
LFCCs

LFCCs vulnerable states to the climate changes and eligible for financial support

Presented at:
Tehran Workshop on Harnessing Climate Change Financing for Forests in Central Asia
29 April – 1 May 2014
Economic Cooperation Organization Headquarters, Tehran, Iran

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Topic of discussion at UNFF-ECO workshop:

- Climate change
- Forests
- LFCCs
- ECO member countries
- Vulnerability, Impacts, Adaptation, and Mitigation
- SFM, C&I, nfp,
- REDD and REDD+
- Financial supports
- Conclusion

Climate change:

- Climate change is a major global threat.
- As carbon emissions rise, so does the likelihood of significant damages to water resources, ecosystems and coasts, as well as the impacts on food supplies and health.
- To avoid the worst effects of climate change, we should aim to stabilize levels of atmospheric greenhouse gases at 445-490 parts per million CO^2e or less.
- Achieving this global stabilization target will require strong and urgent international action on a number of fronts – and forests will need to play a central role.
- Forestry, as defined by the IPCC, produces around 17 per cent of global emissions, making it the third largest source of greenhouse gas emissions – larger than the entire global transport sector.
- Annual forest emissions are comparable to the total annual CO^2 emissions of the US or China.
- If we do not tackle deforestation, it is highly unlikely that we could achieve a CO^2e stabilization target that avoids the worst effects of climate change.
- Forests also deliver additional ecosystem services such as regulating regional rainfall, flood defense, maintaining soil stability and supporting high levels of biodiversity.
- Many of these services are crucial for maintaining life and livelihoods, with 1.6 billion people depending on them for their welfare and livelihoods to some extent.

Forests:

- Forests play an important role in regulating the earth's climate.
- Deforestation and forest degradation release stored carbon into the atmosphere as CO^2 emissions.
- The global forest sector produces an estimated 5.8 $GtCO^2$ annually.
- Deforestation is occurring rapidly in the tropics, where an estimated 13 million hectares – an area the size of England – are converted to other land uses each year.
- Deforestation in tropical regions generally emits significantly more CO^2 than forests elsewhere in the world.
- Modeling for the Eliasch Review estimates that the global economic cost of the climate change impacts of deforestation will rise to around $1 trillion a year by 2100 if unabated.
- The total damage cost of forest loss for the global economy could be $12 trillion in net present value terms.
- These costs are additional to climate change damage caused by emissions from other sectors.

Forests:

- Although forest cover in LFCCs is low, but forest area can still be significant.
- Chad, Iran, Mali and Mongolia have forest areas of over 10 million hectares; South Africa over 9 million hectares.
- The following countries have large forest areas, the size of which is provided in parentheses:
- Kazakhstan (3,337,000 ha), Kenya (3,522,000 ha), Morocco (4,364,000 ha), Namibia (7,661,000 ha), Saudi Arabia (2,728,000 ha) and Turkmenistan (4,127,000).
- Typically, these forests are concentrated in a part of the country that has more favorable climatic conditions (Indufor, LFCCs 1, 2010).
- FAO estimates global forest cover to be just over four billion hectares, which corresponds to about 31 percent of total land area (FAO, 2010).
- Furthermore, the FAO determined that while deforestation rates show signs of decreasing, they are still "alarmingly high" (FAO, 2010).

Estimates of forest area, net changes in forest area (negative numbers indicating decrease), carbon stock in living biomass, and growing stock in 1990, 2000, and 2005. Europe includes the Russian Federation (IPCC, 2007).

Region	Forest area, (mill. ha)	Annual change (mill. ha/yr)		Carbon stock in living biomass ($MtCO_2$)			Growing stock in 2005
	2005	1990-2000	2000-2005	1990	2000	2005	million m^3
Africa	63,5412	-4.4	-4.0	241,267	228,067	222,933	64,957
Asia	571,577	-0.8	1.0	150,700	130,533	119,533	47,111
Europe[a)]	1001,394	0.9	0.7	154,000	158,033	160,967	107,264
North and Central America	705,849	-0.3	-0.3	150,333	153,633	155,467	78,582
Oceania	206,254	-0.4	-0.4	42,533	41,800	41,800	7,361
South America	831,540	-3.8	-4.3	358,233	345,400	335,500	128,944
World	3,952,026	-8.9	-7.3	1,097,067	1,057,467	1,036,200	434,219

Background to the LFCCs:

- The International Meeting of Experts on *Special Needs and Requirements of Developing Countries with Low Forest Cover and Unique Types of Forests* held 4-8 October 1999 in Tehran, Iran.
- 77 participants from 39 countries and 6 international and bilateral organizations and NGOs attended the meeting.
- 64 countries, Number of the LFCCs according to the FRA 2010 (FRA - FAO-2010)

LFCCs – FRA 2010 - FAO

- LFCCs (64): Forests cover no more than 10 percent of the total land area.
- These include many SIDS and dependent territories, as well as 16 larger countries with relatively substantial forest areas (more than 1 million hectares each). Three of these (Chad, the Islamic Republic of Iran and Mongolia) each have more than 10 million hectares of forest (FRA, FAO, 2010).
- A total of 161 countries and areas reported that they had some land classified as 'other wooded land' in 2010.
- However, it was evident from the comments provided in the country reports that the vast majority of the remaining 72 countries and areas also have vegetation that would be categorized as other wooded land using the definitions employed for FRA 2010, but currently have no reliable data on the actual extent (FRA, FAO, 2010).
- The total area of other wooded land is estimated to be at least 1.1 billion hectares – equivalent to 9 percent of the total land area.
- This category suffered from reclassification problems, particularly in dry zones such as those in Australia, Kenya, Mozambique and Sudan, where the distinction between forest and other wooded land is not very clear (FRA, FAO, 2010).

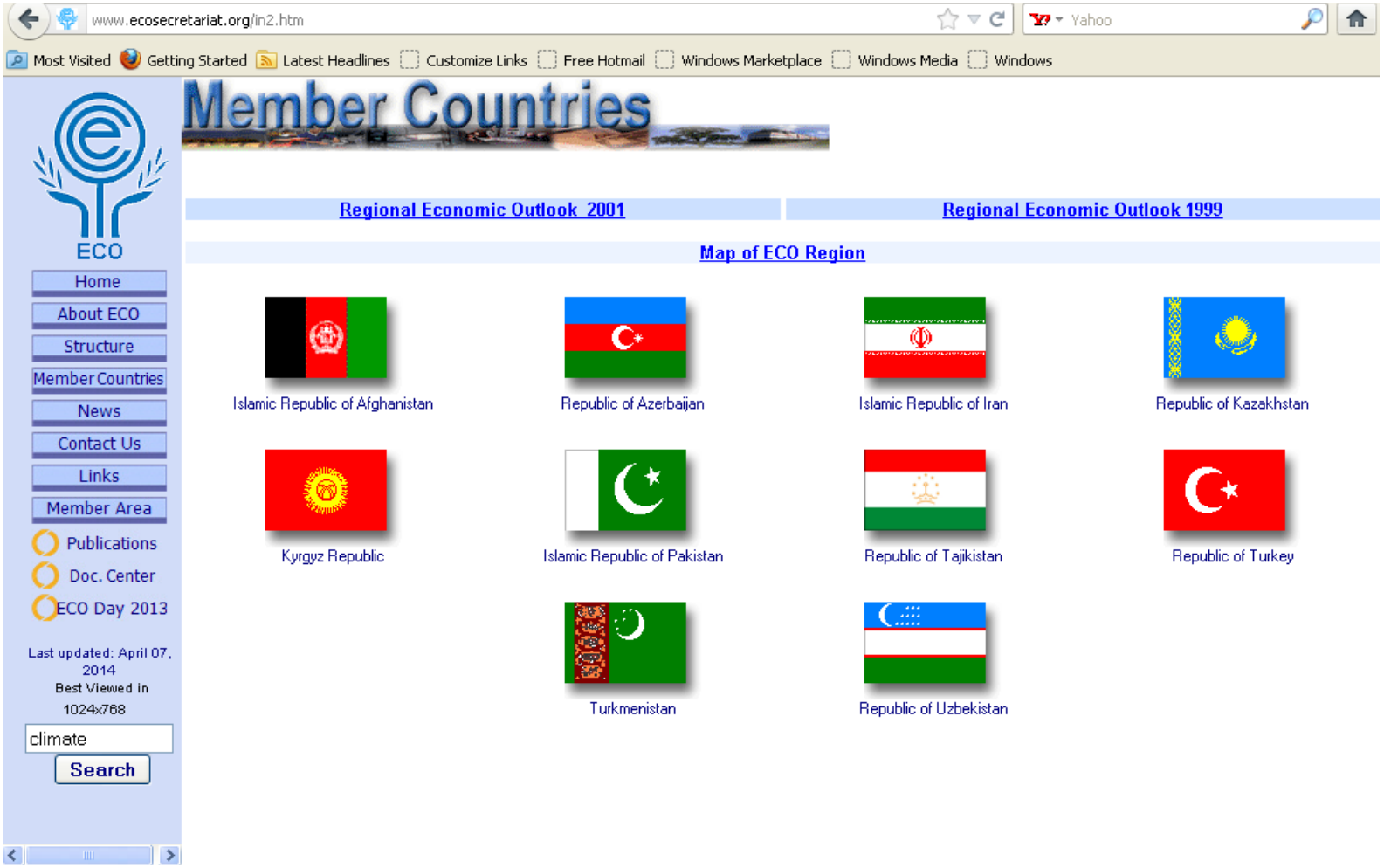
LFCCs:

- Although the forest cover of LFCCs is not significant on a global scale, but the forests and trees are extremely important to the well-being of the inhabitants of these countries, as forests combat against desertification and provide fuel wood, NWFPs and environmental services in watershed management (Indufor, LFCCs1, 2010).

LFCCs:

- LFCCs are a heterogeneous group concerning size, population and economy.
- In many LFCCs, semiarid, arid or desert climates cause low forest cover.
- The main forest produce in nearly all LFCCs is wood fuel and charcoal;
- exceptions are developed countries and countries that have other easily available energy resources.
- Forest resources per capita in LFCCs are extremely low, and population pressure on the scarce resources is high.
- The main deforestation driver in LFCCs is agriculture.
- The rate of deforestation is alarming, especially in many of the least developed and developing LFCCs.
- LFCCs like Uruguay and South Africa, on the other hand, demonstrate that a favorable political and investment environment can generate substantial financing for the forest sector and can transform a LFCC into a forest-industry country (Indufor, LFCCs1, 2010).

ECO member countries



ECO member countries

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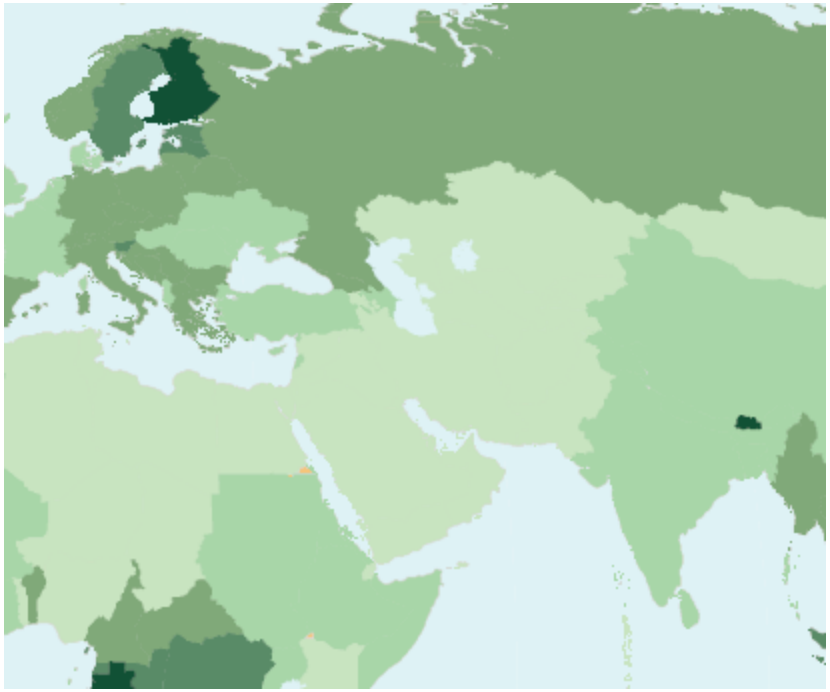
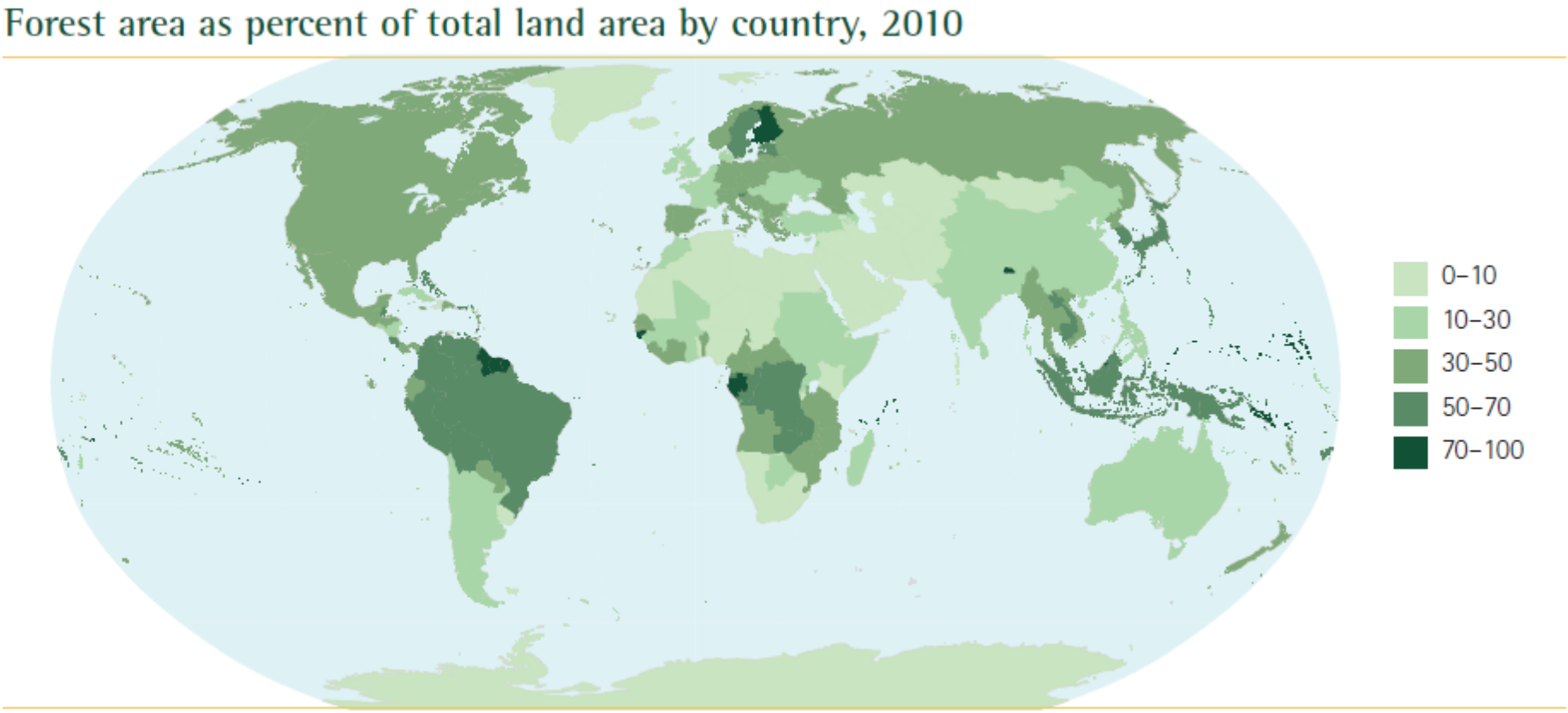
LFCCs and ECO member countries



Global Forest Cover and LFCCs



ECO member countries

ECO countries	Forest area (Km^2)	Percent of total land	GDP/capita USD 2009 est.(ref indufor 2010)	GDP/capita USD 2009 est.(ref ECO 2014)
Afghanistan (IR)	1,631 (ECO?)	00.25%	800	629 (2010)
Azerbaijan (R)	9,360 (ECO?)	10.81% (ECO Forest and woodland: 12.0%)		7491 (2012)
Iran (IR)	110,750 (ECO 120,000)	06.72% (ECO 7.30%)	12900	6030 (2010)
Kazakhstan (R)	54,498 (ECO?)	02.00% (ECO 4%)	11800	11.357 (2011)
Kyrgyz (R)	8,690 (ECO?)	04.35%	2100	1131 (2011)
Pakistan (IR)	42,240 (ECO?)	05.31% (ECO 4%)	2600	1294 (2012)
Tajikistan (R)	4,100 (ECO?)	02.87%	1800	846 (2011)
Turkey (R)	201,992 (ECO?)	25.77% (ECO 33%)		10504 (2012)
Turkmenistan	41,270 (ECO?)	08.46%	6900	3967 (2010)
Uzbekistan (R)	19,690 (ECO?)	04.40% (ECO 3%)	2800	579 (2005)

Vulnerability, Impacts, Adaptation, and Mitigation:

- Arid and semi arid region, which most of the ECO member countries as well as all LFC states are located, were impacted by the climate change effects, and have considered with high level of confidence, as vulnerable areas to the climate change and climate variability, and need to be adapted to the new climate condition with acceptable and reasonable measures.
- Mitigation also need to get more priorities in the member countries.

SFM, C&I, nfp:

- Sustainable forest management (SFM) aims to maintain and enhance the economic, social and environmental values of all types of forests now and in the future.
- SFM has suffered from declining financing over the last two decades.
- At the same time, loss of forest cover is of major global concern, increasingly so due to the linkages of forests to climate change mitigation and adaptation (Indufor, LFCCs1, 2010).

SFM, C&I, nfp:

- An important barrier to SFM in LFCCs is the lack of coordination among sectors.
- Criteria and Indicators (C&I) is essential part of SFM.
- Forest policies, strategies and legislation are not sufficiently coordinated with other land-use and natural resource-related policies and legislation.
- Common inter-sectoral competition at policy level, often causes those other sectors' needs and liabilities to replace forest issues (Indufor, LFCCs1, 2010).

SFM, C&I, nfp:

- More than half of the LFCCs do not have a forest policy or strategy.
- Forest policies and strategies should include an objective to maintain and/or to expand the forest area through SFM, afforestation and/or reforestation and forest conservation.
- Erosion control and energy production are usually the main objectives of reforestation and afforestation activities.
- In countries that do not have a forest policy, forests may be included in agricultural or environmental policies, strategies and legislation (Indufor, LFCCs1, 2010).

SFM, C&I, nfp:

- National forest program (nfp) with inclusion of reasonable institution needs, framework for socio-economic and financial condition, could help implementation of SFM in LFCCs.
- Two factors that have constrained past efforts include
  - (a) a single-sector or project-dependent approach to the problem, unable to capture and therefore address the cross-sectoral nature of forest degradation, and
  - (b) a lack of coordination and cooperation among different sectoral branches in the government and among development partners.
  - Forest degradation requires longer-term engagement than what individual projects and institutions are often able to provide.
- In most the LFCCs, forests are not a national priority where agriculture, food production and food security are of first concern.
- The forest sector is often seen as a backward, non-dynamic and alter role sector.
- Also, forests are not linked effectively with other relevant sectors in policy and administrative levels; they are instead managed separately without proper coordination with other sectors (Indufor, LFCCs1, 2010).

REDD and REDD+:

- While reducing emissions from deforestation and forest degradation in developing countries, including conservation, sustainable management of forests and enhancement of forest carbon sinks (REDD+) currently is not the primary driver of forest management options
- (i.e. the other benefits of forest management are the primary driver instead of the emission reductions),
- the United States Environmental Protection Agency (2005) notes that future changes in carbon valuation could result in large increases in the use of REDD+ as the primary driver.
- This is reflected in the international negotiations on climate change in Cancún as REDD+ is incorporated into the Cancún Agreements.
- The technique of forest management is an important aspect in global climate change mitigation efforts.

REDD and REDD+:

- Several forest mitigation options exist:
  - afforestation/reforestation,
  - Deforestation and forest degradation,
  - forest management for carbon stocks and
  - wood products.

  The IPCC notes that when properly designed and implemented, these forestry mitigation options should provide substantial co-benefits in terms of employment and income generation opportunities, biodiversity and watershed conservation, provision of timber and fiber as well as aesthetic (visual) and recreational services (IPCC, 2007).

Financial supports :

- The IPCC concludes their assessment of forest mitigation options with the notion that forestry can make a "very significant contribution to a low-cost global mitigation portfolio that provides synergies with adaptation and sustainable development (IPCC, 2007).

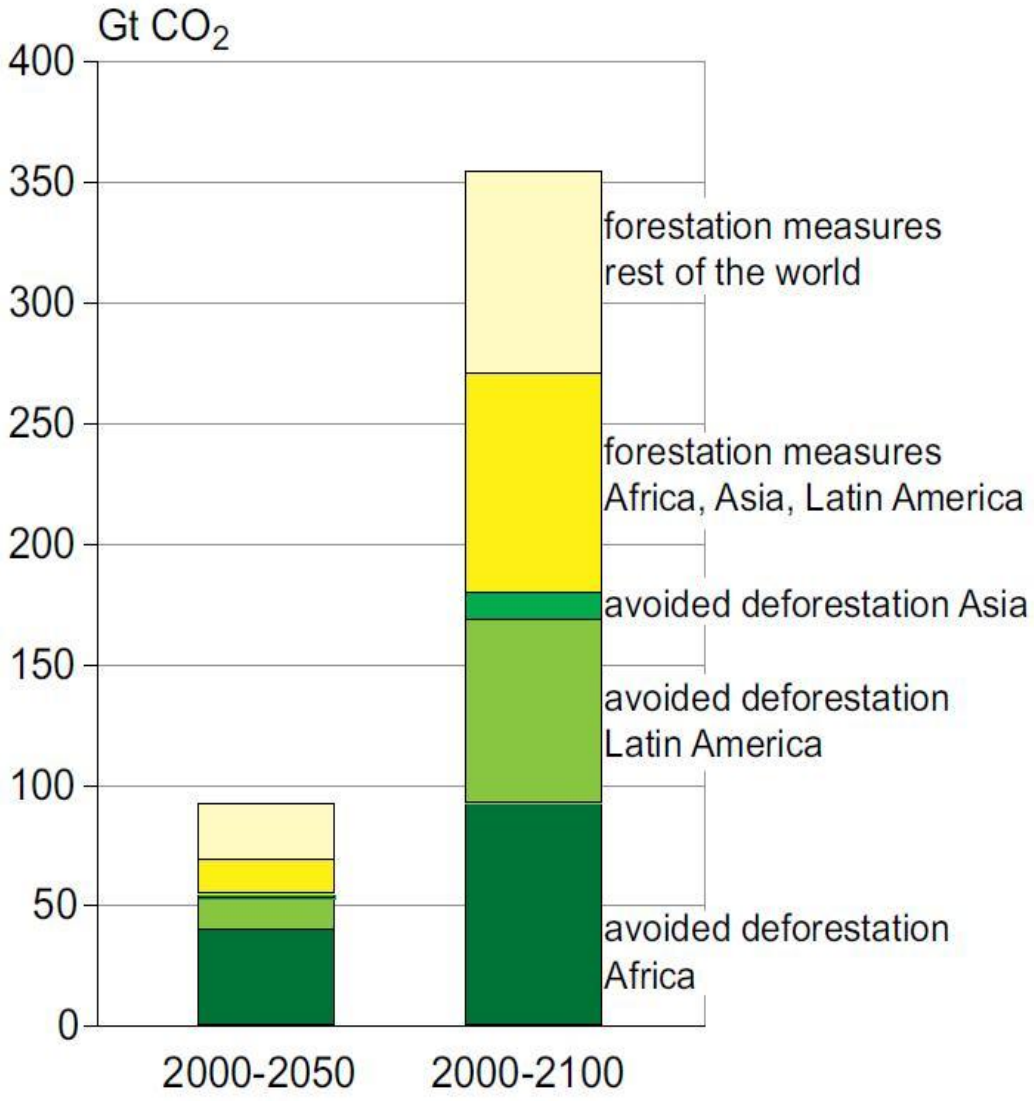
Financial supports :

- Since one of the barriers identified that preclude the full use of the mitigation potential are economic considerations, several market based development instruments are proposed that internalize the benefits of mitigation.
- For instance, market-based development of environmental services from forests such as biodiversity conservation, carbon sequestration, watershed protection and eco-tourims is receiving attention as a tool for promoting SFM.
- Development of these markets and behavior of forest owners may influence round wood markets and availability of wood for conventional uses.

Financial supports :

- Estimates exist of the required cost of carbon in order to make avoided deforestation as valuable as deforestation.
- On the long-term, estimated that 27.2 US$/ton of CO^2 could potentially eliminate deforestation (Sohngen and Sedjo, 2006).
- Over a fifty year period, this could mean a net cumulative gain of 278.000 $MtCO^2$ relative to the baseline and 422 million additional hectares in forests.
- The largest gains in carbon would occur in Southeast Asia and South and Central America.

Cost estimates for carbon sequestration projects for different regions show a wide range (compiled by Cacho et al., 2003; and by Richards and Stokes, 2004). The cost is in the range of 0.5 US$ to 7 US$/tCO^2 for forestry projects in developing countries, compared to 1.4 US$ to 22 US$/tCO^2 for forestry projects in industrialized countries.



Financial supports :

- The majority of LFCCs have signed and ratified international agreements or declarations related to forestry (such as: UNCCD, UNCBD, UNFCCC and Millennium Development Declaration).
- It means that generally a will exists to take action in these areas in LFCCs.
- What is missing is financing and the national capacity to coordinate activities under and among separate programmes.
- Both financial and technical supports are needed.

Financial supports :

- Valuable lessons in developing sectoral coordination and financing could be taken from other sectoral mechanisms developed under, for example, the United Nations.
- The UNCCD and institutions like the Global Mechanism (GM) have worked to develop national-level Integrated Financing Strategies (IFS) and related Integrated Investment Frameworks (IIF) for leveraging national, bilateral and multilateral resources for sustainable land management (SLM).

Conclusion:

- One key theme for LFCCs is inter-sectoral programming and coordination.
- Forests, desertification, biodiversity and climate change adaptation are very much interrelated in LFCCs, but countries have not been able to generate overall integrated policies, strategies and action plans linking the concerned sectors properly.
- Even when integrated action plans do exist, another challenge is to create successful cooperation and coordination between authorities in plan implementation.
- Integrated approaches would support governments in raising and allocating funding towards these sectors and would be likely to generate more sustainable results.
- Countries could also benefit more from regional cooperation (Indufor, LFCCs1, 2010).

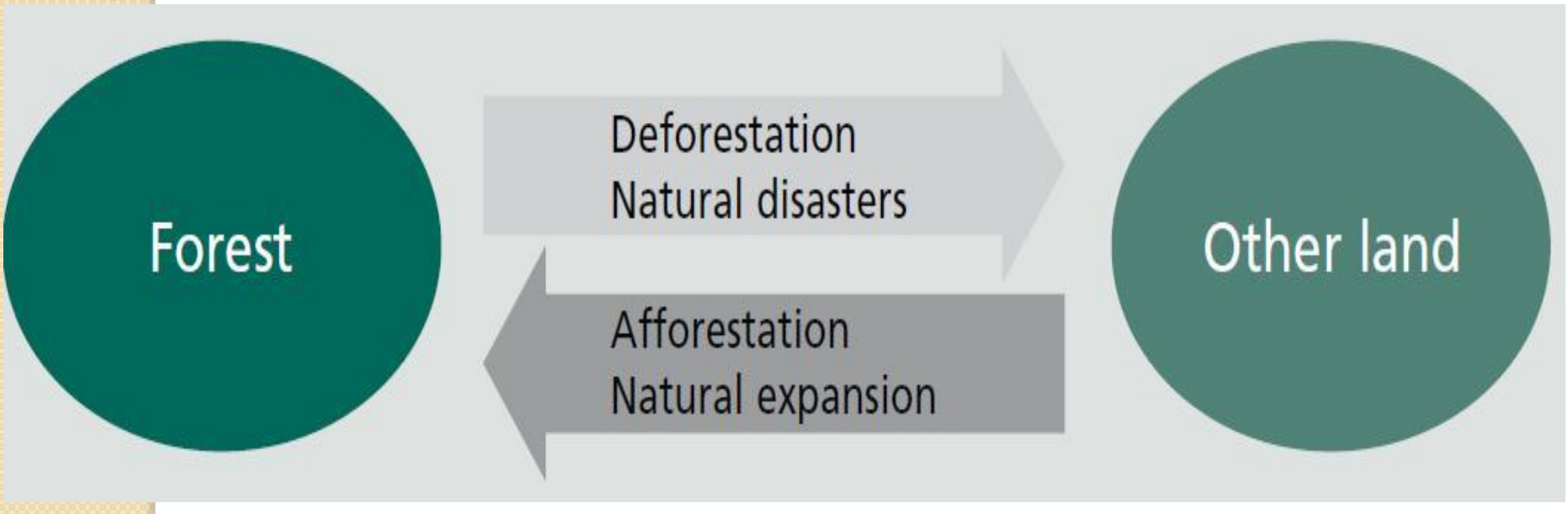
Conclusion:

- Regional processes such as TPS for LFCCs in cooperation with ECO secretariat could play very active role to facilitate allocated financial resources in different related conventions and bodies for the conservation of forest genetic resources, improvement and sustainable management and use of forests in multilateral as well as national levels.

Conclusion:

- Around 13 million hectares of forest are converted to other uses or lost through natural causes annually throughout the past decade.
- Brazil and Indonesia have managed to significantly reduce their rate of loss (FAO, 2010).
- Deforestation is mainly the result of converting forests to agricultural land.
- However, expansion of settlements, infrastructure and unsustainable logging practices also cause deforestation (MEA, 2005).

Dynamics of deforestation



Forest and carbon management

- The world's forest store a vast amount of carbon which is estimated to be around 289 gigatonnes (Gt) of carbon in their biomass alone (FAO, 2010).
- Due to deforestation and poor forest management, carbon stocks in forest biomass for the world as a whole decreased by an estimated 0.5 Gt annually during 2005-2010 (FAO, 2010).
- Therefore, the technique of forest management is an important aspect in global climate change mitigation efforts.
- Several tools have been developed in the context of sustainable forest management (SFM), including Criteria and Indicators (C&I), national forest programmes (nfp), model forests and certification schemes.
- These tools can also support and provide sound grounds for mitigation of climate change and thus carbon sequestration.
- Proper management plans are seen as fundamentals for the development of management strategies that can also include carbon-related objectives (IPCC, 2007).

Four different management categories

- 1) Maintaining or increasing forest area through reducing deforestation and degradation.
- 2) Maintaining or increasing forest area: afforestation/reforestation
- 3) Forest management to increase stand- and landscape-level carbon density and
- 4) Increasing off-site carbon stocks in wood products and enhancing product and fuel substitution

Recommendations:

- **Proper allocation of ODA to LFCCs;**
- **Proper allocation of ODA to SFM ;**
- **Strategic decision in international and regional level, to investment in SFM and carbon stock issue in LFCCs**
-
- **Encourage and assist LFCCs to make financial policy in nfp for SFM**
- **Encourage donor to allocate more ODA to SFM in LFCCs for Forest policy**
- **Allocation of ODA and REDD+ fund to SFM as well as to preservation and carbon stock**
-
- **International perspectives (CPF /UNFF / FAO)**
- **International level (Strengthen regional / interregional organizations / Take full advantage of existing international funding initiatives)**
-
- **Regional dimension (UN offices, TPS for LFCCs, ECO and others**
- **Regional level Actions (Call for international funds at regional level)**
-
- **National activities (national levels studies)**
- **National level (Forest Financing Strategy National Forest Programmes. Action Plan Drivers of forest financing sources)**

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Thank you

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