

UNFCCC SBSTA

In Session Mitigation Workshop: Agriculture, Forestry and Rural Development
Bonn, 23 May, 2006

The Contribution of Forestry and Forests to the Objective of the UNFCCC and to Sustainable Development

Markku Kanninen
Center for International Forestry Research



Kyoto Protocol: Objectives

- ▶ Assist Annex 1 countries in achieving their quantified emission limitation and reduction commitments
 - Real, additional, verifiable, certified
- ▶ Promotion of sustainable development
 - To implement the commitments mentioned above in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties

Sustainable development objectives

- ▶ Enhanced environmental services
 - Improved soil fertility
 - Biodiversity conservation
 - Maintained hydrological/watershed functions
- ▶ Improved livelihoods
 - New opportunities for rural communities
 - Increased income and financial benefits
- ▶ Secured social capital
 - Ascertained land titles and tenure systems
 - Reduced conflicts over property
 - Strengthened institutions

Forests in practice:

- ▶ Contribution to UNFCCC objectives & efforts
 - Planting forests (AR projects under the CDM)
 - Reducing deforestation
 - ▶ JI pilot phase & future discussions
 - Bioenergy
 - ▶ Less explored & currently being discussed
 - Forest conservation and sustainable management
 - ▶ Great potential to contribute to adaptation
- ▶ Contribution to sustainable development
 - Importance of forests for local livelihoods, national economies

Importance of forests

- ▶ Over 350 million people live in forested areas
- ▶ Over 1 billion people rely heavily on forests for their livelihoods
- ▶ Forests, both natural and planted, make an important contribution to national and local economies



Importance of forests: employment

- ▶ About 60 million people are employed in the forestry and wood industries
- ▶ Wood energy (fuel wood and charcoal) industry employs about 13 million people
- ▶ In the Tropics 13-35% of off-farm employment in small forest enterprises



Importance of forests: energy & health

- ▶ Over 2 billion people, a third of the world's population, use biomass fuels
- ▶ Over 2 billion people rely on traditional medicines harvested from the forests
- ▶ In some 60 developing countries, hunting and fishing on forested land supplies over a fifth of protein requirements



Importance of forests: services

- ▶ Over 3 billion people living in rural areas benefit from environmental services of forests (water, biodiversity)
- ▶ Many of the 3 billion people living in urban areas use forests for recreation



Trends

- ▶ During the last 40 years
 - Deforestation: 500 M Ha
 - Consumption of forest products: 50% increase
- ▶ During the next 40 years
 - Over 100 M Ha of new agricultural land needed
 - Consumption of forest products: 50% increase
 - 40-50% of industrial wood from plantations

Promoting sustainable forestry

- ▶ CDM's for afforestation and reforestation
 - Gain experience in good management
 - Develop forest-based rural enterprises
 - Role of planted forests will increase in the future in timber supply
- ▶ Conservation of existing forests
 - High potential - post 2012?
 - Logging and industrial wood waste
-> bio-energy?
 - Increase plantations -> less pressure?

Promoting sustainable forestry

- ▶ Linking producers with buyers
 - Potential for other services (water, etc.) and for global markets of forest-based environmental services
- ▶ Valuing the forest
 - Internalizing services -> less destruction?
- ▶ Secure land tenure and access rights
 - As a part of a CDM arrangements?
- ▶ Combine with goods and other services
-> promotion of sustainable land-use
- ▶ Strengthening national capacities

Afforestation on degraded croplands

- ▶ Potential positive ecological impacts
 - Reintroduction of native species
 - Reduced soil erosion
 - Increased biodiversity
 - Improved degraded forest and pasture
 - Extended fallow period
 - Enhanced roles of corridors
- ▶ Potential positive social impacts
 - Diversified income streams
 - Use of new products
 - Product chain improvement and capacity building
 - Diversified economic basis for rural development

Afforestation on degraded croplands

- ▶ Potential negative impacts
 - Reduced agricultural crop return
 - Intensified land-use
 - Increased resource demand (e.g., water)
 - Negative impacts on biodiversity due to use of monocultures
 - Large scale exotic species plantations
 - Monospecies and single age-class systems

Linking mitigation & adaptation

- ▶ Prioritize mitigation activities that help to reduce pressure on the natural resources
- ▶ Include vulnerability to climate change as one of the risks to be analyzed in mitigation activities
- ▶ Prioritize mitigation activities that enhance local adaptive capacity
- ▶ Increase sustainability of livelihoods, with particular consideration for the poor



Linking mitigation with adaptation

- ▶ Who, where, which activities?
- ▶ Who will participate?
 - Do social groups targeted for mitigation and adaptation coincide?
- ▶ Where?
 - Adaptation measures highly spatially defined – mitigation less
- ▶ Which activities?
 - Mitigation -> increased resilience and reduced vulnerability

Synergies between mitigation and adaptation

		Adaptation	
		High	Low
Mitigation	High	<p>Population and location vulnerable to climate change and suitable for mitigation coincide.</p> <p>Mitigation activities increase resilience of production systems.</p> <p>Mitigation activities increase the resilience of social systems through the provision of insurance, income diversification, market stabilisation.</p>	<p>Population and location with greatest mitigation potential are not vulnerable to climate change.</p> <p>In cases where population and location of climate change vulnerability and mitigation coincide, the mitigation strategy adopted is highly risky or highly capital intensive and is unlikely to produce significant adaptation benefits.</p>
	Low	<p>Population and location are vulnerable to climate change but not very efficient mitigators (e.g., either sequestration or emissions reductions).</p> <p>Adaptation strategy requires activities that increase greenhouse gas emissions (energy development, livestock production, land conversion).</p>	<p>Populations and locations vulnerable to climate change and suitable for mitigation may or may not be the same.</p> <p>Environmentally degrading agricultural production and energy systems are adopted leading to increased ecological and social vulnerability as well as emissions.</p>

Benefits of environmental services



CONSTITUENTS OF WELL-BEING



Source: Millennium Ecosystem Assessment

ARROW'S COLOR
Potential for mediation by socioeconomic factors

- Low
- Medium
- High

ARROW'S WIDTH
Intensity of linkages between ecosystem services and human well-being

- Weak
- Medium
- Strong

Conclusions – a way forward

- ▶ Synergies of C sequestration with other environmental services
 - Diversified rural economies and improved livelihoods
 - CDM projects for biodiversity corridors and connectivity
 - Landscape level planning in watersheds
- ▶ Combine mitigation (C sequestration) measures with adaptation to climate change
 - CDM projects to reduce vulnerability and to minimize risks (forest fires, flooding, etc.)
 - CDM projects to increase resilience of ecosystems

Conclusions – a way forward

- ▶ Develop pro-poor CDM markets
 - Low transaction costs vital
 - Fully explore the potential of small-scale LULUCF CDM projects (simplified modalities)
- ▶ Make CDM to work for for rural livelihoods
 - Put people first – minimize leakage
 - Develop forest-based rural enterprises based on planted forests & agroforests
 - ▶ Products, services, energy
 - Integrate CDM with long-term sustainable development goals & development agendas (MDGs)



Thank you