OPPORTUNITIES FOR CARBON TRADE UNDER CDM AND REDD TO SUPPORT FOREST CONSERVATION AND SUSTAINABLE DEVELOPMENT IN PAPUA NEW GUINEA

SIMON SAULEI
CENTRE FOR RESEARCH
UNIVERSITY OF PAPUA NEW GUINEA

INA, UPNG & PNGSDP
CLIMATE CHANGE, FORESTS & CARBON TRADING WORKSHOP

2nd June 2008
Crown Plaza, Port Moresby

CLEAN DEVELOPMENT MECHANISM (CDM)

- Kyoto Protocol – Legal mechanism with the aim of:

  1. Assisting developed countries to achieve their compliance in regard to their quantified emission limits and reduce their commitments under article 3.

  2. Assist developing countries in achieving sustainable development and at the same time contributing to the ultimate objective of the Convention

- Kyoto Mechanisms
  - IET – applicable to developed countries
  - JI/AIJ – applicable to countries in transition
  - CDM – developing countries

- Activities
  - Reforestation
  - Afforestation
  - Agroforestry
  - Renewable Energy Sources & Efficiency

ADAPTAION TO THE IMPACTS OF CLIMATE CHANGE SHOULD ALSO BE CONSIDERED WITHIN THE CDM FRAMEWORK

CDM PROJECTS

- Two Basic CDM Projects Types:
  - Energy sector: focused on emission reduction/avoidance of GHGs
    - Relatively 'convenient' to work with and compute
      - Lihir Gold Mine: diesel replacement by geothermal energy

        Formula: Energy use = current fossil energy volume – replacement by renewable energy volume = off-set = CERs
  - Natural environment sector: focused on GHG absorption and storage (CARBON SINKS)
    - More 'inconvenient':
      - Only for Kyoto Forests
      - Require scientific baselines studies/research: measurements of GHGs from each plant species/habitat; overtime GHG storage = carbon credits (CERs)
      - Pending Projects:
        - Ramu Sugar's Afforestation Project (est. CERs: 15.72tC/ha)
        - Galilolo Community (Bialla) Reforestation Project
      - Formula: tC (sequestrated/storage) – emitted = CERs
      - Rigorous Governance process and procedures

As of the end of 2007 the Global Carbon Market was US$64 billion

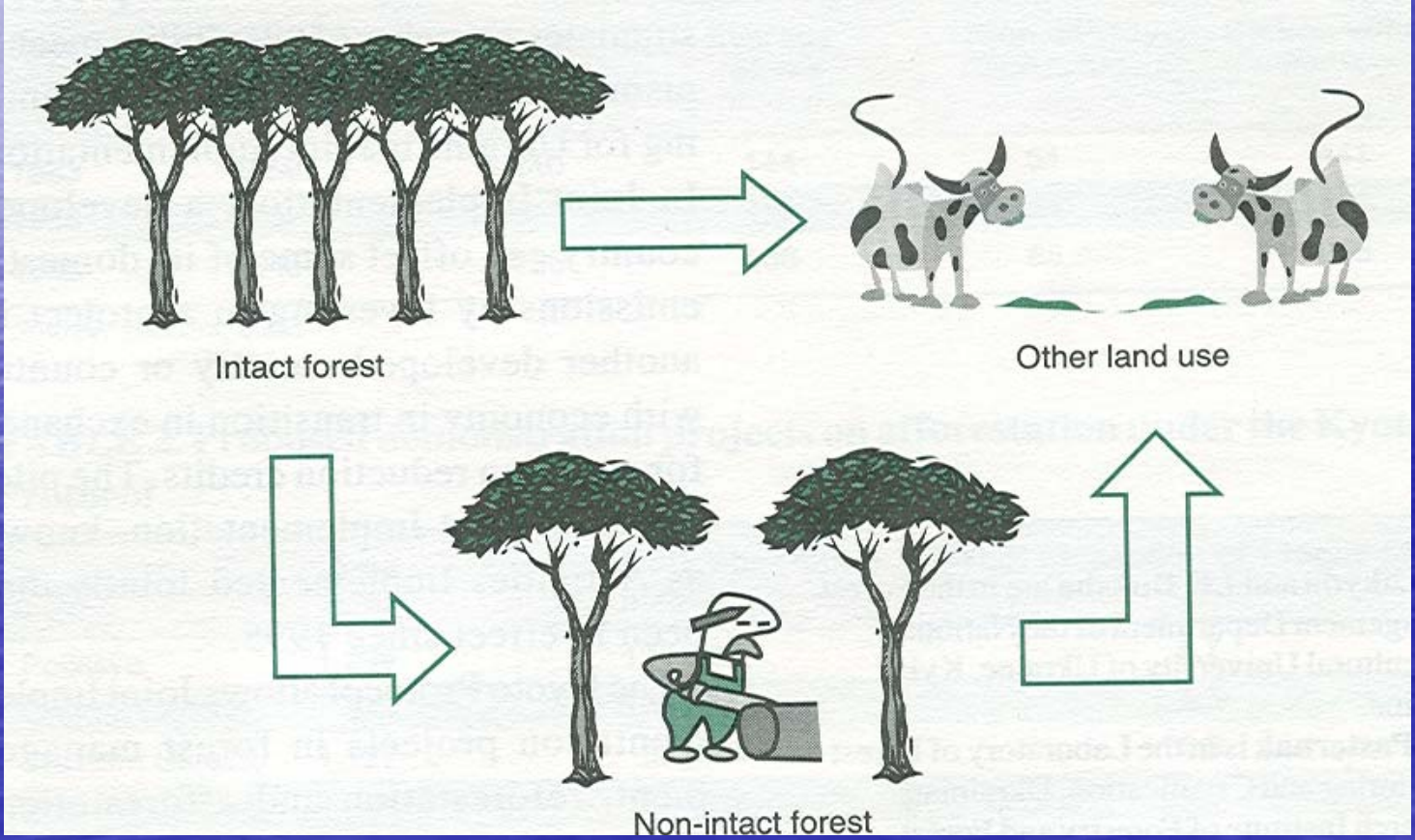
OBJECTIVES FOR PLANTED FORESTS

Establish Forest Plantations for any of the following reasons:

- **CARBON SEQUESTRATION & STORAGE**
- **INDUSTRIAL USE**
- **CONSERVATION**
- **ENVIRONMENT PROTECTION, INCLUDING FOR ADAPTATION**
- **ENERGY – BIOMASS AND BIOFUEL**
- **NON TIMBER PRODUCTS**

DEFORESTATION & DEGRADATION (REDD)

Accounts for 20-25% of global GHG emissions



DRIVERS OF REDD IN PNG

In PNG, the major sources of deforestation and degradation have been identified and categorized into two groups: anthropogenic and natural and are further subdivided as follows:

a. Anthropogenic sources
   - Shifting cultivation
   - Logging
   - Large-scale commercial Agriculture
   - Burning
   - Mining and Petroleum exploration and development
   - Infrastructure developments
   - Settlements and urbanization

b. Natural sources
   - Earth quakes
   - Volcanic eruptions
   - Land movements
   - Landslips
   - Burning
   - Flooding

However, we have yet to establish their extent and rates

STATUS OF PNG FORESTS

Deforestation is one of the main drivers of global climate change. Current estimates of deforestation and degradation in PNG include the following statistics:

- Total land area – 4.64 million ha
- Forested land - 60% (2.8 million ha)
- Commercial Logging – 1.22 million
- Inoperable forested area – 0.60 million ha
- Operable forest areas – 0.24 million ha
- Logged and left to regenerate – 0.20 million ha
- Conversion to permanent alternative land use – 0.04 million ha (e.g., oil palm)
- Other uses – 0.11 million ha converted to other land use without prior logging, mostly cleared by traditional slash and burn form of agriculture.
- Annual deforestation and degradation is estimated at 0.46%.

ISSUES YET TO BE RESOLVED

Definitions are critical as these will affect baselines, monitoring methods and potential credits.

Baseline – is a future projection of emissions from REDD and serves as a reference for measuring reductions in emissions. Such a baseline can be based on:

- A linear projection of the past (history) - over what time interval and how far back.
- A modeling approach based on planned land-use, unplanned activities and their relationship to various factors

Monitoring – these will include monitoring and measuring the various pools of carbon in Forests (above and below ground biomass, dead wood, litter and soil). This could be determined through measuring and monitoring emissions from REDD in regard to:

- Change in forest cover in relations to:
  - Change in forest area
  - Reduction in forest cover
- Changing in carbon stocks and in emissions of non-CO2 gases.

A system for monitoring and reporting emissions from REDD should have the following elements:

- Credibility
- Transparency
- Accuracy with high certainty
- Based on good science
- Compliance to the requirements of the REDD Policy

ISSUES

The following definitions may be similar to that used currently under both the UNFCCC and KP which was further refined in the Marakesh Accord and these are as follows:

- **Deforestation – as the long-term or permanent conversion of forested land to non-forested**

- **Degradadtion – where there are emissions from forests caused be a decrease in canopy cover that does not qualify as deforestation. It presents a much broader land cover change than deforestation**

- **Forest land – under the UNFCCC this category includes all land with woody vegetation consistent with thresholds used to define forest land in the UNFCCC process. Such threshold parameters include minimum area, minimum height and minimum level of crown cover.**

Issues

TECHNICAL & METHODOLOGICAL ISSUES

A number of technical issues have been raised which have hampered efforts to include Emissions from deforestation in the past. Some of these issues arise out of the project-based approach to emission reductions in developing countries and national baselines would make them easier to deal With such as:

- Additionality: It is believed that by establishing national REDD baseline rates, the additionality of efforts to reduce deforestation can be judged quickly and accurately while underpinned by clear reduction targets. Using these baselines, we can determine, at a national level, whether REDD has in fact been reduced from historical levels.

- Leakage: It is believed that by addressing REDD on the national level, leakage will be captured in a manner not possible with project-based accounting.

- Permanence: It is suggested that establishment of a carbon banking mechanism that credits early action and debits compliance failures. Further, leveraging the insurance markets to address traditional risks such as fire, flood, etc.

- Monitoring: With present satellite technology, remote-sensing technologies may be applied with the necessary accuracy and cost effectiveness.

ISSUES

CREDITING OR COMPENSATION ISSUES

Under a REDD mechanism, successful reducing the rates of emissions through improved forest protection and sustainable production methods would be eligible to receive benefits on the basis of carbon credits saved. However, there are a number of issues that still need to be resolved before a REDD mechanism is adopted by the COP. These include:

- the method to be used to define an emission reference (baseline);
- the definition of forest, deforestation and degradation to be used in REDD;
- the form of a REDD carbon market and compensation mechanisms; and,
- the protocol for REDD implementation.

As part of a continuing process for assisting COP to address the above issues, PNG should Conduct research in analyzing the following:

- available data on carbon stocks and land-use change;
- identifying and prioritising for action the key drivers of deforestation and degradation;
- mechanisms for engaging with carbon markets and for managing REDD payments, as well as opportunities within the current national legislations and policies for actions.

ISSUES

Need to examine the key elements of a REDD mechanism, especially the following:

- a baseline against which to benchmark reductions in deforestation and degradation;
- strategies to reduce emissions and to ensure their permanence;
- means of monitoring and verifying emissions reductions, and preventing leakages;
- REDD markets/financing;
- mechanisms to manage and distribute payments to those bearing the costs of avoided deforestation and degradation, including the resource owners.

ISSUES

PNG's commitments to REDD:

i). reducing the rate of deforestation and degradation; and,

ii). increasing the activities for converting non-intact forests and other land use to intact forest.

REDD compensation mechanisms could be defined as having two components:

- **Compensation for loss of revenue from activities that increases the rate of deforestation and degradation; and,**
- **Compensation for implementing activities that reduce emissions under both CDM and REDD mechanisms.**

Loss revenue sources can be based on sector activities identified as major drivers of REDD such as:

- **Forestry sector- logging: reduction in the number of FMAs and TAs or timber permits, appl. RIL, etc.**
- **Large-scale commercial agriculture: reduction in the number of large scale agriculture projects;**
- **Mining & Petroleum: reduction in the number of mining and petroleum explorations and developments per year;**
- **Degraded and abandoned development areas: rehabilitation;**
- **Settlements: reduction or do away of unplanned settlements and urbanization;**
- **Land slips and Flooding: increased rehabilitation of degraded areas and exposed vulnerable areas such as slopes and hills;**

ISSUES

While compensations for activities that, if implemented, would reduce emission rates include the following:

- Increasing areas for conservation and protection;
- Implementing, managing and monitoring of national sustainable forest management strategies;
- Implement, manage and monitor reforestation, enrichment planting and assisted natural regeneration activities in logged over areas;
- Increase afforestation and rehabilitation of degraded areas; and,
- Planting trees for adaptation measures (e.g., planting mangroves along erosive coastlines or planting trees on erosive exposed slopes, hills or unstable areas.

EM TASOL, TENK YU.