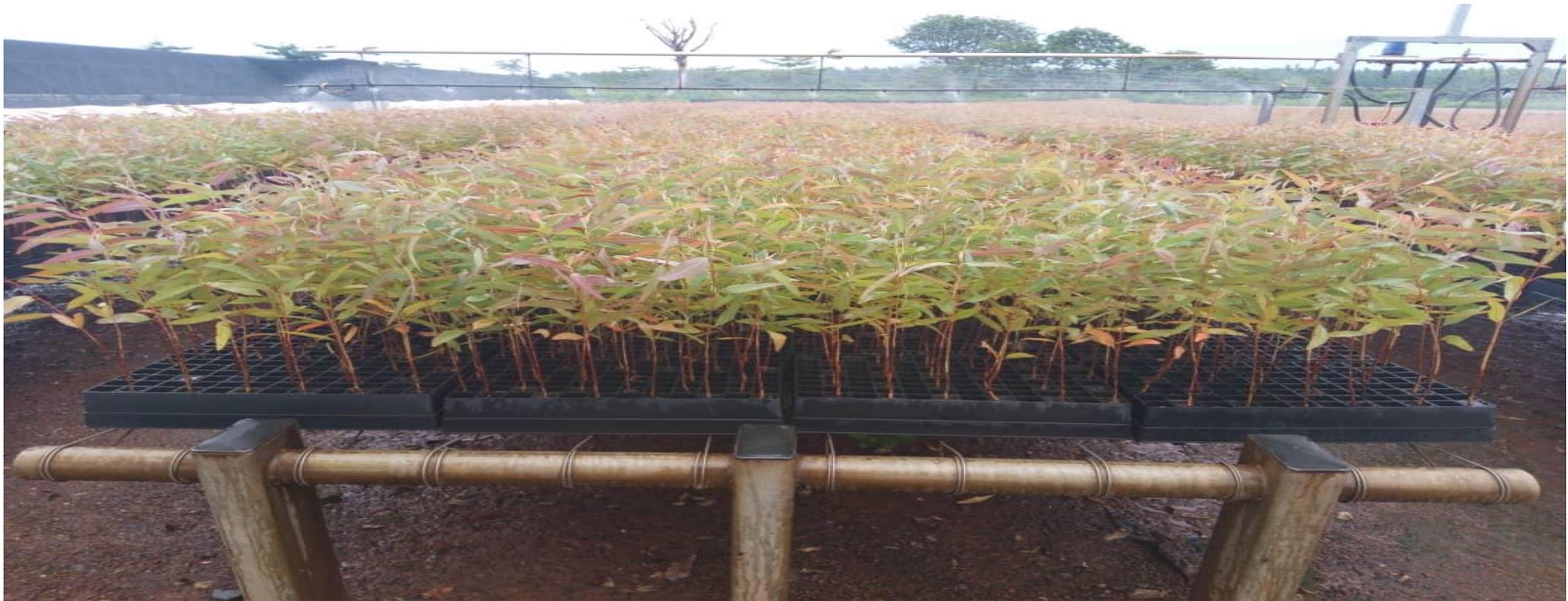
- There is a collaboration among the Forestry Commission, Energy Commission and the Ghana Education Service to establish forest plantations in basic and Senior High Schools across the country
- In 2019, 103 selected second-cycle institutions across the country were given education on environmental conservation and supported to establish a total of 153ha of woodlots with seedling from the 24 model nurseries under the Woodlots for School Project

5.4 PRIVATE SECTOR INVOLVEMENT IN THE DEVELOPMENT OF ENERGY PLANTATIONS

- A total of 300,000 hectares of land have been acquired by African Plantations for Sustainable Development (APSD) outside the Forest Reserve for energy plantations development
- This said project has employed about 1,700 labor force.
- APSD has constructed quite a sizeable number of brick kilns in charcoal-endemic communities within its catchment area for promoting sustainable charcoal production
- Environmentally APSD has established 18,500 hectares of different species of Eucalyptus and 500,000 hectares of Acacia species















6.0 FUNDING FOR SUSTAINABLE WOOD FUEL (CHARCOAL) PRODUCTION IN GHANA

- Under the Forestry Development Master Plan (FDMP), and support from the Forest Plantation Development fund, funding will be directed towards activities that will ensure that:
- Harvesting and production of wood fuels and other non-timber forest products (NTFPs) would be done within sustainable limits on both reserve and off-reserve production areas in the savannah ecosystem.

FUNDING FOR SUSTAINABLE WOOD FUEL (CHARCOAL) PRODUCTION IN GHANA

- Production, transportation and marketing of wood fuel would be done through licensed Individuals, Groups and Enterprises.
- Standards and regulation will guide the production and marketing of wood fuels.
- Wood fuels Tracking Systems would be put in place to promote wood fuel certification system.
- The efficiency of wood fuel production and carbonization process would be improved.
- Efficient technologies for utilization of wood residue for energy technology transfer and efficient technology for carbonization process would be improved.

7.0 STRATEGIC ACTIONS AND TARGETED AREAS FOR ENSURING SUSTAINABLE WOOD FUEL (CHARCOAL) PRODUCTION IN GHANA

- Under the Forestry Development Master Plan, the recommended actions that shall be targeted to promote sustainable management of wood fuels in the savannah woodland shall include the following;
- Develop a participatory/regulatory framework for the sustainable management for savannah woodland management by 2020.
- Enact the necessary legislation and build the necessary institutional support to ensure that wood-fuels from forest reserves, private and communal lands are managed according to national forestry development objectives and resource owners' priorities by 2020.

STRATEGIC ACTIONS AND TARGETED AREAS FOR ENSURING SUSTAINABLE WOOD FUEL (CHARCOAL) PRODUCTION IN GHANA

- Develop standards and a chain of custody to ensure that commercial production and trading of wood fuel conforms to sustainable forest wood fuels regulations by 2020 (MLNR, 2016).
- Enact the necessary legislation and build institutional capacities to ensure that commercial production of wood fuels is certified by the Forestry Commission by 2025.

STRATEGIC ACTIONS AND TARGETED AREAS FOR ENSURING SUSTAINABLE WOOD FUEL (CHARCOAL) PRODUCTION IN GHANA

- Improve efficiency of wood fuel production by adopting kilns and other improved technologies for sustainable energy supply by 2025.
- Promote research and development programmes for commercially viable wood fuels by 2025.
- Build capacity of fuel wood producing communities, NGO's, CBOS, Women Groups and other identifiable groups to establish and effectively manage wood fuel plantations (including Bamboo) by 2025 (MLNR, 2016)

8.0 INCENTIVES FOR PROMOTING FOREST LANDSCAPE RESTORATION FOR INCREASING BIOMASS SUPPLY

- Establishment of Forest Plantation Development Fund, Act 583 of year 2000
- Supply of free Tree seedlings to farmers.
- Provision of free Technical advice by the Forestry Commission technical staff for forest plantation development.
- Payment for services rendered under the Modified Taungya System for Forest Plantation Development.

INCENTIVES FOR PROMOTING FOREST LANDSCAPE RESTORATION FOR INCREASING BIOMASS SUPPLY

- Payment of 40% of the stand value of Trees cultivated under the Modified Taungya System.
- Registration of planted trees to give assurance of ownership.
- Capacity building of community farmers in basic forestry and agronomic practices as well as post harvest management of farm produce.
- Capacity building in alternative livelihood development schemes such as beekeeping, livestock and grasscutter rearing.

9.0 CONCLUSION

- Both the 2012 Forest and Wildlife policy and the much related Forestry Development master plan are very clear about the commitment of the government of Ghana to promoting a sustainable wood energy industry.
- This however obviously goes beyond the promulgation of the policy and subsequent development of the masterplan as the blue print to guide policy implementation.
- It is anticipated that, the relevant legislations will be put in place to support current efforts to achieve the much foreseeable expected results in the not-too-distant future.