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Session A-01 : **TEAKNET PARTNER EVENT**

Mainstreaming High Quality Timber Production from Planted Teak Forests and Efforts for Conservation of Teak Genetic Resources

Organizers : **TEAKNET ,**
IUFRO TEAKWOOD WORKING PARTY (Div 5.06.02)
FOOD AND AGRICULTURE ORGANISATION (FAO)

Teak Plantations in Modified Taungya System (MTS): One of the strategies for Forest landscape restoration (FLR) in Ghana

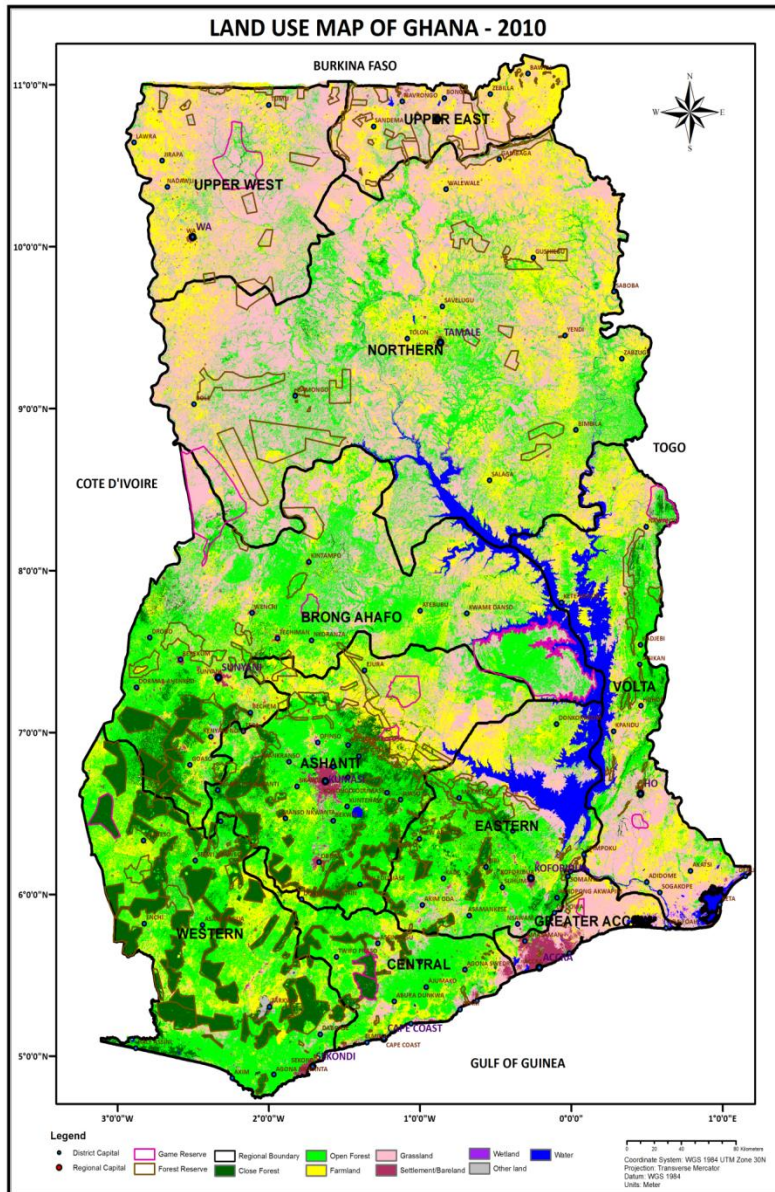


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Outline of Presentation

- Introduction
- Policies and strategies for Forest plantations and landscape restoration in Ghana
- The importance of *Tectona grandis* (Teak) in forest plantations in Ghana
- Teak in Modified Taungya Forest plantation as a landscape restoration strategy
- Contribution of MTS to FLR in Ghana

Introduction



FORESTS IN GHANA

- Total land area: 238,535 km² .
- Land owned by the traditional Chiefs and people
- Approx. 18% of land managed as forest reserves and wildlife parks by government agencies
- Managed by FC Divisions : FSD, TIDD , WD Supported by RMSC, TVD , CCU , FCTC
- Forestry Research Institute - CSIR provide research support
- Forest Plantations covered approx. 200,000 ha at the end of 2016

SOURCES OF PLANTATION TIMBER

Forest reserves : Forest plantations

Off reserve : Trees on farms /cocoa /community plantations /Dedicated forest, Forest plantations /agroforestry schemes

Year	Policy /Legislation
1994	Forest and Wildlife Policy
1994	Forestry Development Master Plan
1998	<ul style="list-style-type: none"> ➤ . Ghana: Biodiversity Conservation Strategy. MEST, 1998 ➤ Natural Resource Management Programme (NRMP I) Phase I, the World Bank,
1999	The High Forest Development Component of the NRMP I established a Forest Plantations Development Centre (FPDC) to promote and encourage private forest plantation development
2000	Forest Plantation Development Fund (FPDF) Act, Act 583
2002	Forest Plantation Development Fund(Amendment) Act, 2002, Act 623 (items (iii), (iv) and (v) support public and private investment in forest plantation development
2002	The Timber Resources Management (Amendment) Act, 2002, Act 617 (excludes private forest plantations from being allocated by government under a Timber Utilization Contract (TUC)
2012	Ghana Forest and Wildlife Policy
2012	National Climate Change Policy, 2012 (REDD+)
2016	Ghana Forest Plantation Strategy : 2016 -2040

- Ghana is committed to the **AFR100 for Africa** which is a regional implementation platform for the Bonn Challenge .
 - The Bonn Challenge is a global effort which originally sought to restore 150 million hectares of the world's deforested and degraded land by 2020 and has now been extended to 350 million hectares by 2030 by the New York Declaration on Forests
- In Kigali 2016 at the Ministers roundtable conference Ghana agreed, signed and committed to convert two million hectares of degraded and deforested lands under landscape restoration initiative

Ghana's two million target is based on the national goals and targets already agreed in the National plantation strategy 2016 to 2040 to establish and manage 625,000 ha of forest plantations and 100,000 ha enrichment planting and 3.75 million hectares of agricultural landscapes, by year 2040 through the application of best practice principles.

Forest Plantation Programmes

PROGRAMME COMPONENT	FUNDING SOURCES
Modified Taungya System (MTS) including Community Forestry Management Project	Communities and farmers, Forest Plantations Development Fund Management Board(FPDFMB), FC, GoG, AfDB , FIP
Government Plantation Development Project	GoG (HIPC) , (GPDP)
Private Commercial Plantation Development	Private Funds, FPDFMB
Public – Private Partnership (PPP)	Private Funds, FC
Model Plantations	GoG / NREG/Forest Investment program(FIP)
Expanded Plantation Program	GoG, EDAIF, FPDFMB, FC
Climate smart Cocoa and Agriculture	GOG, FIP, farmers and donor partners

Past efforts on plantation development with highlights on teak

Year	Plantation programme
1898	Introduction of cedrella from the caribbean
1905	Tectona grandis (teak) trials were undertaken under the German administration in the Volta Region (Kadambi, 1972).
1920s	Planting of mainly indigenous species in the High Forest Zone (HFZ). Exotic species tried included Eucalyptus torelliana and Eucalyptus tereticornis for fuel wood and to fuel boilers for electricity generation or for mining use.
1946	Enrichment plantings to improve the stocking of the poorly stocked Wet Evergreen forest reserves as well as to sustain the supply of the then “desirable” species. Khaya, Entandrophragma, Lova and Heritiera species were used
1951	Exotic species were tried in the savannah zone to supply timber, poles and fuel wood. Species included Azadirachta indica, Senna siamea, Cedrela mexicana, Dalbergia sissoo, Gmelina arborea, and Tectona grandis.
1963 to 1987	Establishment of plantations through the Taungya system with the support of communities by the then Forestry Department. Electricity poles that were harvested and used for the rural electrification scheme came from these plantations
Early 1990s	Establishment of Teak provenance trials and clonal seed orchards by FORIG and then Planning Branch Forestry Department
2002 to date	Establishment of Modified Taungya plantations with communities with teak as the major species
2015 to Date	Forest Investment Programme new provenances being used for orchards :Hojancha CATIE 278/14A-02, Santa Alicia ,CATIE 194/16G-41 Penas Blancas CATIE 212/15D-11

Species used in forest plantations in Ghana

Year	Area planted (ha)	Species planted over years
2011	10,198.08	Exotic Species = 15,567,006 (95%) Indigenous Species= 496,794 (3%) Fruit Trees = 361,134 (2%) Teak, Eucalyptus, Cedrela, Ofram, Emire, Mahogany, Kusia, Odum , Ceiba
2012	8,529.07	Exotic Species = 11,216,210 (94.6%) Indigenous Species= 394,022 (3.3%) Fruit Trees = 250,494 (2.1%) Teak, Eucalyptus, Cedrela, Wawa, Mansonia, Ofram, Emire, Mahogany, Kusia, Odum ,Kokrodua, Ceiba, Makore, Alanblakia, Apro, Utile, Akata, Sapele, Otie, Patrodom,Albizia, Koto, Akasa, Edinam,Pine, Asanfena, Odanhoma
2013	7,000.66	Teak, Eucalyptus, Cedrela, Wawa, Mansonia, Ofram, Emire, Mahogany, Otie, ,Albizia, Edinam , Asanfena
2014	8,283.07	Teak, Eucalyptus, Cedrela, Wawa, Mansonia, Ofram, Emire, Mahogany, Kusia, Odum ,Kokrodua, Ceiba, Makore, Alanblakia, Apro, Utile, Akata, Sapele, Otie, Patrodom,Albizia, Koto, Akasa, Edinam, Pine, Asanfena, Odanhoma, Tweapia, Bamboo, Kola, Hydeua, Kyenkyen, Potradom
2015	5,494.74	Teak, Eucalyptus, Cedrela, Wawa, Mansonia, Ofram, Emire, Mahogany, Kusia, Odum ,Kokrodua, Ceiba, Makore, Alanblakia, Apro, Utile, Akata, Sapele, Otie, Patrodom,Albizia, Koto, Akasa, Edinam,Pine, Asanfena
2016	6,726.64	Exotics 80% Indigenous ; 20% Teak, Eucalyptus, Cedrela, Wawa, Mansonia, Ofram, Emire, Mahogany, Kusia, Odum ,Kokrodua, Ceiba, Makore, Alanblakia, Apro, Utile, Akata, Sapele, Otie, Patrodom,Albizia, Koto, Akasa, Edinam,Pine, Asanfena, Odanhoma

Why Teak ?

Approximately 80% of forest plantations is Teak

The government agencies , communities, farmers and private developers indicate the following

- Fast growing for economic returns
- Fire resistant
- Poles from thinning used for electricity transmission
- Landscape restoration using Modified Taungya plantations
- NTFPs survive under shade after canopy closure
- Medicinal uses of the leaves etc.....

Black Pepper

(Piper nigrum)



Grains of Paradise

(Aframomum melegueta)



Further student research and experiments ongoing with the support of University of Energy and Natural Resources, Ghana and University of Amsterdam on production and marketing

- Modified Taungya System (MTS) is a co-management system between the Forestry Commission and smallholder farmers that allows inter-cropping of timber and food crops in forest reserves
- The farmers are permitted to cultivate their food crops which are inter planted with the tree crops on the same piece of land until canopy closure .

In addition to the food crops they harvest short term ,

- Farmers have a 40% share in the Standing Tree Value (STV) of the planted trees in the long term.
- The Government has a 40% share while the
- landowners has 15% and
- community receives 5% as Social Responsibility Agreement
- Non timber forests products under shade for mid term benefits

**Teak in Modified Taungya Plantation:
A good option for Forestry Landscape Restoration in Ghana**

Forestry Landscape restoration (FLR) has been identified as one of the key pillars for ensuring sustainable forest management in Ghana

A good FLR approach should recognize and understand better understand and recognize the interconnections between various land uses and stakeholders by integrating them in a joint management process (Global Landscapes Forum 2014).

The forestry landscape in Ghana is complicated and requires more than just returning degraded areas to forest

There is intense human activity (legal and illegal) in all landscapes thus restoration has to take into account human well being and ongoing change

Activities in MTS	Contribution to FLR
1. Intercropping of trees and food crops	<p>Opportunity for farmers facing land scarcity for farming Food crops for subsistence and commercial use (plantation , cocoyam</p> <p>Job creation</p> <p>ecological integrity</p> <p>maintained or increased forest land area(reduced deforestation)</p> <p>maintained or increased forest carbon density</p> <p>Reduced wildfire incidences</p>
2. Incorporation of NTFPs Black pepper, ginger, wild yam	Mid term income , food crops and continued protection of trees
3. Production of poles and timber	Short term income from poles and teak
4. Continuous maintenance and protection	Capacity building for frontline staff and farmers on silvicultural practices and indigenous knowledge

THANK YOU

