GHANA'S JOURNEY TOWARDS CARBON EMISSION REDUCTIONS -

HIGHLIGHTS OF STEPS AT COUNTRY LEVEL

ROBERT BAMFO
HEAD, CLIMATE CHANGE UNIT/
NATIONAL REDD+ SECRETARIAT
FORESTRY COMMISSION, GHANA

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Background

- Official deforestation rate has been estimated at 2% per annum since 1990 (FAO, 2010).
- Forest area in 2000 was 6.1 million hectares of which 1.6 million hectares were forest reserves and the rest were off-reserves.
- Status of REDD+ implementation in Ghana
  - Demonstration projects
  - Institutional framework
  - Implementation arrangements
  - MRV/REL/Registries
  - SESA etc

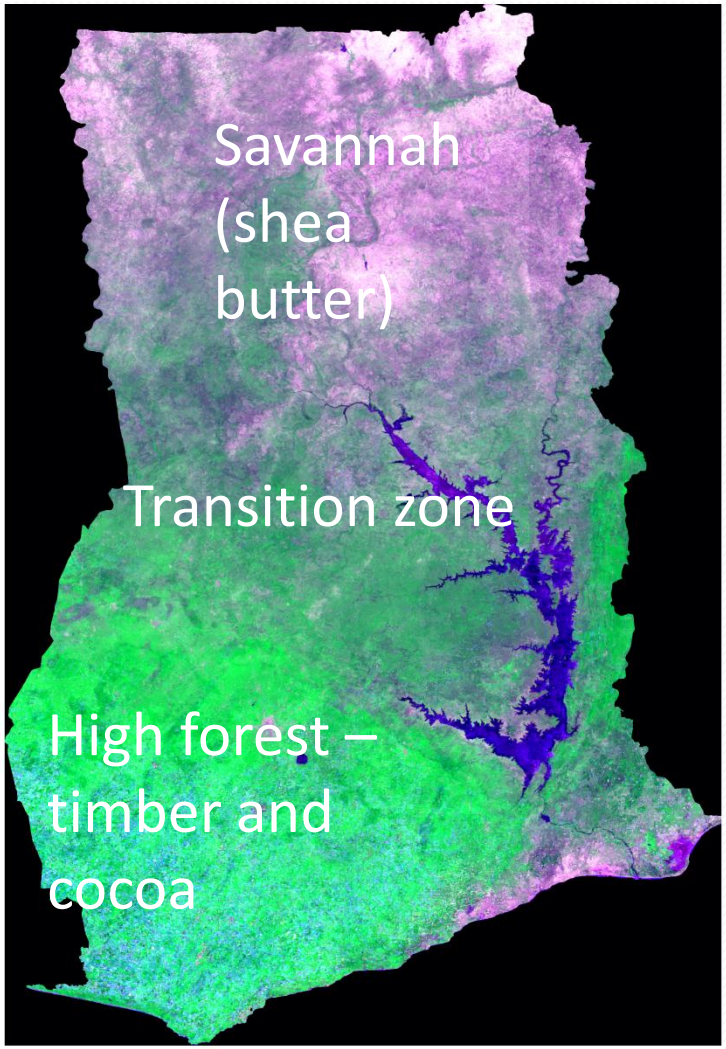
Sub-national REDD+ Implementation

- Ecological zonation as the practical option for sub-national programme/project approach
- Why?
  - Reflect different rates and drivers of deforestation and forest degradation
  - Institutions and key stakeholders available to support implementation at this sub-national level
  - Least complicated of the available options

Potential REDD+ Models - Cocoa & Shea Landscape Study Areas

COCOA

- Cocoa mainstay of the Ghanaian economy and of small-scale livelihoods.
- Cocoa production is projected to decline by the year 2020 if action not taken
- Cocoa areas are located in high forest zone
- Potential for reducing deforestation in 1.4 million ha



SHEA

- Shea butter is the end product
- Important as agribusiness model;
- Important source of local livelihoods;
- Potential for replication in savannah areas that make up 66% of REDD+ landscape
- High biodiversity value, savannah is climax vegetation

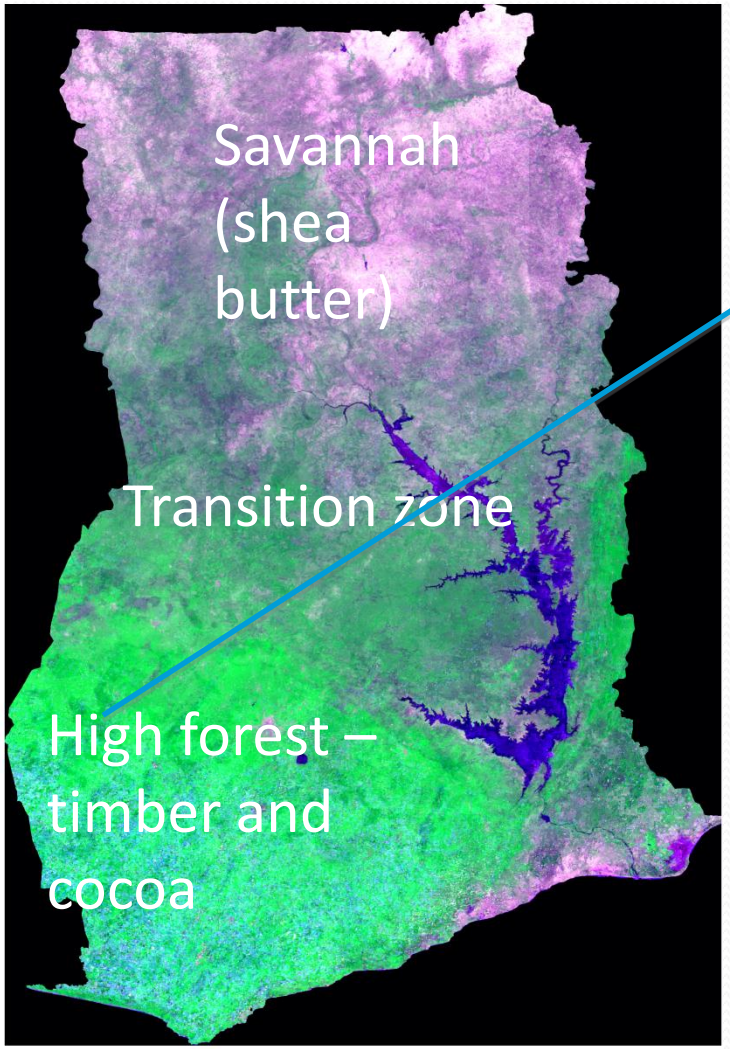
COCOA REDD+ Program: High Forest REDD+ Project

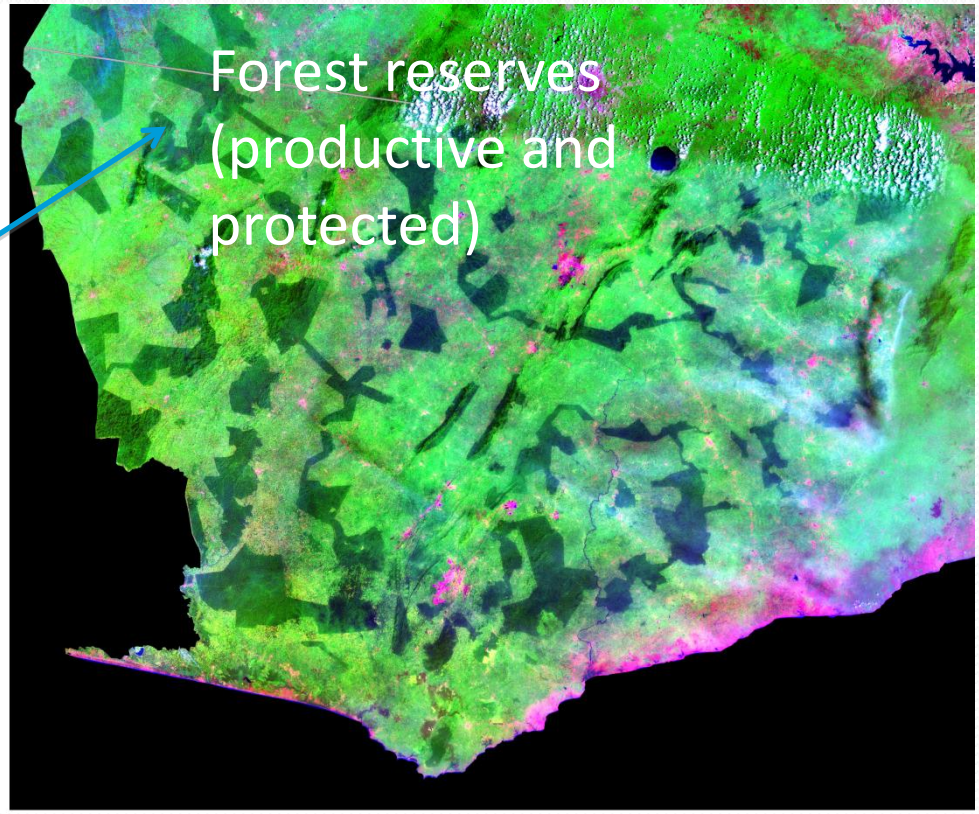
- Cocoa landscape Emission Reduction Programme
  - Analysis of base case
  - Reference level setting
  - REDD+ Intervention
  - Governance structure (land tenure, stakeholder consultations, application of safeguards, benefit sharing, implementation structure, SESA)
  - MRV system including National registry with activities implemented sub nationally

Preliminary Analysis of base case

- Cocoa production enclave – Western and Brong Ahafo regions of Ghana.
- Biomass ranges between 50-250 t/ha
- Historical frontier cocoa expansion (1986 to 2000).
- Common Practice (Baseline):
  - Loss of carbon stock within forest is high due to cocoa cultivation(forest degradation) – "forest remaining as forest" transition track through destruction of on-farm trees to allow more sunlight to cocoa canopy
  - Conversion of high stocked productive forest to agriculture (deforestation) – "forest to agriculture" transition track through expansive methods of cocoa cultivation
- Yield can be maximized by different shading regime
- No shade variety of cocoa results in more yield per ha but degrades the soil in the long run

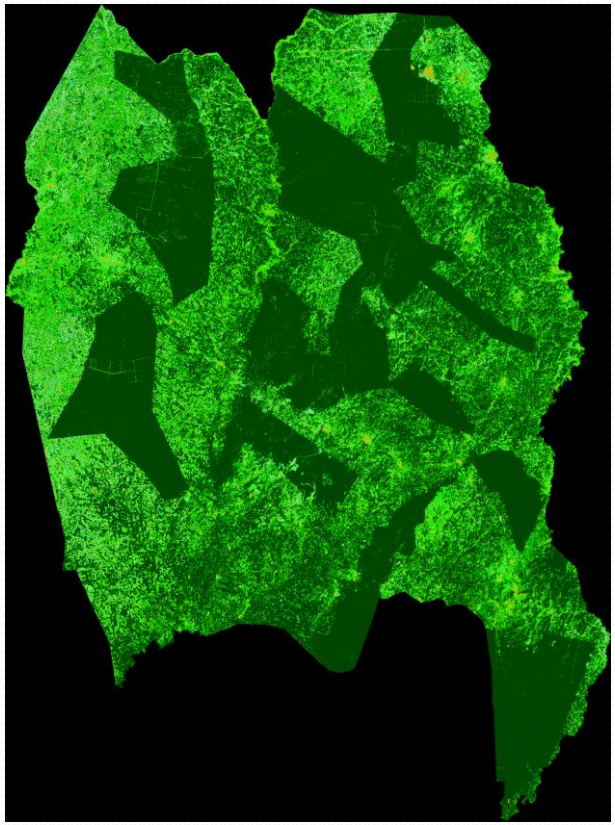
Cocoa Landscape Study Area



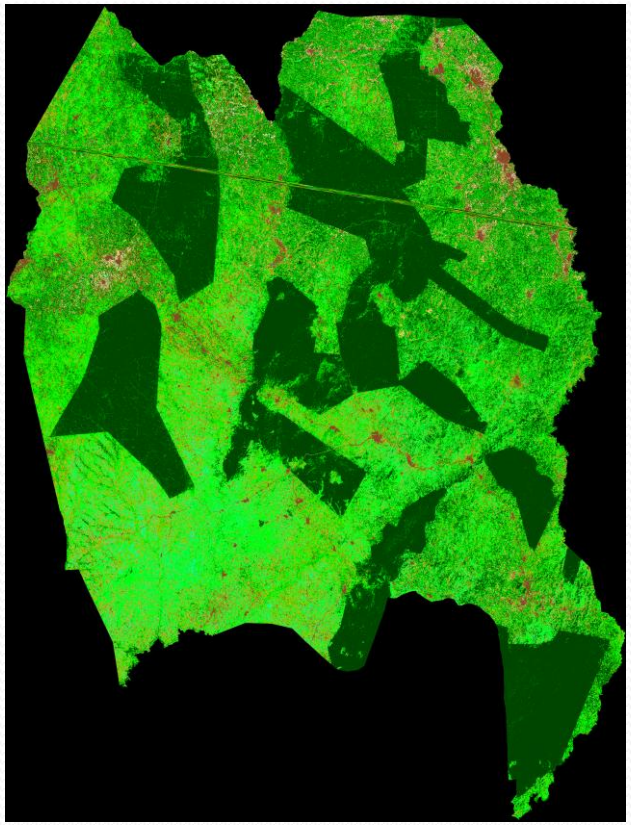


Landscape is a mosaic of cocoa, food crops, forest trees & fallow lands

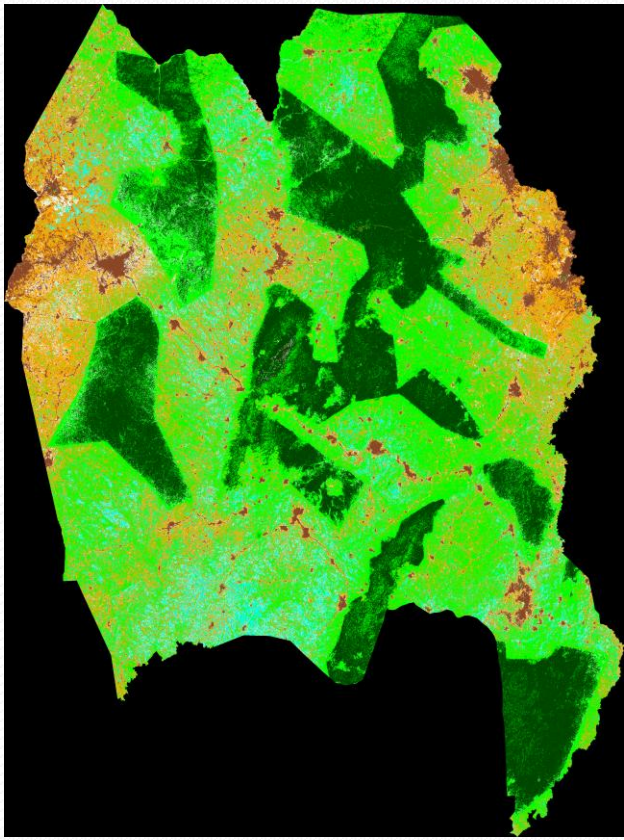
Land use changes (1986 -2010)



1986

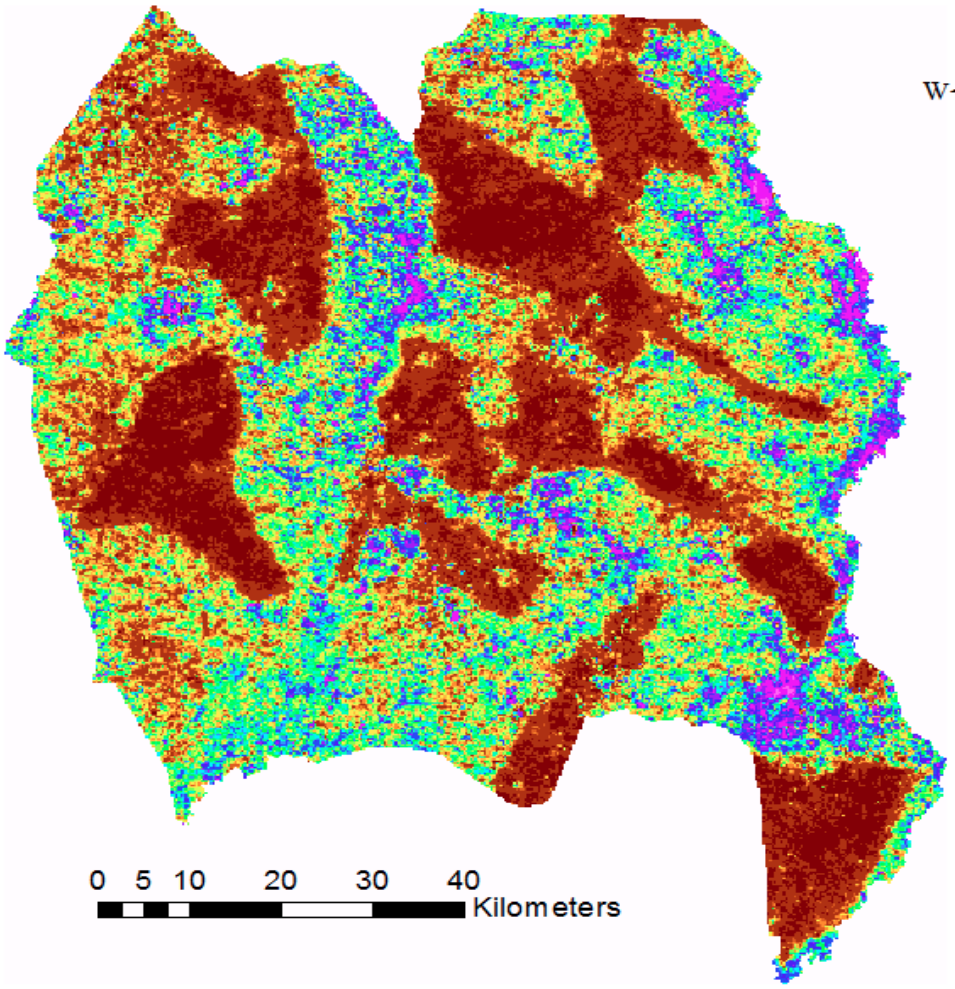


2000



2011

Biomass Map – Cocoa Landscape



Purpose of ER Program

- To avoid deforestation and forest degradation, conserve biodiversity and enhance carbon stocks in the cocoa production landscape through the promotion and dissemination of information and knowledge on best practices in cocoa production.
- To establish well-shaded cocoa agro forest on existing cocoa farms, previously used cocoa farm lands and fallow within off-reserve (designated agricultural) areas in the matrix surrounding the forest reserves.
- Increase cocoa productivity and sustain livelihoods including through partnerships in cocoa processing

Cocoa landscape

Proposed mitigation Measures:

- Reduce area under low shade cocoa (increased area under medium shade through use of shade varieties of cocoa)

Meta-data : Note: cocoa is dominantly found in both agriculture and secondary forest areas

		High shade	Medium shade	Low shade
		20%	30%	50%
Cocoa cover in 1986	228,876	45,775	68,663	114,438
Cocoa cover in 2011 (ha)	459,825	91,965	137,948	229,913
Carbon stocks (tCO2/ha)		107.24	53.92	18.63
Carbon stocks per strata (tCO2)		9,862,334	7,438,135	4,283,273

Cocoa landscape

- Avoided deforestation: Baseline deforestation rate about 0.1% per annum in the study area

Land area particulars	forest	secondary forest	bushfallow	Total
Forest cover in 1986 (ha)	524,734.2	182,669.8	14,364.9	721,768.9
Forest cover in 2011 (ha)	174,841.3	264,728.0	67,543.7	507,112.9
Deforestation Rate				0.1%

Note:
The forest definition thresholds pre-qualifies, forest, secondary forest and bushfallow areas as "forest lands".
Hence, respective “forest lands” has been combine in the total column. However, forest areas are usually under the subject of government protection. Patches of forest also exist forest reserves

- Sustainable Forest Management: addressing illegal logging, reforestation (work in progress)

Preliminary estimate of emission reduction potentials in cocoa landscape and

A. Avoided deforestation by 2021- 1 million tCO_2

B. Carbon stock enhancement in by 2032 – 4 million tCO_2

C. SFM in productive forest by 2021 – to be estimated tCO_2

- Cover a cocoa landscape of 459,825 ha

Potential for the model to be scaled up to 1.5 million ha

Proposed Governance structure

- Implementation structure
  - Public Private Partnership approach to REDD+ initiatives
  - Programme management office (Forestry Service Division – Western and Brong Ahafo in laison with National REDD+ Secretariat
  - Partners
    - The new Cocoa Extension System - Ghana Cocoa Board (oversees cocoa industry)
    - District Assembly, Traditional Authorities/Landowners, Cocoa Farmers' Cooperatives
    - Cocoa Swollen Shoot Virus Disease Control Unit- Ghana Cocoa Board
    - Seed Production Unit - Ghana Cocoa Board
    - Forestry Commission
    - Forest Research Institute of Ghana
    - Centre for Remote Sensing and Geographic Information Systems

Safeguards

- Sustainable cocoa production is one of the targeted REDD+ strategy options
- Safeguards indicators will be developed as part of non-carbon benefits monitoring both in quantitative and qualitative terms to ensure social and environmental integrity. Social risks arising are being considered in the SESA process.
- Terms of Reference for grievance redress mechanisms are being drafted now to consider potential issues of this strategy option.
- Public consultation, participation and disclosure are also key to ensure accountability.

MRV & Registry

- Systems, data and monitoring infrastructure:
  - Forest Preservation Program (Japan),
  - Carbon Mapping (Katoomba Group),
  - National Forest Monitoring (GIZ) to credibly measure and account for REDD+ success
- Ground truth data collection supported by space based data. (Project GIS office in synchrony with national GIS infrastructure for monitoring).
- Consistency with third party (DOE –type) verification process (typical of voluntary market schemes)
- MRV systems including setting up national registry with sub national implementation of activities discussions initiated

Opportunities and Challenges

- **Opportunities**
  - REDD+ will promote shaded-cocoa production system which is a sustainable agricultural land-use system that provides relatively high values of environmental services.
  - Win-win situation: Enhanced productivity of cocoa and reduction of deforestation and forest degradation
  - Partnership with farmers to ensure sustainability of program beyond carbon phase; some models beginning to emerge i.e. partnership in processing of cocoa
  - ER Program for the cocoa landscape will leverage the Forest Investment Program (FIP) initiative to catalyze policies and measures and mobilize significantly increased funds to facilitate the reduction of deforestation and of forest degradation
  - Leverage additional funding for climate resilient development.

Opportunities and Challenges

- **Challenges:**
  - Farmers' inability to afford inputs, upfront implementation costs
  - Structural bottlenecks in the extension delivery system (technical) for farmers to adopt best practices.
  - Need for sustainable funding for efficient delivery of cocoa extension services and transfer of technology
  - Land tenure:
    - Not an issue in forest reserves.
    - Within off-reserves, consideration will be focused on Community Resource Management Areas (CREMAs) to provide a model for addressing land tenure within such areas.
    - On-farm tree tenure is being addressed by the Ministry of Lands & Natural Resources in order to give ownership rights to farmers.
  - Robust benefit sharing mechanism

Conclusion & Next Steps

- Expected timeline for completion of analysis is end of June, 2012
- Social economic benefits expected (still to be quantified)
  - Improved cocoa productivity per ha
  - Increased income generation
  - Creation of more jobs
- Provision of non-carbon benefits such as biodiversity/habitat conservation, soil & watershed protection, climate change mitigation & adaptation etc.
- Shea model analysis is also in progress & will be completed in August, 2012

THANK YOU FOR YOUR ATTENTION

bamforobert@yahoo.com