

GEO FCT activities in Guyana Progress and Plans

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Structure of Presentation

- Background on MRVS
- Key activities and outputs
- Preliminary work on Forest Carbon Stock Assessment
- Preliminary work on Forest Cover Mapping and Monitoring
- Activities in Progress
- Capacity building and support needs

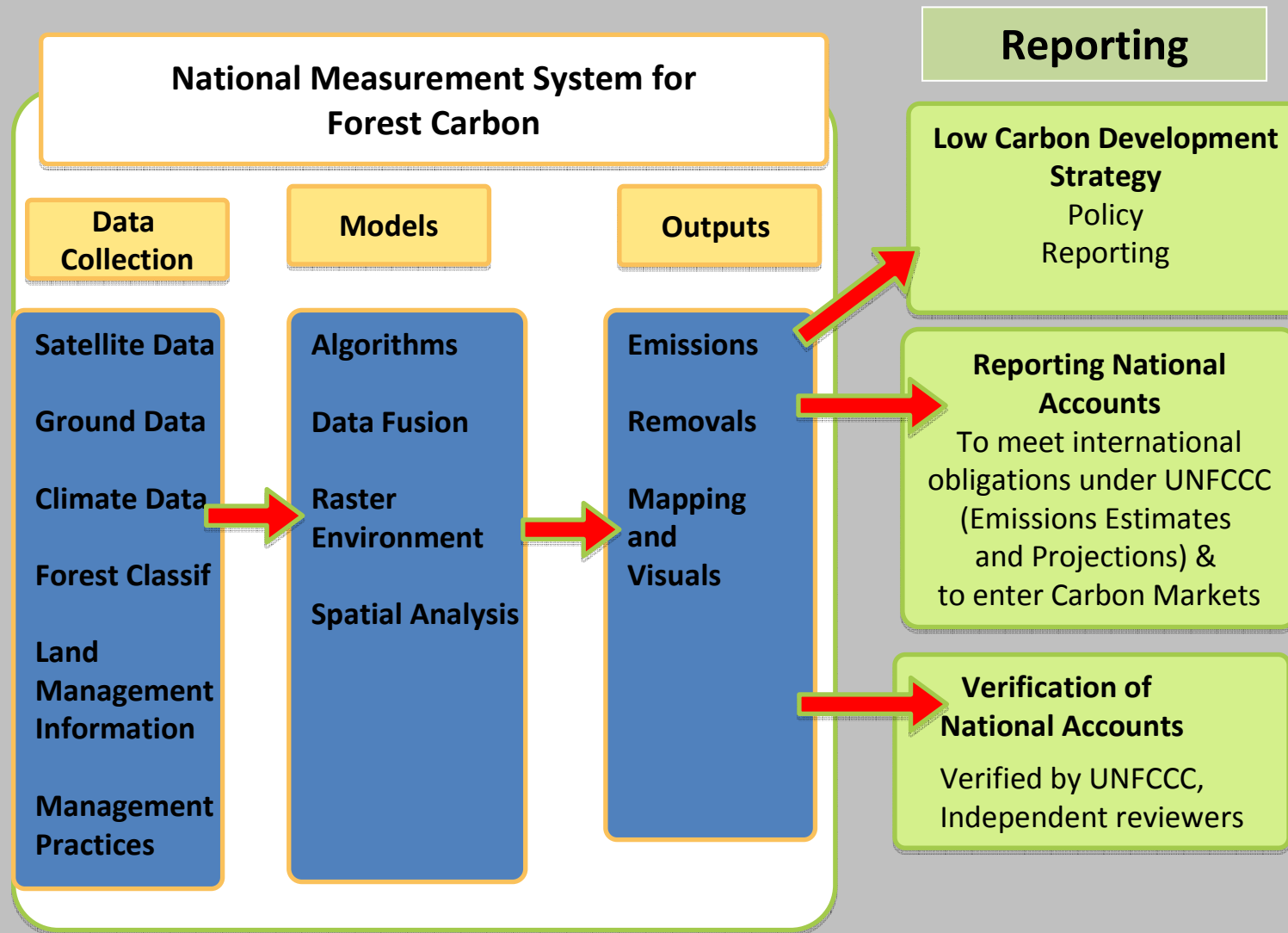


Background

- The Government of Guyana has embarked on a national programme that aims to protect and maintain its forests in an effort to reduce global carbon emissions and at the same time attract resources to foster growth and development along a low carbon emissions path. Guyana has over 80% of its land area covered by forests, approximately 16 million hectares.
- While policy and compensations mechanisms for implementing REDD are still under discussion within the UNFCCC, the decision text on methodologies for REDD produced by SBSTA 31 in December 2009 makes it clear that not only reduced emissions from deforestation and degradation, but also forest conservation, sustainable forest management and forest enhancement are likely to be included in the post-2012 climate regime. Guyana's efforts are based on REDD+.
- LCDS, readiness preparation, bilateral cooperation, donor participation.



Initial Workshop held on 15th Sept, 2009. General Framework drafted:



The MRVS Approach

The RPP outlines the objective of the MRVS as being:

- The objective of the monitoring system is to provide annual, accurate estimates of changes in forest cover and degradation with national coverage by a transparent, objective and verifiable methodology.
- The reporting system provides comparisons between monitoring system output summaries and the reference scenario to provide net changes in carbon for REDD accounting.
- The verification system requires that all procedures and data sources are objective, well-documented, secure and verifiable, and are subject to such peer-review and external audit as may be determined necessary. The Reporting and Verification Systems will be outlined and developed more fully later in the preparation process.



Developing an MRVS

- Requirements for the MRV system:
 - The accepted principles and procedures of estimation and reporting of carbon emissions and removals at the national level should meet criteria specified by the IPCC Good Practice Guidelines and Guidance for reporting on the international level;
 - The particulars of the national REDD implementation strategy that have been selected, since different activities have different MRV implications;
- Bridging the capacity gap through a detailed plan to establish sustained MRV capacities within the country:
 - Capacity gap assessment
 - Develop a road map



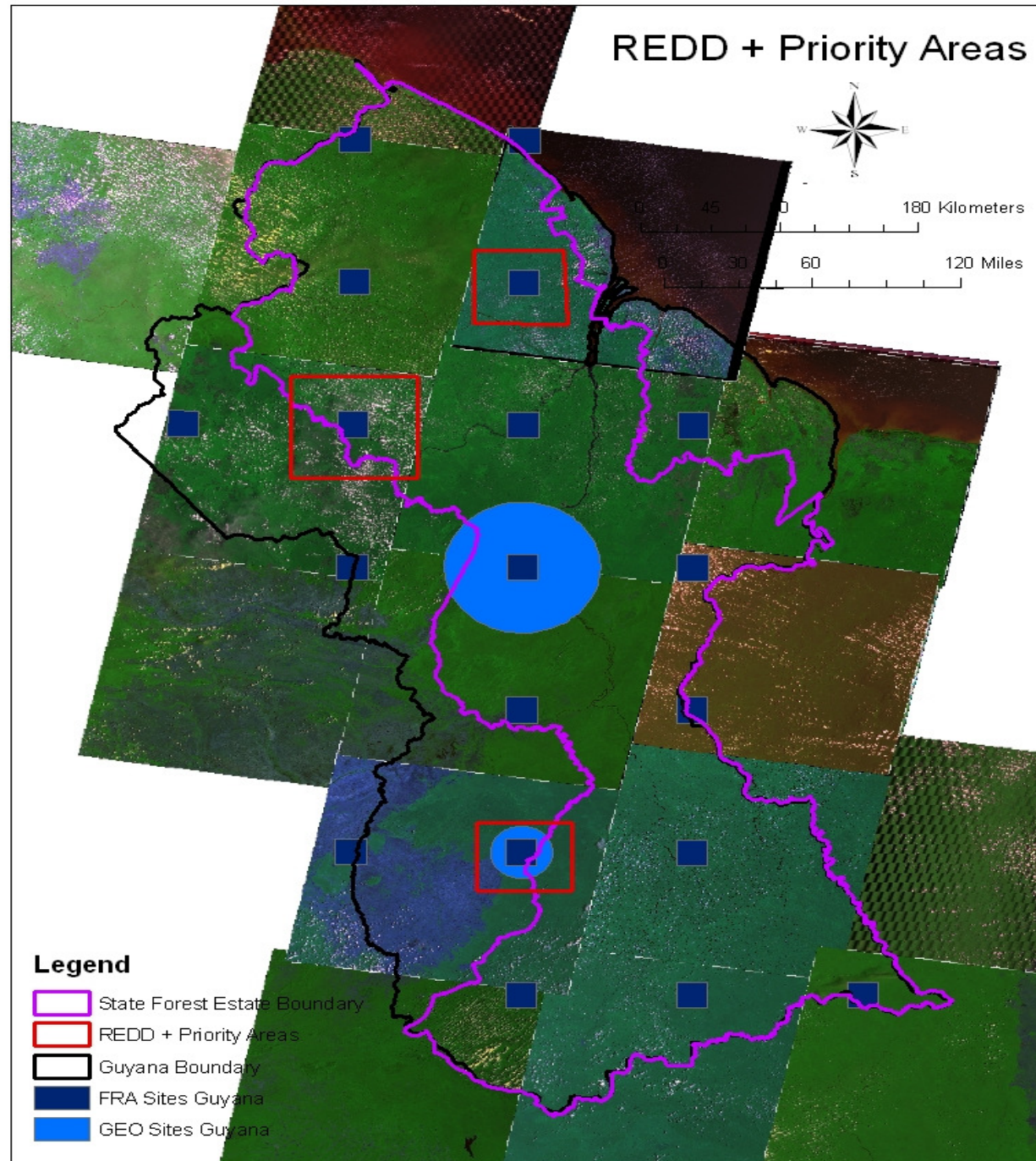
Key Activities and Outputs

- Develop and implement a national mechanism and institutional framework:
 - Steering body for the MRV system development (Office of climate change as coordinator of activities)
 - Coordination and integration of national datasets through a high-level national technical committee accompanied by a related legislative reform and development of a national data management system and infrastructure
 - Participation, scientific advice and international partnering, i.e. through the establishment of a technical and scientific advisory group
- Conduct a comprehensive forest area change assessment for a historical period:
 - Processing and interpretation of historical archived satellite datasets at national level for forest area change, benchmark forest map and exploration of the monitoring of forest degradation
 - Capacity building component included from the beginning
- Build carbon stock measurement capacities:
 - Design a national and sub-national stratification
 - Design protocols and implement measurements in all carbon pools
 - Targeted sampling and surveys to establish national conversions/expansion factors



- Develop MRV for a set of REDD demonstration activities
 - Focus on key drivers/processes and engagement with implementation actors (i.e. land owners, communities)
 - Conduct detailed monitoring at demonstration sites
- Engagement with international community:
 - Explore the possibility of the GEO Task to help in satellite data acquisition from 2009 onwards
 - Partner with international organizations and research partners
 - Seek further advise/coordination with international activities





Activities in Progress

- Terms of Reference
 - Technical work to be done
 - Identify resources and capacity needs
 - Identify institutional and operational requirements
 - MRVS Steering Committee
 - MRVS Technical Committee
- Start off with external inputs
- Build capacity with local resources



Ministry/Agency	Tentative Role in MRVS
Office of the President	Strategic guidance and directives
National Climate Committee	Networking, coordination and technical support
Ministry of Agriculture	Data on agriculture activities, scale, scope, occurrences, plans and projections
Ministry of Amerindian Affairs	Amerindian Lands data: scale, number of titles, coverage, etc
Ministry of Finance	Strategic Guidance on policy and planning
Guyana Forestry Commission.	Key coordinating agency, support field work for MRVS and RS activities, consultation and networking among relevant agencies and stakeholders.
Guyana Geology and Mines Commission	Key support agency for mining sector information including RS and GIS capabilities and resources.
Guyana Lands and Surveys Commission	Key support agency for land use planning sector information including RS and GIS capabilities and resources.
Environmental Protection Agency	Support to aspect relating to environmental monitoring and management
REDD Secretariat	Support the execution of MRVS activities
Hydrometeorological Service	Assist in provision of weather data
University of Guyana	Support to research and assessments

Entity	Tentative Role in MRVS
Amerindian Communities	Support the implementation of MRVS activities especially in areas of consultation and information sharing/gathering exercises.
Community-based NGOs	Support to process in technical and research aspects of monitoring.
International NGOs and multi-lateral institutions	Support to process in technical and research aspects of monitoring.
Private Sector	Support to overall implementation
Other Forest based Communities	Support the process and advice on impact on communities. Assist in consultation and information sharing.
Civil Society	Support to overall implementation

Existing Resources Assessment: Data and Capacity

Information System Capability	Human and Physical Capacity	Data Availability	Gaps that Institutions have identified based on current mandate
<p>1. Integrated GIS</p>	<p>Computed resources, integrated server, trained persons in geo referencing, geo rectifying, masking, identification of areas subject to change, identify of driver of change by visual inspection, digitizing of area of change, merging of assessment at national level and generation of final national level data. GPS mapping</p>	<p>1.Land area monitoring of large and medium size mining claims. 2.Water quality data on suspended sediments (turbidity and TSS) for a five year period for Guyana, and 10 -15 years for various rivers. 3.Dredge locations August 2009. 4.Tidal water quality data for Essequibo river. 5.Road Map 6.Forest Roads and Rivers Map 7.Soil Map (NARI) 1:1,000,000 scale 8.Vegetation Map 1:1,000,000 scale 9.Topographic Mao 1:50,000 10.Gazetteer of Guyana 11.Map showing Amerindian Areas, Tourism areas, protected areas, agriculture leases, and identified land uses in some areas.</p>	<p>Management of small claims needs further integration into land management system Time series of Dredge location data/real time position logging. Integrated data management system</p>

Existing Resources Assessment: Data and Capacity

Information System Capability	Human and Physical Capacity	Data Availability	Gaps that Institutions have identified based on current mandate
<p>2. Remote Sensing Assessments</p>	<p>Remote sensing image analysis software, trained persons in conducting remote sensing assessments including: geo referencing, digitizing of area of change,</p>	<p>1.Landsat medium resolution images (20m) for entire land cover of Guyana for 2005 and 2006. 2.Aeromagnetic data at 200m line spacing. 3.Scanned 1: 50,000 topographic basemaps 4.JERS 30m resolution imagery 5.SRTM 90m DEM 6.JERS 1999 – 500M 7.Landsat 2006 – 2009 – national coverage 8.PALSAR 2009 (hotspots coverage) 9.CBERS 2009 (hotspot coverage)</p>	<p>High resolution images for mining hotspots Automated detection of forest land area change needed</p>

Existing Resources Assessment: Data and Capacity

Information System Capability	Human and Physical Capacity	Data Availability	Gaps that Institutions have identified based on current mandate
<p>3. Forest Concession Management and Legality Assessment</p>	<p>Trained staff in visual detection of occurrences of illegality based on a decision tree framework, forest area allocation and planning.</p>	<p>1. Forest concession allocation map 2. Change detection system</p>	<p>Integrated planning and management with other natural resources agencies</p>

Existing Resources Assessment: Data and Capacity

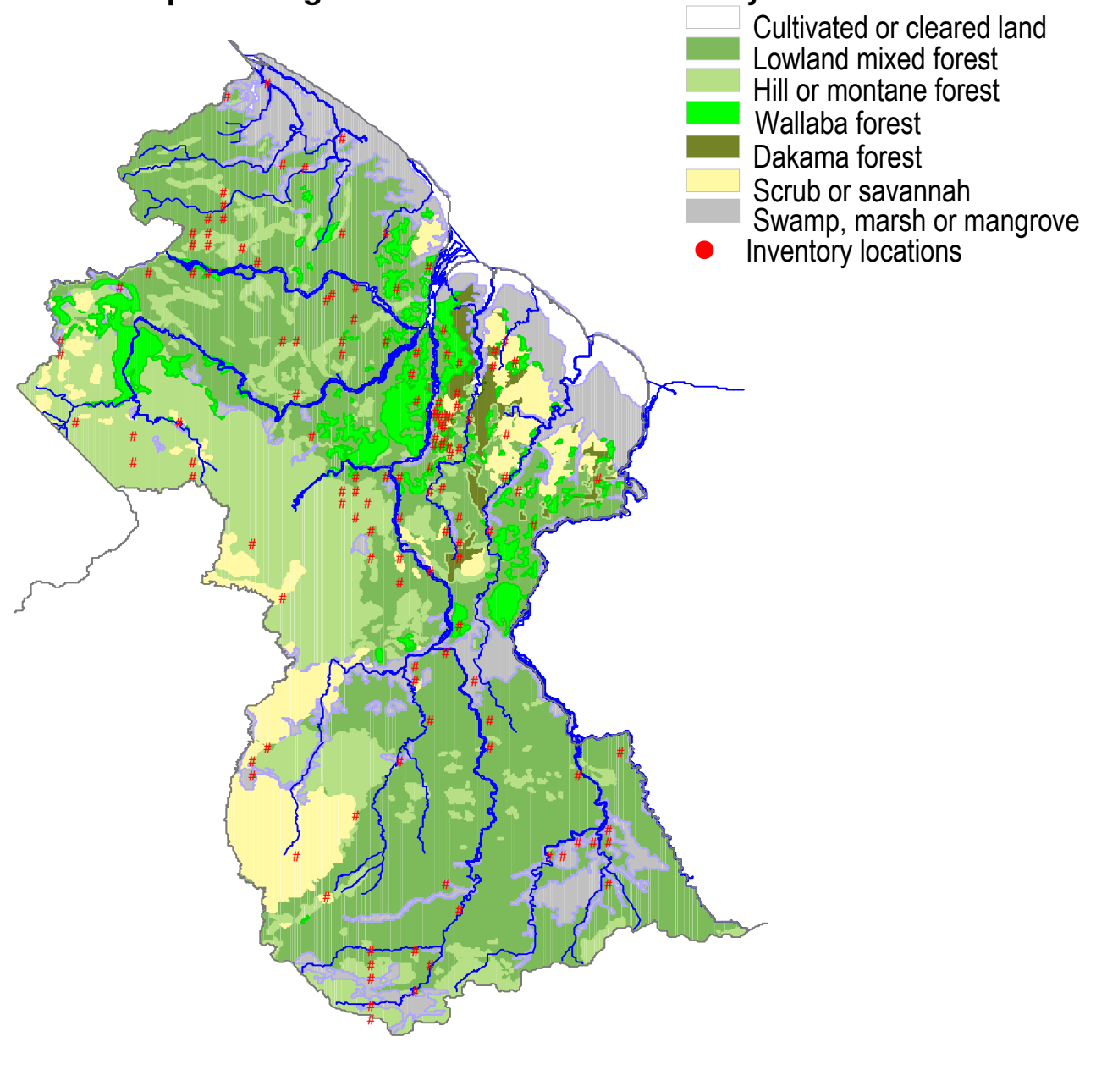
Information System Capability	Human and Physical Capacity	Data Availability	Gaps that Institutions have identified based on current mandate
<p>4. Field Data on forest inventory, and initial work on forest carbon stock assessment</p>	<p>Staff trained in executing forest inventory and in establishing forest biomass monitoring plots, destructive sampling of soil and necromass, some training in roots and tree destructive sampling, and in ground truthing and some training in verifying data via aerial surveys.</p>	<p>1.Report on carbon storage capacity by soil type (Hans ter Steege) 2.Biomass Monitoring System reports and Baseline Assessment 3.135 Biomass monitoring plots established 4.Management level inventory for various areas in Guyana.</p>	<p>Additional training in tree and roots sampling. Training and creation of framework in the integration of this work into an MRVS.</p>

Preliminary work on Forest Carbon Stock Assessment and Baseline Establishment

- Institutional structure - REDD Secretariat established
- Establishment of biomass measurement and monitoring plots (135)
- Soil and necromass data collected for some plots.
- Training commenced for root and tree sampling.



Simplified vegetation classes and inventory areas



Preliminary work in forest cover mapping and monitoring

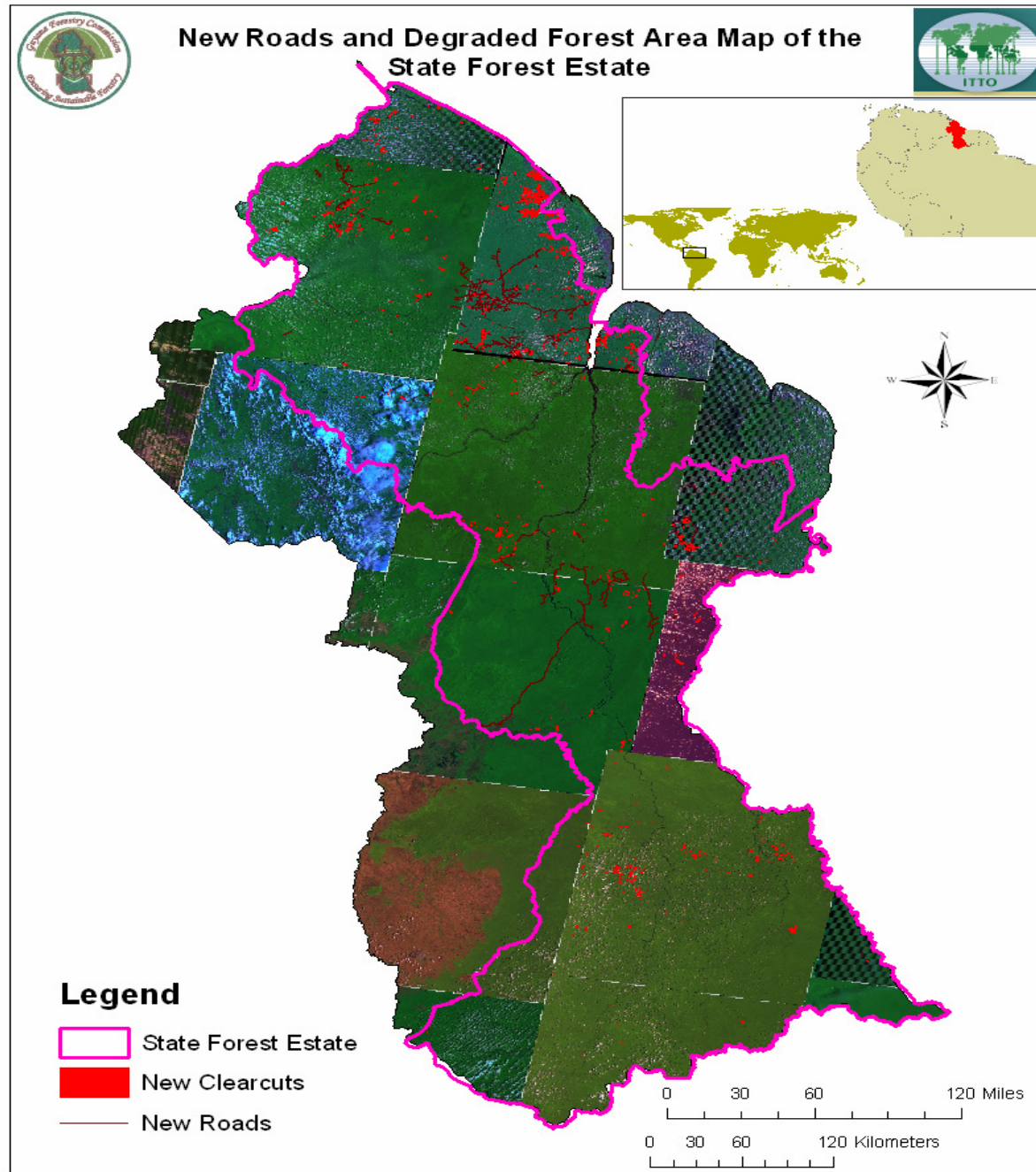
- In Guyana, as part of its Readiness Preparation Proposal to the FCPF, an initial, national level quick assessments were done on the drivers of deforestation and forest degradation: a qualitative assessment based on national sectoral analysis and a quantitative assessment based on GIS and Remote Sensing Data.
- LANDSAT Images at national wall to wall coverage (support from ITTO)
- Change detection employed
- Hot spot spatial assessment at high resolution, aerial surveys and ground truthing also executed



Preliminary work in forest cover mapping and monitoring

- A total of 54, 210 ha of deforested area and 2626 km of forest roads were mapped during the period 2007-2008.
- Of this total, it is estimated that approximately 34, 044 ha of deforested area is found within the State Forest Estate (SFE).
- Total State Forest Area is 13.8 million hectares while total forest cover is 18.6M million hectares.
- Based on this Quick Assessment, the rate of deforestation in the SFE is 0.25% while the rate in Guyana forest cover is 0.29%.





Activities in Progress

- Terms of Reference
 - Technical work to be done
 - Identify resources and capacity needs
 - Identify institutional and operational requirements
- Secure suitable provider/s for execution of outputs to work in collaboration with GoG.
- Execute and monitor activities



Other Activities

- Definition of forests
- Drivers of Deforestation and Forest Degradation
- Activity Data – Approach 3
- (Remote Sensing, Field Assessment, Degradation monitoring)
- Carbon Stock Assessment – Tier 2, 3
- Estimating CO₂ emissions – Stock difference method or combination of methods
- Reporting
- Verification



Next Steps

- Tenders
- Activity Implementation
- Collaborate with other technical partners
 - CI
 - GEO FCT
 - KfW
 - CCI
 - WWF
 - ITTO
 - FAO
 - Other NGOs
 - Other Government Partners
 - Etc



Next Steps

- Tenders
 - Bid 1 – Remote Sensing and GIS Specialist has been advertised
 - Bid 2 – Carbon Stock Assessment and Monitoring Specialist has also been advertised.



Bid 1

- **Some of the Outputs / Deliverables are:**
 - Report on the consolidation process of existing data and establishment of data archive, and delivery of a digital database of archived satellite data and national spatial datasets to GFC that are used for the forest area change assessment, ensuring compatibility, inter operability of data, and common geo referencing for REDD+ MRV
 - Processing of data, Mapping and assessment of change in forest area: delivery of benchmark forest map for 2009, the forest area change maps for each time step
 - Accuracy assessment completed of forest maps and change estimates



Bid 2

- **Some of the main Outputs / Deliverables are:**
 - Implementation plan for a systematic national forest carbon measurement system, including map/stratification, sampling design and measurement variables and protocols.
 - Implementation of field work for carbon measurement system
 - Carbon conversion and expansion factors developed for Guyana)
 - Assessment report of key processes causing change in forest carbon based
 - Assessment Report on Drivers/Processes
 - Report describing the a long-term measurement and monitoring plan



Capacity Building & Support Needs

- Facilitate data acquisition and processing for Redd + priority areas (hot spots) in Guyana (task satellite)
- Issue of cloud cover
- Develop methodology to map forest degradation in Guyana's context
- Automated detection of forest land area change





Thank you