Republic of Liberia

Climate Solutions: Liberia's National-level Early Action on REDD

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Presentation Outline

- **Liberia's National Context**

- **Reducing Emissions from Deforestation & Degradation (REDD) in Liberia**

- **Liberia's Progress Preparing for REDD**

- **Policy-Relevant Experiences and Lessons**

- **Plans and Next Steps**

Liberia's National Context

Map of Liberia Showing: National Forests

- **Population: 3.2 million**
- **Gross National Income: US$140 per capita**
- **Land area: 9.58 M hectares**
- **Forest lands: 4.3 M hectares**
- **Liberia currently has no national electric grid**

Liberia's National Context

Combretum Grandiflorum blooming in Sapo N.P.

- 2002: Ratified Kyoto
- 2003: Ended civil conflict
- 2005: Held national elections
- 2006 Inaugurated a democratically elected government
- 2006: Passed forest-reform/ launched a New Forestry Policy
- 2006: UN lifted timber ban
- 2007: Received debt relief
- 2007: Preparing for commercial logging
- 2007 Developing community property rights law

Liberia and the UNFCCC Context

- **Liberia is a UNFCCC party (2003), acceded to the Kyoto Protocol (2002)**

- **Prepared the National Adaptation Programme of Action (NAPA); in process of legislative endorsement**

- **Preparing Liberia's First National Communication**

  – **Conducting greenhouse gas inventory for: agriculture, energy, forestry and waste sectors**

Urgent Climate Adaptation Priorities

- Reduce low-production shifting cultivation by promoting integrating agriculture

- Improve monitoring and early warning system for climate change impacts

- Coastal Defense System for major coastal cities, such as Monrovia, Greenville, Buchanan and Harper

- Mainstream climate change considerations into infrastructure design and planning, including the EIA process, is paramount and imperative

Liberia CDM Opportunities

Aerial View of Forest in Northwest Liberia

- **Energy sector**
  - Landfill gas capture
  - Renewables: Solar, biomass, biodiesel
- **Forest sector**
  - Reforestation/Afforestation
  - Community mixed agroforestry
  - Biomass: Rubber-wood chips and wood
  - Kiln-based charcoal production
- **Household services**
  - Efficient cooking stoves
  - Landfill waste
  - Improved waste management

Constraints on Expanding CDM Activities

- Liberia's low emissions create less CDM opportunity

- Low technical, institutional, and system capacities

- Insufficient awareness about CDM opportunities and inadequate capacity to prepare CDM projects

- Limited funding and support for the DNA

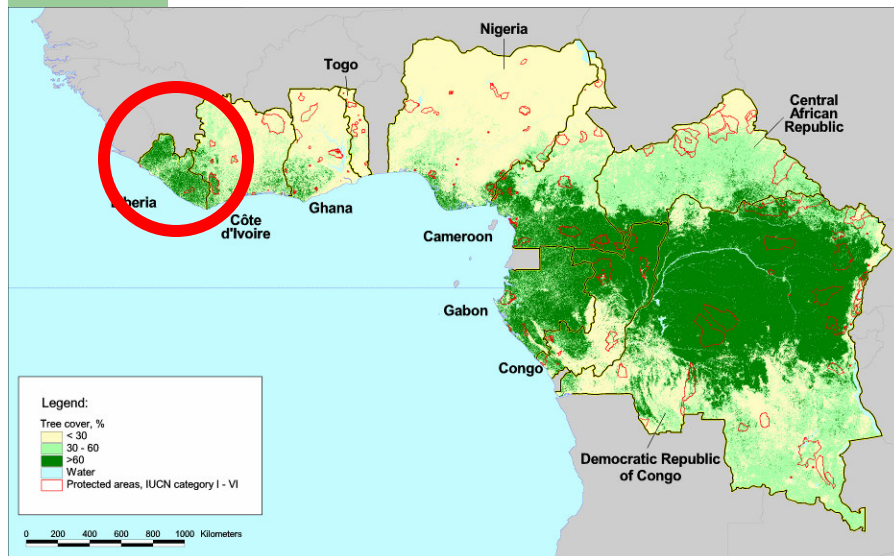- Complexity and cost of project design, validation, and access to experts

Reducing Emissions from Deforestation & Degradation (REDD) in Liberia

Why is REDD Important in Liberia?

- **Given CDM constraints: REDD may hold best potential for Liberia to participate in growing carbon markets and receive incentives**

- **Liberia's 45% forest cover is highest in Africa outside of the Congo Basin**

- **Liberia is a great West African biodiversity refuge containing 43% of remaining tropical rain forest in the Upper Guinea Forest Ecosystem**

- **Intense pressure exists to extract resources to fund recovery, development, and job creation**

- **REDD may provide much needed incentives to implement Liberia's long-term forest policy objectives**

Liberia

New Era of Forest Law and Governance

Orchid in East Nimba Reserve

- **2006 Forest Reform Law to maintain forest cover is completely consistent with REDD**

- New Forestry Policy based on 3C suitability analysis: Commercial, Community & Conservation Forestry Pillars

- Increasing protected forest area network by 600%

- Implementing chain of custody & sustainable forest management

- Developing Community Rights Law and regulations for local benefits

Liberia's Progress Preparing for REDD

- Created Liberia Forest Initiative (LFI): a diverse consortium working with the Forestry Development Authority

- Established inter-sectoral Carbon Working Group in Sept 2007

- Prioritized proposed protected area network of 1.14 million hectares of 1.5 million for early action

- Actively participating in the World Bank Forest Carbon Partnership Facility Process

- Identified suitable areas for commercial logging with sustainable forest management practices in early 2008

Liberia's Technical Progress Preparing for REDD

Liberia's Progress Preparing for REDD

Key Issues for REDD Baseline

Biomass:

- Established monitoring plots for biomass estimates
- Mapping forest types & carbon stocks
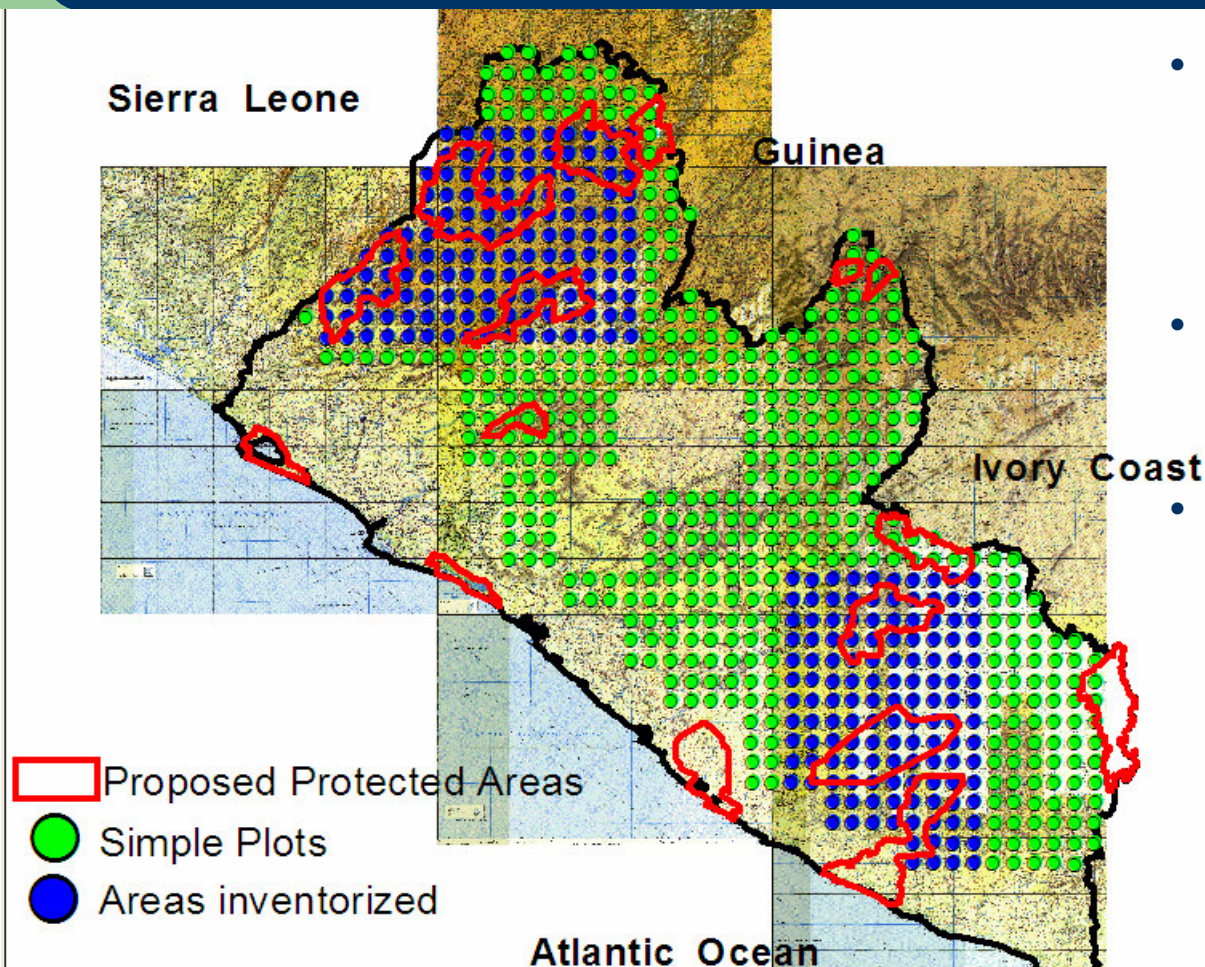
Deforestation:

- Completed national deforestation map for 1986-2000
- Deforestation 2007 update nearly complete
- Developing model of future deforestation

Identified 13 new sites for protection under REDD

Forest Inventory Results: 703 Plots

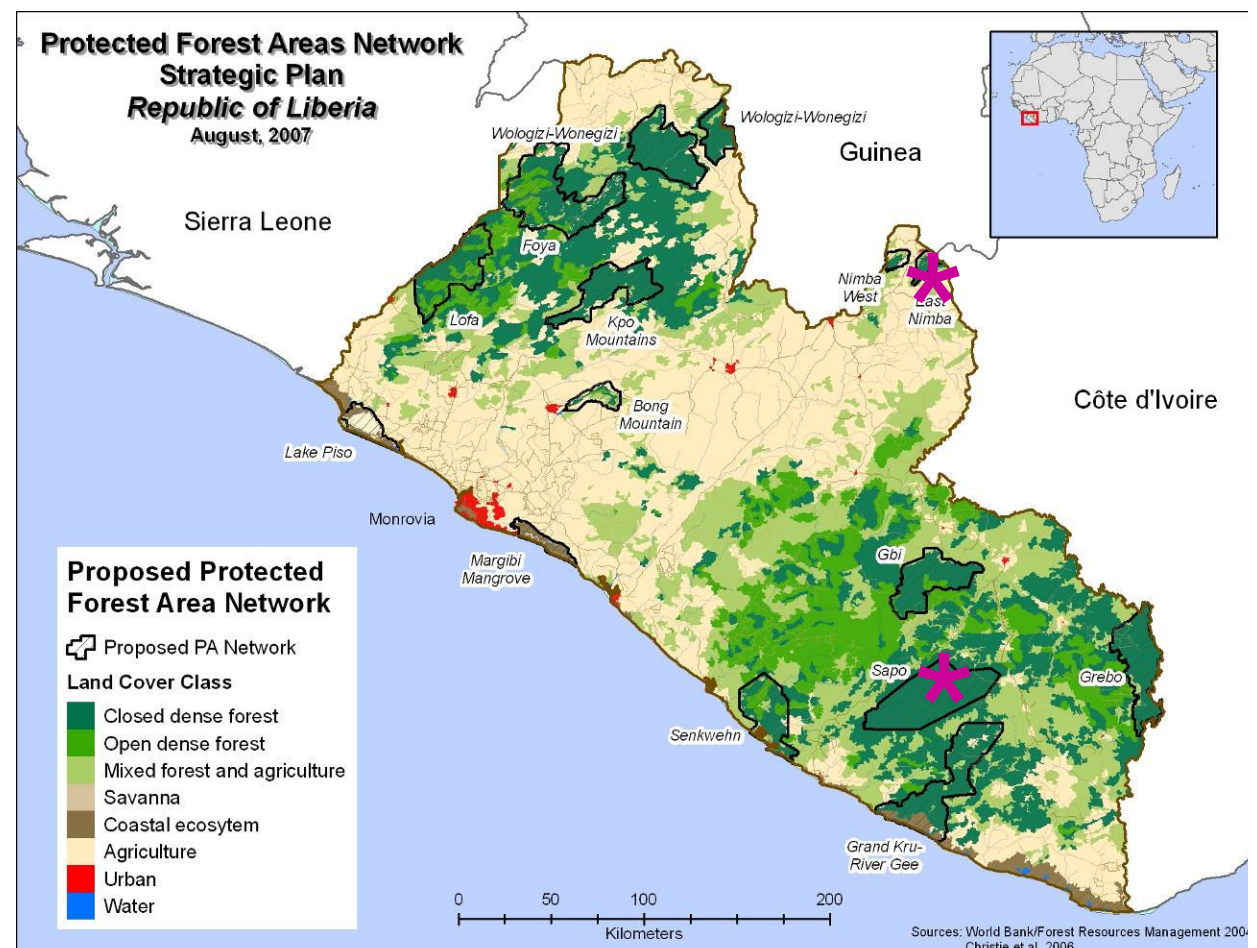- 277 plots completed out of 703 total

- 1 plot every 10km

- Stratified by type:
  - Closed dense
  - Open dense
  - Degraded
  - 2 classes of mixed agriculture & forest

Map legend:
- Proposed Protected Areas
- Simple Plots
- Areas inventorized

Sierra Leone
Guinea
Ivory Coast
Atlantic Ocean

Liberia

Liberia's Progress Preparing for REDD

- Stratification of forest

- Two current protected sites: 193,000 ha (*)

- 13 new sites: >1M ha.

Protected Forest Areas Network
Strategic Plan
Republic of Liberia
August, 2007

Sierra Leone

Wologizi-Wonegizi

Wologizi-Wonegizi

Guinea

Foya

Nimba West

East Nimba

Lofa

Kpo Mountains

Côte d'Ivoire

Bong Mountain

Lake Piso

Monrovia

Margibi Mangrove

Gbi

Senkwehn

Sapo

Grebo

Grand Kru-River Gee

Proposed Protected Forest Area Network

⌗ Proposed PA Network

Land Cover Class
- Closed dense forest
- Open dense forest
- Mixed forest and agriculture
- Savanna
- Coastal ecosytem
- Agriculture
- Urban
- Water

0   50   100   200
Kilometers

Sources: World Bank/Forest Resources Management 200
Christie et al. 2006

Liberia

Steps in Baseline Development

- Forest inventory and biomass estimation

- Map deforestation history

- Spatial modeling to document likely future deforestation
    - Overlay GIS data on drivers of deforestation
        (eg. roads, rivers, towns, topography)
    - Incorporate assumptions:
        (eg. policy, economic, population)

- Combine future deforestation & biomass to complete
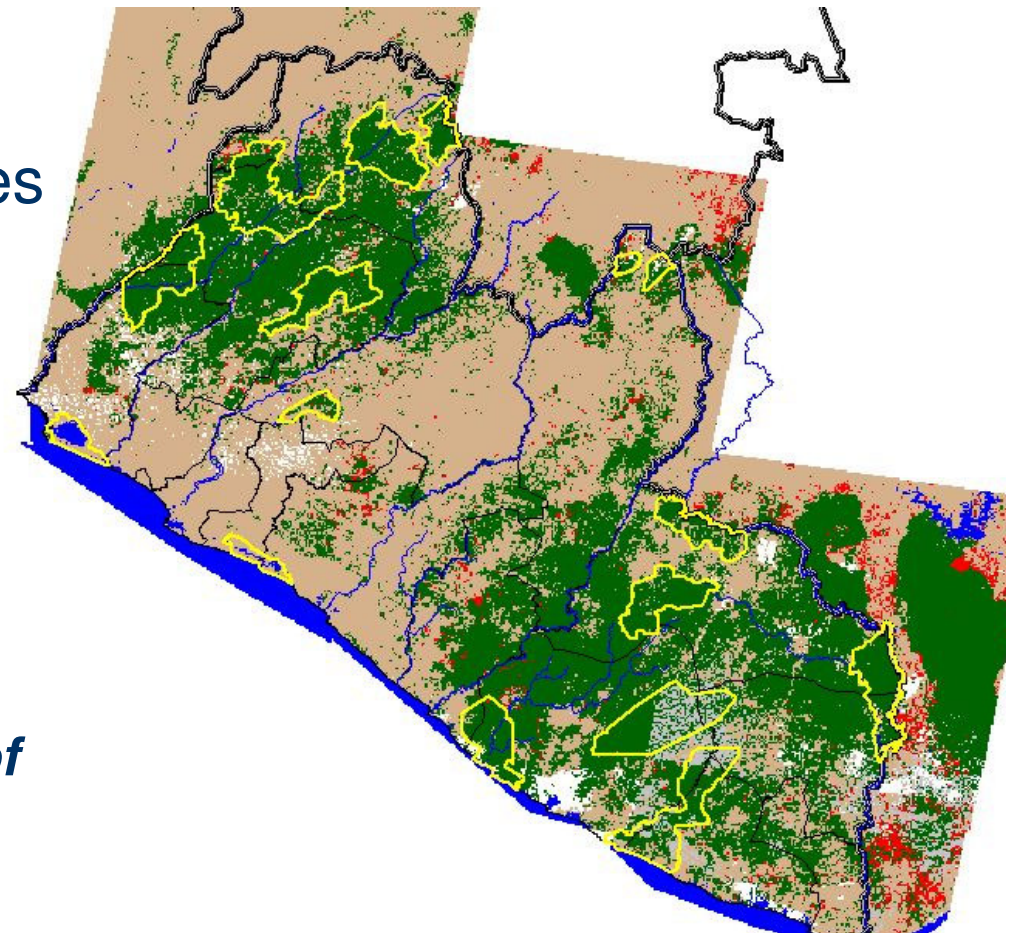   baseline estimates

Deforestation History

National deforestation:

- Based on Landsat images
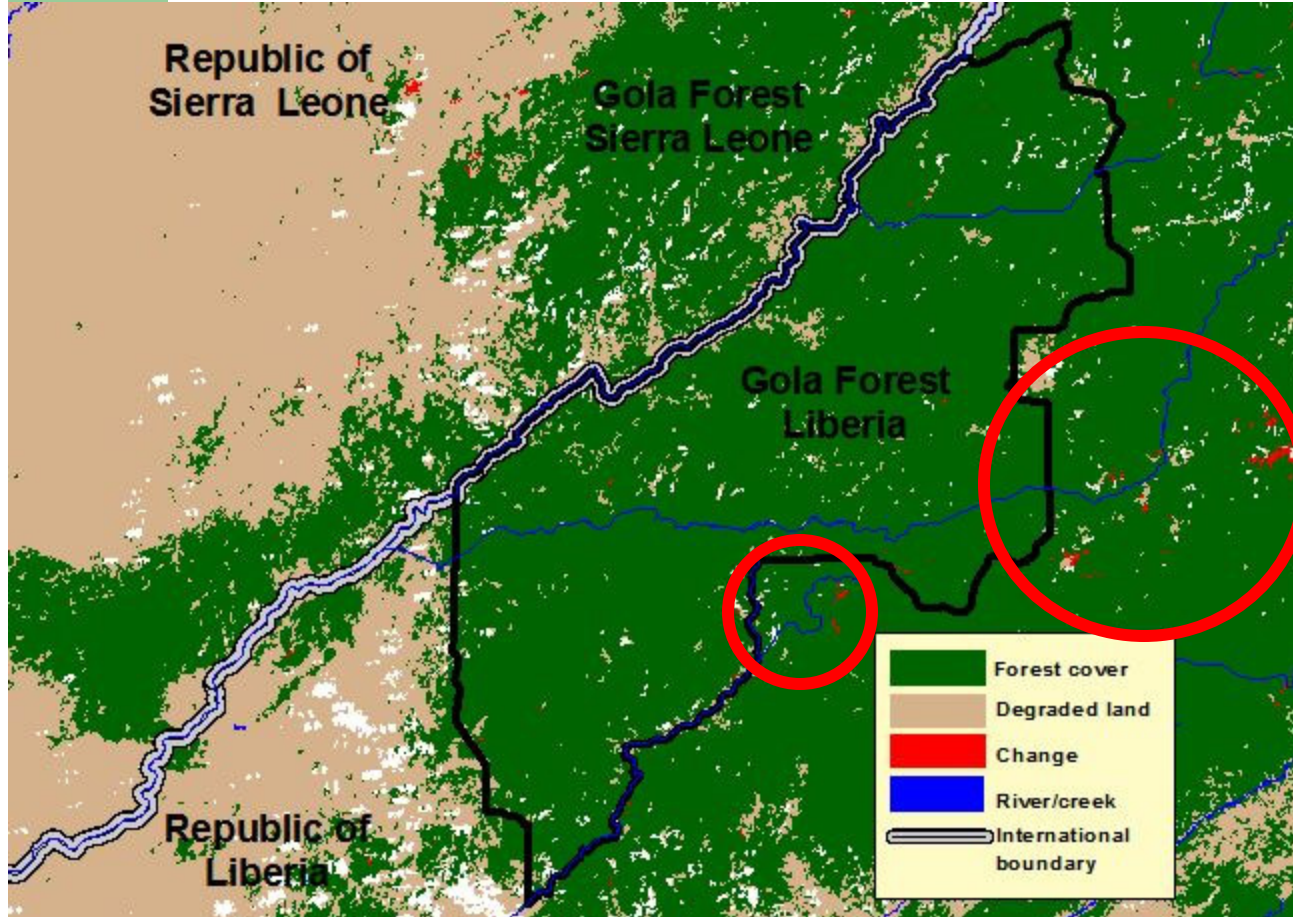- 30 meter resolution

Deforestation rate:

1986 – 2000: 119,200 ha

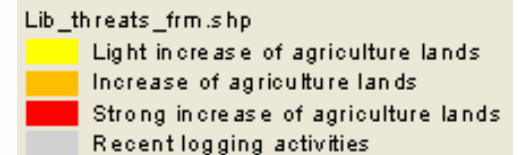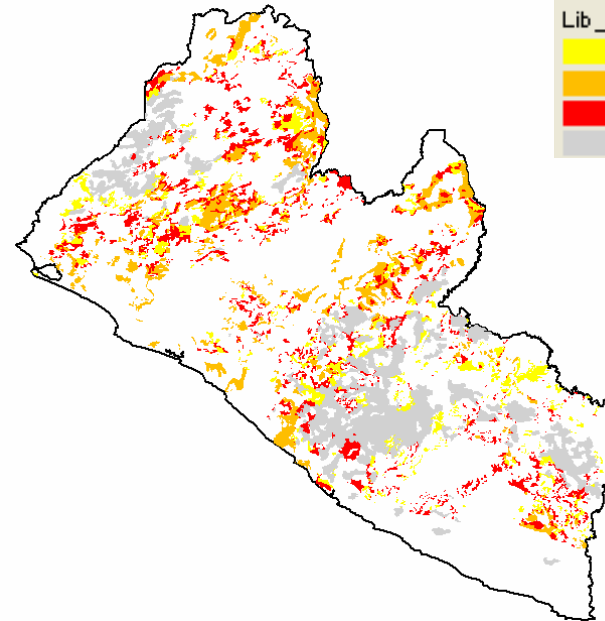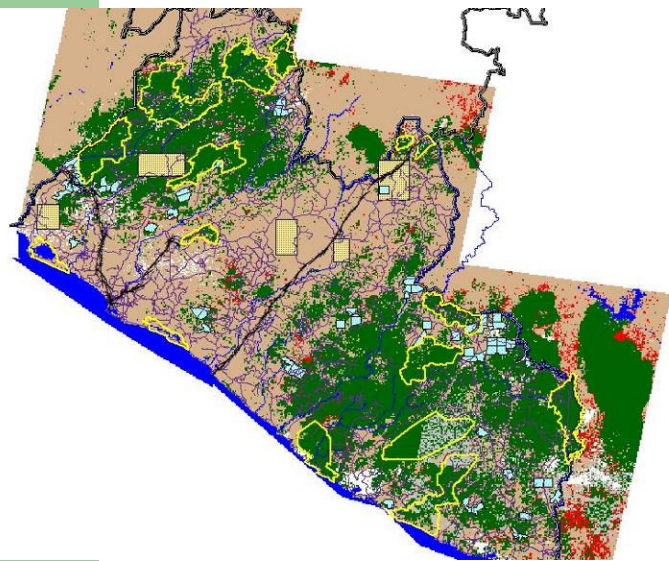** Post-war rate may have increased –in process of updating to 2007*
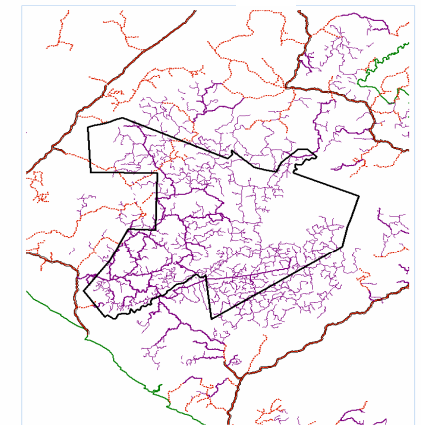
Deforestation History

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Detail:

Gola National

Forest region

Republic of
Sierra Leone

Gola Forest
Sierra Leone

Gola Forest
Liberia

Republic of
Liberia

Forest cover
Degraded land
Change
River/creek
International boundary

Spatial Modeling for Baseline

Liberia

Lib_threats_frm.shp
- Light increase of agriculture lands
- Increase of agriculture lands
- Strong increase of agriculture lands
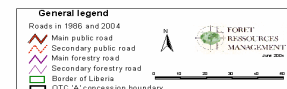- Recent logging activities

- Data management: ArcMap

- Modeling: IDRISI Land Change Modeler

- Partners: Conservation International
  South Dakota State University
  Clark Laboratory

Changes in road network in OTC 'A' concession between   and 2004

Roads in 1986

General legend
Roads in 1986 and 2004
- Main public road
- Secondary public road
- Main forestry road
- Secondary forestry road
- Border of Liberia
- OTC 'A' concession boundary

FORET
RESSOURCES
MANAGEMENT
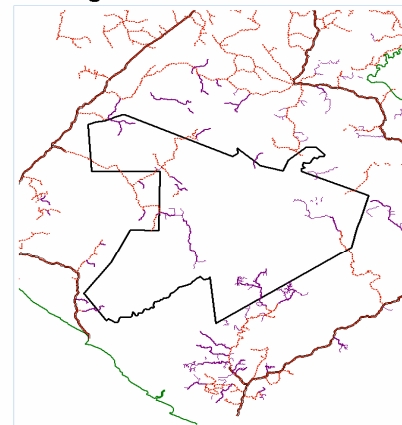
roads in 2004

Technical Next Steps

- Complete biomass surveys

- Complete emissions baseline
    - complete, validate deforestation update
    - complete spatial modeling for CO2 baseline

- Design monitoring program
    - plot re-survey schedule
    - regular deforestation & degradation mapping

- Assure resources to complete these steps

Policy-Relevant Experiences and Lessons

Complexities to be considered in quantifying future forest change patterns

Liberia

Mesurado Wetlands

- Historical rates of deforestation are not accurate predictor of the future
- Threats due to development and population movement can result in significant increase in emissions
- Opportunity costs of implementing Liberia's National Forest Management Strategy are high
- Road infrastructure, mining and forestry development plans require coordinating REDD policies & measures
- REDD planning must consider returning rural populations

Funding for REDD

- REDD "infrastructure" requires significant funding to address opportunity costs alternative land uses
- Incentives for early action are desperately needed to address major causes of deforestation and degradation from shifting agriculture and illegal chainsaw operations
- Liberia can credibly implement national-level REDD plans with sufficient upfront and long-term funds

Plans and Next Steps

Readiness Planning in 2008

- Organize comprehensive REDD planning process
  - Across government ministries
  - Including all civil society stakeholders
  - Integrate with governments Poverty Reduction Strategy
  - Assess local level capacity and plans
  - Process will apply best practices on transparency initiative
- Obtain adequate funding to implement Readiness plan
- Assess potential for early action and setup specific community forestry & agroforestry demonstration initiatives
- Complete development of baseline and spatial modeling

Readiness Planning 2008-2010

Technical data and capacity development activities

- Analyze deforestation drivers and solutions
- Analyze economic alternatives required by stakeholders
- Complete monitoring strategy
- Identify step-wise national plan targeting specific areas for REDD and develop financial plans (e.g. REDD carbon pricing)

Institutional implementation preparedness activities

- Coordinate with land tenure clarification processes
- Adjust current policies and legal framework including governance and benefit sharing mechanisms
- Assess alternatives for equitable distribution of performance-based incentive structures
- Define demonstration initiatives and conservation activities that provide benefits for local communities, climate, and biodiversity within a 3 to 5 year timeframe

Community Demonstration Initiative Criteria

- Developed to directly address threats to deforestation and provide alternatives to land use opportunities
- Number and location of sites to be determined based on analysis and consultation with stakeholders
- Demonstration activities applicable across degraded lands and around protected areas
- Develop specific business plans in each location in a participatory manner
- Product certification and differentiated marketing into rapidly growing specialty markets, such as organic, fair trade and sustainable
- Potential for obtaining payments for carbon sequestration from reforestation activities
- Develop a learning network between these initiatives to scale-up and replicate successful demonstration site activities

Scalable Value Added Initiatives

- Sustainable harvesting and marketing of non-timber forest products (NTFPs) for regional and local markets
    - Assistance to local communities for sustainable management
    - Add value through the use of improved technologies, processes and marketing strategies
- Smallholder diversified rubber, cocoa and oil palm agro-forestry systems, combined with woodlots and NTFP harvesting & on-farm production
- Over time, integration of small-scale livestock and aquaculture production

Take Home Messages

- Liberia holds great potential for national level REDD implementation assuming that:
  - REDD negotiations clarify steps forward
  - Adequate funding for capacity is provided
  - Potential for 'early action' incentives are realized
- Liberia has made significant progress preparing for REDD through forest policy and governance reforms, and technical forest inventory and change detection analyses
- Demonstration initiatives need to be designed to directly address threats to deforestation and ensure that benefits are equitably shared with local communities
- Liberia's entire forest sector is open and ready to explore investment opportunities

Thank You!

Liberia

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