Deforestaion Drivers in forestry sector and outside Forestry Sector and Candidate Strategies

Many reports and studies show that drivers and underlying causes in Myanmar are similar to those in other developing countries. Unsustainable illegal or legal logging, fuel wood collection and pioneering or unsustainable shifting cultivation are often listed as the main drivers of forest degradation. The main drivers of deforestation are considered to be the expansion of subsistence and commercial agriculture, urbanization and infrastructure development, mining and hydro-power development. The establishment of planted forests, including commercial timber plantations (e.g. Teak, hardwoods) and industrial plantations (e.g. pulpwood, palm oil, rubber, etc.) is often referred to as a major contributor to the decline of natural and diverse forests.

A growing population and the increasing demand for food, wood products and other commodities from domestic and international markets put additional pressure on remaining forest resources and are driving rapid land-use change in favor of agriculture and extractive industries. This situation is further exacerbated by a vicious cycle of poverty, heavy reliance on increasingly scarce common access resources such as forest and other natural resources, low agricultural productivity and the lack of alternatives available to rural populations. Poor forest governance and law enforcement, conflicting institutional mandates, unclear policy frameworks, limited natural resource management capacities and insufficient financial resources all have major repercussions on deforestation and forest degradation. The lack of secure tenure over forest and forest lands is a major obstacle to the essential local or community participation and long term investment in forest management.

An initial assessment of the drivers and underlying causes of deforestation and forest degradation was undertaken by the "Technical Working Group on Drivers and Strategies" with the supports and facilitation of UN-REDD Programme and FD-ITTO REDD+ Porject. This assessment, based on inputs from group members and a review of available literature, was presented to national and regional stakeholders during the National REDD+ Readiness Roadmap Consultation Process. Drivers were ranked in terms of their contribution to or impact on deforestation or forest degradation and were segregated according to whether they lay within the control of the forest sector, or lay outside the sector. The listed forest sector drivers are contributing to forest degradation whilst those outside the sector are the primary causes of deforestation. The analysis provides an indication of which of the six main forest types are affected by each of the drivers.

Drivers of Deforestation and Forest Degradation in Forestry Sector

Drivers of Deforestation and Forest Degradation in Forestry Sector

Over-exploitation of forest timber (legal-illegal)

- Weak implementation of Myanmar Selection System (MSS): need for more focus on pre-harvest inventories to identify harvestable trees and calculate a more accurate and conservative Annual Accountable Cut (AAC); need to differentiate management system for natural forests and patches of enrichment plantations
- Insufficient coordination between Ministry of Environmental Conservation and Forestry (MOECAF) entities, especially between Forest Department (FD) assessing the resource and the Myanmar Timber Enterprise (MTE) harvesting it
- Subcontracting of logging operations to Private Sector by the MTE, too many intermediaries
- Outside interference
- Weak in transparency and accountability
- Localised security issues and conflicts
- High demand for timber in domestic, regional and international markets
- Logging bans in several countries in the region and lack of enforcement of chain of custody regulations in countries buying Myanmar timber
- Trade restrictions leading to lower timber prices and laundering of illegal timber
- FD target/contribution to government budget combined with limited added value/process efficiency/access to markets providing higher price
- Lack of sustainable or alternative supply of timber, especially in local markets
- Limited investment in the wood processing industry leading to excessive wastage and unnecessary over-consumption

Over-harvesting of wood biomass as a source of energy

- High and increasing demand for wood energy for domestic use and industrial/cottage industry (e.g. brick making, sugar production/jaggery, restaurants), tea and coffee shop
- Lack of sustainable or alternative supply of fuel wood/charcoal
- Lack of technology or programmes for reducing fuel wood consumption and increasing efficiency of charcoal production

Unstable or pioneering shifting cultivation (Not permanent conversion of forest into agricultural land)

- Loss of traditional land due to investments (e.g. hydropower, agriculture)
- Growing population
- Lack of land tenure over shifting cultivation land and surrounding forests
- Lack of viable alternatives to shifting cultivation and acceptable technologies or practices to improve or diversify slash-and-burn agriculture.

Forest fires

- Natural fires
- Shifting cultivation and conversion
- Use of fire to support hunting and pasture management
- Lack of forest tenure rights providing limited incentives to local communities to prevent and control forest fires.
- Prolonged droughts exacerbated by climate change
- Limited awareness, resources and infrastructure (e.g. fire breaks, access roads. etc.) to prevent and fight against forest fires.

Over-grazing

- Increasing demand for meat products
- Use of farm animals due to lack of mechanization
- Increasing number of cattle grazing in a decreasing forest area
- No alternative to forests as source of fodders and lack of integrated farming systems promotion farm fodder production.

Storms

- Degraded mangrove ecosystems affected by an increasing intensity and frequency of extreme climatic events.

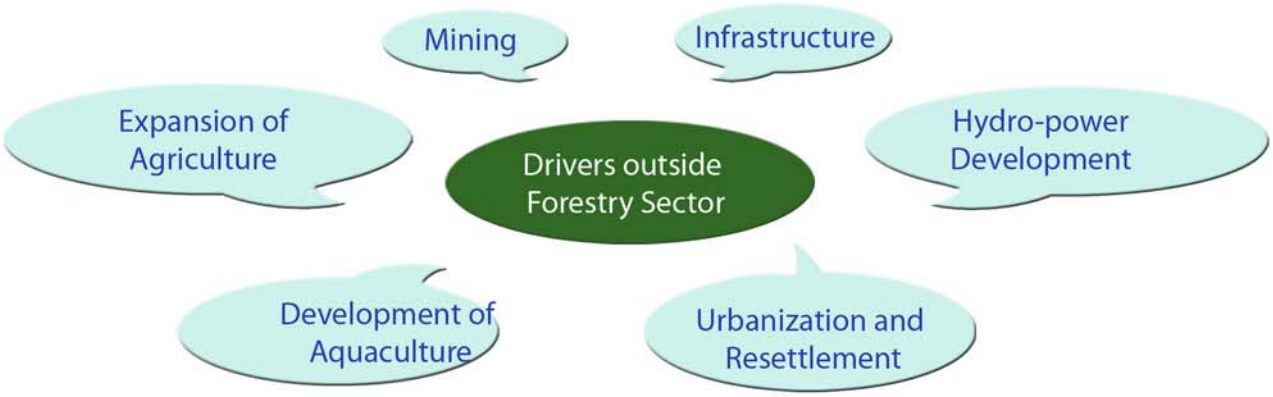
Pests

- Expansion of planted forests (monoculture)
- Climate change causing increasing temperatures and frequency of droughts.

General underlying causes in Forestry Sector

- Lack of incentives for implementing sustainable forest management
- Insufficient international support in the forestry sector (capacity building and programme implementation)
- Low institutional capacity
- Weak policy implementation
- Inadequate forest law enforcement
- High opportunity costs of sustainable management of forests at the local level
- Limited national budgets/ finance to support sustainable forest management activities by line agencies, local authorities and local communities
- Insufficient consultation in establishment and revision of forest boundaries
- Low Levels of local and participatory land use planning
- Low levels of stakeholder participation and involvement in forest management and inadequate revenue sharing.
- State ownership of forests or the lack of local forest tenure rights and management responsibilities lead to poor forest management
- Poverty
- Lack of awareness about ecosystem services

Deforestation and Forest Degradation Drivers outside Forestry Sector



Expansion of Agriculture (Subsistence and Commercial)

- Low agricultural yields and insufficient agricultural land for increasing population
- Increasing accessibility of forest areas and migration into forest areas
- Social norms (claiming land through utilization or cropping)
- Weak forest land tenure encouraging conversion of forests into agriculture
- Promotion of commercial agriculture (including industrial plantations such as palm oil, rubber, pulp wood etc.) by decision makers who compare relatively low direct economic benefits provided by forests to other alternatives such as agriculture (no valuation of environmental services)
- Ambitious production targets for the agricultural sector (contribution to national income)
- Increasing national and regional demand for agricultural commodities (e.g. rubber, oil palm, sugar cane) and influx of Foreign Direct Investment (FDI) have resulted in large-scale agri-industrial development
- Lack of or poor S/EIA , and lack of implementation and monitoring of corresponding mitigation plans
- Weak in inter-ministerial coordination in areas such as land-use planning, private investment management (screening, approval and monitoring), policy and legal framework development

Mining

- High global and regional demand
- Lack of or poor S/EIA and lack of implementation and monitoring of corresponding mitigation plans
- Weak coordination of Mining sector with Forestry Sector

Hydro-power Development

- High national and regional demand for electricity
- Lack of or poor S/EIA and lack of implementation and monitoring of corresponding mitigation plans
- Weak Coordination of Energy sector with forestry sector

Infrastructure (road, pipeline, Special economic zones, power lines)

- Lack S/EIA regulations for public infrastructure and lack of implementation and monitoring of mitigation plans
- Weak in coordination among relevant ministries

Urbanization and resettlement

- Population increase
- Lack of urban/land-use planning
- Resettlement of people displaced by Mines, Hydro-power dams, infrastructure
- migrants.
- Un-planned development activities

Development of aquaculture

- Increasing demand (national, tourism, export)

General Underlying Causes Outside Forestry Sector

- Current institutional setup (Central Land Management Committee headed by the Ministry of Agriculture and Irrigation and sub-national Land Management Committees at township level headed by the Ministry of Home Affairs/General Administration Department) makes it easier to convert forest which is not included in the Permanent Forest Estate (non-reserved or un-classified forest) into other landuse
- Overlapping and conflicting mandates of different land management committees reduces efficiency of land management and land use planning.
- Weak enforcement of the law;
- Land grabbing facilitated by insufficient or ineffective protection of traditional land or forest tenure rights coupled with the lack of fair and transparent land conflict resolution mechanisms and structures;
- Poverty and lack of alternative livelihoods;
- Increasing demand for resources from growing middle class;
- Eco-system services of forest undervalued and/or not considered in policy and investment decisions.

Initial identification of candidate REDD+ strategies for forest sector drivers (forest degradation)

REDD+ strategies will be designed to address the underlying causes of deforestation and forest degradation; and build on existing capacities and activities in the country to conserve, enhance and sustainably manage forest carbon stocks.

Over-exploitation (legal)

- Prepare forest harvesting plans, in accordance with the principle of sustained yield and the optimization of production potential plans (MSS and local AAC), prior to harvesting operations (Forest Policy 1995)
- Phase-out approach of logging:production below national AAC for teak and other hardwoods Production based on sustainable extraction and not on set targets for forest sector contributions to national budget
- Enforce National Harvesting Code of Practice, conduct post-harvest inventories and assessments by FD and apply fines or sanctions to operators or companies as per internal regulations
- Impose an export assessment tax inversely proportional to the value added content of the forest products (Forest Policy 1995);
- Improve domestic timber supply market price and improve efficency of wood and timber transformation and use in collaboration with the private sector
- Develop national standards and set up a national certification system;
- Abolish concessional pricing of forest products and effectively reflect real economic value (Forest Policy1995);
- Abolish price controls except for consideration of social equity, e.g. providing basic needs at affordable prices with provision for the subsidy being reflected in national accounting in order to determine the realistic contribution of the forestry sector to the gross domestic product (Forest Policy 1995);
- Introduce conservation concessions (private sector,NGO,community) as an alternative to commercial or industrial plantations (private sector concessions) and state management in different categories of the PFE.

Over-exploitation (illegal)

- Improve awareness and train FD and MTE staff, General Administration/local government, Police, NGOs, judges, prosecutors and lawyers in forest related policies, laws rules and enforcement
- Combat illegal logging through better law enforcement (controls, checkpoints, improved documentation and traceability), the development of incentive systems for government staff to encourage denunciation of illegal activities and promote seizure of illegal timber, and the promotion of more effective collaboration with communities and neighbouring countries for improved monitoring and controls

Over-exploitation (illegal)

- Regularize existing areas under shifting cultivation (by handing over these areas as CF) and permanent agricultural encroachment in forest land (by revising PFE boundaries), and fully enforce the provisions of the Forestry Law in the eviction of any future encroachment and other forms of forest land misuse (Forest Policy 1995)
- Implementation (based on better research on relationship between population increase and forest degradation and deforestation) of in-situ development programmes for shifting cultivators and integration of appropriate agro-forestry practices into smallholders' farming activities (Forest Policy 1995). Improvement of or alternatives to slash-and-burn agriculture: improved fallow, fire and erosion control, conservation agriculture, integrated pest management, agro-forestry (including taungya system), NTFP cultivation/ domestication, etc. (could become part of the Community Forestry programme)
- Develop techniques for rehabilitating very degraded and denuded lands as well as the conversion of poor forest into high value forest (Forest Policy 1995): Assisted natural regeneration and enrichment planting in degraded forests and plantation establishment (commercial, village supply, community, private or small holder leasehold, mixed agroforestry) in very degraded forest or denuded grass (including bamboo) land (could be part of the Community Forestry programme)
- Ensure optimal employment conditions and benefits for shifting cultivators hired by the FD and private sector to establish commercial plantations. Expand the establishment of community-based nurseries for income generation.
- Intensity extension programme about forest related policies, laws, rules, regulations and enforcement

Overharvesting of wood biomass

- Promotion of biogas, improved stoves, improved charcoal making, use of farm or industrial residues, fuel wood or village supply or community plantations, agro-forestry and tree planting in agricultural landscapes (trees on-farm)
- Further expansion of rural electrification
- Scaling up short-rotation forest plantations (biomass plantations)

General candidate strategies for Forestry Sector

- Increase investment in forest conservation and development through the establishment of a forest development/ REDD+ fund with appropriate participation of financial institutions and donors (also outside forestry sector) and to be operated with a high degree of autonomy (Forest Policy 1995)
- Remove enforcement bottlenecks, shortcomings, anomalies and loopholes in existing legal frame-work for the forestry sector (e.g. review fining system of MTE and FD, reinforce status of CF in Forest Law (1992), abolish rules and regulations which discourage tree plantations on individual or communal lands, etc.);
- Revision of boundaries of reserved forests, public protected forests and protected areas (PFE) to reflect confirmed land use changes and promote social fencing of PFE (community forestry, agro-forestry, joint forest management, leasehold community or village plantations. etc.);
- Strengthen the extension capabilities of the Forest Department and develop mechanisms for greater public involvement in forestry programmes (Forest Policy 1995). Enhance stakeholder consultation and community involvement in the development or review of District Forest Management Plans and develop community forestry programme to meet the 2001-2031 NFMP target.

Initial identification of candidate REDD+ strategies for non-forest sector drivers (deforestation)

Expansion of Agriculture (Subsistence and Commercial)

- 30% of the total land area of the country to be gazetted as reserved forest and 10% under protected areas system (Forest Policy 1995). Revision of current PFE boundaries to exclude permanent agricultural land and add unclassified forest into PFE
- Introduce S/EIAs for medium or large size agricultural concessions, taking into account the value of sequestrated carbon and impact on deforestation and promoting minimal forest clearance and CO2 emissions. Establish an efficient S/EIA review mechanism and monitor the implementation of corresponding mitigation plan by investors
- Apply carbon tax or rebate to encourage private investors to take note of carbon stocks within their concession areas
- Promote agricultural identification in existing large agricultural landscapes and remove policies that promote agricultural extensification

Mining

- Introduce S/EIAs for medium or large scale mining operations or concessions, taking into account the value of sequestrated carbon and impact on deforestation and promoting minimal forest clearance and CO2 emissions. Establish an efficient S/EIA review mechanism and monitor the implementation of corresponding mitigation plan by investors;
- Apply carbon tax or rebate to encourage private investors to take note of carbon stocks within their concession area.

Hydro-power Development

- Introduce S/EIAs for medium or large scale hydro-power projects, taking into account the value of sequestrated carbon and impact on deforestation and promoting minimal forest clearance and CO2 emissions. Establish an efficient S/EIA review mechanism and monitor the implementation of corresponding mitigation plan by investors

- Apply carbon tax or rebate to encourage private investors to take note of carbon stocks when identifying project design defining reservoir location and size;
- Implement Obligatory Biomass Removal Plans to minimize emissions from submerged biomass.

Infrastructure (road, pipeline, Special economic zones, power lines, military)

- Introduce S/EIAs for medium or large scale infrastructure development, taking into account the value of sequestrated carbon and impact on deforestation and promoting minimal forest clearance and CO2 emissions. Establish an efficient S/EIA review mechanism and monitor the implementation of corresponding mitigation plan by investors.

Urbanization and resettlement

- Enforcement of urban planning rules and guidelines to minimize deforestation;
- Intensification and improvement of agriculture in existing agricultural landscapes to accommodate resettled communities;
- Guide the development of and monitor the resettlement plans to be implemented by private investors in order to minimize deforestation and forest degradation.

Development of aquaculture

- Introduce S/EIAs for medium or large scale aquaculture operations or concessions in coastal areas, taking into account the value of sequestrated carbon and impact on deforestation and promoting minimal forest clearance and CO2 emissions. Establish an efficient S/EIA review mechanism and monitor the implementation of corresponding mitigation plan by investors.

General Candidate Strategies Outside Forestry Sector

- Identify possible areas of conflict within forest policy and other ex-sector policies and establish inter-sector taskforces for resolution of conflicts and to make recommendations to the Policy Advisory Board;and Resolution of ex-sector policy conflicts at highest level of the Government;Ensure inter-sector coordination/consultation during planning process (Forest Policy 1995). Adapt and harmonize legislation/policy/programmes outside the forestry sector and clarify mandates in areas such as land use planning/allocation, land tenure, agriculture, private investment management, infrastructure development to maximize synergies and reduce conflicts with the policy and legal framework of the forestry sector
- Establish a land use advisory board (at all levels) with responsibilities to oversee and coordinate overall land utilization in the country (Forest Policy 1995)
- Prepare land-use plans to specify the ultimate purpose for which the lands should be used. The plan should ensure that:
  - land is used for the purpose for which it is best suited; and
  - harmonization of different land uses to provide for the most effective use of the total land area in the country and resolving of any potential conflicts before the resources are damaged (Forest Policy 1995)
- Define and establish safe minimum standards for environmental conservation in respect of all development activities and S/EIA of development projects made obligatory with related rules/regulations formulated and enforced (Forest Policy 1995)
- Review S/EIAs of all existing pipeline projects and new ones and monitor the implementation of the corresponding mitigation plans

Contact Information;

Dr.Thaung Naing Oo
National Project Manager
ITTO-REDD+ Project

Ph : +95 67 405110
HP: +95 9 448533635

Email: tnoo71@gmail.com
Facebook Page: REDD+ Programme Myanmar

Office: Building 39, Forest Department, Nay Pyi Taw, Myanmar