Climate Change for Forest Policy-Makers

An approach for integrating climate change into national forest programmes in support of sustainable forest management

Version 1.0

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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Contents

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Foreword

The critical role of forests in climate change mitigation and adaptation is now widely recognized. Forests contribute significantly to climate change mitigation through their carbon sink and carbon storage functions. They play an essential role in reducing vulnerabilities and enhancing adaptation of people and ecosystems to climate change and climate variability, the negative impacts of which are becoming increasingly evident in many parts of the world.

In many countries, forest policies and climate-related policies are the competencies of different sections of government and involve different groups of stakeholders and experts. The exchange of information across administrative and sectoral boundaries on issues around forestry and climate change is often limited. In many countries climate change issues have not been fully addressed in national forest policies, forestry mitigation and adaptation needs at national level have not been thoroughly considered in national climate change strategies, and cross-sectoral dimensions of climate change impacts and response measures have not been fully appreciated.

Countries' actions in mitigation and adaptation could have major implications on forest policy and on sustainable forest management. National forest programmes (NFPs) are frameworks commonly agreed by countries for developing and implementing comprehensive forest policies in pursuit of sustainable forest management. Without properly addressing and integrating climate change issues into their NFPs, it is unlikely that countries will achieve sustainable forest management.

This document is published as part of the effort by the Forestry Department of FAO and the National Forest Programme Facility to assist countries address emerging policy issues related to forests and climate change through integrating climate change considerations into national forest programmes. It is the outcome of a thorough consultative process with active engagement of countries and experts. It seeks to provide a practical approach to the process of integrating climate change into national forest programmes. The aim is to assist senior officials in government

administrations and the representatives of other stakeholders, including civil society organizations and the private sector, prepare the forest sector for the challenges and opportunities posed by climate change.

As a complementary effort, FAO is developing guidance to assist forest managers in modifying forest management practices to address climate change-related needs. It will be published in 2012. Countries are invited to use the two documents and to make adjustments, as necessary, to fit national and sub-national circumstances.

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Introduction

Climate change and change in climate variability pose serious risks to the environment and to life itself. All people and all sectors are likely to be affected. Parties to the United Nations Framework Convention on Climate Change – almost all countries in the world - have recognized the need to take action in climate change adaptation and mitigation.

Climate change poses crucial challenges but may also create new opportunities for the forest sector. Policy-makers and forest managers will wish to take these into consideration. They will also need to consider responses to climate change in the context of the multiple goods and ecosystem services that forests provide to meet the diverse needs of a wide range of stakeholders. It is important that climate change strategies and plans relevant to forests are integrated into a country's existing forest policy framework and other sectoral frameworks that influence forests; this can help to ensure that climate change objectives are balanced with other forest sector objectives and that trade-offs are weighed and synergies captured.

The objectives of forest management in many countries have become more varied over time, and pressures on forests from both outside and within the sector have increased. High global rates of deforestation and forest degradation reflect these pressures. Food security, agricultural productivity, energy supply and demand, transportation and rural development needs are thus closely linked to the success of sustainable forest management, including forest conservation. Therefore, coordination and cooperation across sectors that influence land use is crucial.

This document has been developed to help forest policy makers integrate climate change into existing national forest programmes (NFPs), or forest policy frameworks, and to encourage consistent treatment of forestry issues in national climate change strategies and policies. The document recognizes cross-sectoral coordination and cooperation as key success factor for a coherent approach on forests and climate change. The actions included in the document are consistent with the principles of the NFP approach and are intended to contribute to countries' efforts to achieve sustainable forest management.

The document is divided into four sections. Section 1 provides the background, aims and suggested use of the approach for integrating climate change into national forest programmes. Section 2 provides guidance at the strategic level. It outlines major outcomes that countries may seek with respect to the three elements of the NFP and the three enabling factors (see Figure 1.2), together comprising the NFP framework. Section 3 is designed to provide operational guidance for reaching the outcomes identified in Section 2. Possible actions to be taken under each of the six elements of the NFP framework are divided into four policy-process stages (evidence collection and analysis, planning process, implementation, and monitoring and evaluation). Section 4 provides a list of useful sources of information and tools.

Section 1 - Background, Aim and Use of the Approach

Climate Change, Forests and Land Use

Climate change constitutes a direct threat to forest ecosystems, forest-dependent peoples and society as a whole through reduced delivery of products and forest ecosystem services. Indirect effects, driven by land use, economic and social changes, will also have impacts on forests and their ability to provide products and ecosystems services. Although forest ecosystems are inherently dynamic, the speed of predicted changes is likely to far exceed the natural capacity of many forest species and ecosystems to adapt. In addition, extreme climatic events and climate-related disasters may overwhelm countries' capacities to respond to them rapidly and effectively. Countries need to anticipate direct and indirect threats posed by climate change on forests and people and to take actions to reduce their vulnerability, increase their resilience and facilitate their adaptation to climate change. Also in this context, maintaining and enhancing the level of biodiversity in forests and across forested landscapes is crucial. In some areas, climate change will have positive impacts on forests, for example through prolonging the growing season. Positive impacts of climate change should also be taken into consideration and addressed in forest and land use related policies and management practices.

Forests have significant potential for climate change mitigation. An estimated 17.4% of greenhouse gas (GHG) emissions[1] are derived from the forest sector, in large part due to deforestation, and forests have considerable potential for carbon sequestration. It has been estimated that carbon sinks in the world's forests sequester over one fourth of annual carbon emissions[2]. Mitigation options in the sector include measures that reduce GHG emissions, increase the rate of GHG removals from the atmosphere (e.g. through afforestation, reforestation, forest restoration and changes to forest management practices), and use of sustainably produced forest products as substitutes

[1] Intergovernmental Panel on Climate Change, Climate Change 2007, Synthesis Report.
[2] Pan, Y. *et al.* A Large and Persistent Carbon Sink in the World's Forests. Science, 2011; DOI: 10.1126/science. 1201609. Not including balance of tropical gross deforestation and regrowth forests.

for emissions-intensive materials. Figure 1.1 lists some forest-related mitigation and adaptation options. It illustrates that many actions in the forest sector can contribute simultaneously to climate change adaptation and mitigation, highlighting the substantial opportunity to achieve synergies.

Country commitments and agreements on the international architecture to support climate change mitigation and adaptation are made under the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. Because of their important role in climate change mitigation, forests feature prominently in the ongoing negotiations on further commitments of countries under the convention and after the termination of the first commitment period of the Kyoto Protocol. UNFCCC negotiations on greenhouse gas accounting on land use, land use change and forestry (LULUCF) in developed countries and on forestry mitigation measures in developing countries have raised the visibility of forests to the highest levels of governments. They have also led to the pledging of significant new financial resources to support forest-based mitigation actions in developing countries.

FIGURE 1.1
Examples of mitigation and adaptation measures in the forest sector

MITIGATION OPTIONS	ADAPTATION OPTIONS
Carbon sequestration **through increases in forests, trees, and forest carbon stock enhancement** ● Afforestation, reforestation and forest restoration ● Increase of tree cover in farming systems (agroforestry), rural landscapes and cities ● Enhancement of carbon stocks and sequestration capacity through silvicultural practices ➔ employing silvicultural techniques to increase forest productivity and carbon stocks ➔ increasing carbon content of soil	***Reducing vulnerability*** **and strengthening** ***adaptive capacity*** **of trees and forests especially in fragile forest ecosystems** ● Management of forest biodiversity ➔ choosing more suitable provenances and promoting adaptable species ➔ protecting mature forest stands ➔ protecting functional groups and keystone species ➔ protecting climatic refugia and most highly threatened species outside of their own habitat ➔ avoiding landscape fragmentation and enhancing biodiversity corridors

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MITIGATION OPTIONS	ADAPTATION OPTIONS
Forest *carbon stocks conservation* through reduction of deforestation and forest degradation ● Addressing drivers of deforestation ● Promotion of sustainable forest and land management ➔ Implementing reduced impact logging ● Effective conservation of forested protected areas ● Integrated fire management on forested and adjacent non-forest land ● Pest and disease control ***Substitution* by use of wood products** ● Substitution of steel, concrete, aluminium and plastic with sustainably produced and legally harvested wood products ● Use of bioenergy based on sustainably produced wood to substitute for fossil fuels	● Maintaining forest health and vitality to reduce vulnerability ➔ pest and disease control ● Improving fire suppression and control ➔ integrated fire management on forested and adjacent non-forested land ● Adjusting forest management practices ➔ minimizing the risks of forest disturbances from sea level rise and extreme events (e.g. windfall, erosion, landslides, etc.) ➔ species selection, soil preparation, planting, mixing, tending, thinning operations, etc. ***Reducing vulnerability* and strengthening *adaptive capacity* of forest dependent communities** ● Reinforcing local coping mechanisms ● Strengthening capacities of community-based organizations for improved governance ● Diversifying forest-related products and employment opportunities

The so-called REDD+[3] instrument, now being developed by UNFCCC, is intended to provide financial incentives for forest-based mitigation actions in developing countries. UNFCCC reached an agreement on REDD+ in Cancun in December 2010. The Cancun Agreement defines the scope of REDD+ as the following five activities: reducing emissions from deforestation; reducing emissions from forest degradation in developing countries; conservation of forest carbon stocks; sustainable management of forests[4]; and enhancement of forest carbon stocks. It requests countries aiming to undertake REDD+ activities to develop

[3] REDD+ refers to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

[4] It should be noted that the use of the term, "sustainable management of forests" in the list of eligible REDD+ activities in the Cancun Agreement is far narrower than the meaning of the term, "sustainable forest management", as described by the United Nations General Assembly referred to later in this document. Given the scope of the other four REDD+ activities, the inferred meaning is management of forests, in particular those producing timber, in such a way that carbon stocks are maintained at constant levels on average over time. In this context, SMF is thus close to the concept of "sustained yield forestry".

national strategies and action plans for REDD+, a national forest emissions level or forest reference level (or subnational levels if appropriate), a national forest monitoring system for the monitoring and reporting on REDD+ activities, and a system for providing information on how the safeguards are being addressed and respected. One of these safeguards directly addresses consistency of actions with the objectives of national forest programmes. Countries would take a phased approach – from strategy development to implementation, and finally to results-based actions that can be measured, reported and verified. Engaging in REDD+ activities has implications on forest and land management and may require revision of NFPs in the participating countries. For the details on the Cancun Agreement and further information on REDD+ please see Section 4.

New and emerging climate change funds (see Section 4) provide support to countries' adaptation and mitigation actions specifically and to their efforts to achieve sustainable forest management more broadly. These funds could support countries' efforts to conserve, sustainably manage and enhance their forest resources. This is an important opportunity for countries to access additional technical and financial support needed to develop self-sustaining forest sectors capable of providing the economic, environmental and socio-cultural goods and services over the long term. Many developing countries, however, face considerable challenges in developing the capacities and mechanisms that will enable them to successfully access new sources of funding earmarked for mitigation and adaptation.

Integration of climate change into NFPs would help to promote efficient and comprehensive forest-related responses to climate change that do not unduly compromise other forestry objectives. The integration of climate change in NFPs should not take place in isolation but by taking into consideration wider land use context and acknowledging linkages between forests and other land use sectors in climate change adaptation and mitigation (Box 1.1).

BOX 1.1 - FORESTS IN LAND USE SECTOR

Placing forests in a landscape context and making cross-sectoral linkages (e.g. with agriculture, energy) is important for the development of sustainable climate change mitigation and adaptation actions that are also consistent with the country's poverty reduction, food security and national development goals. Forests and agriculture systems have close biophysical and socio-economic linkages in most landscapes and in many farming systems. Forests, through their watershed protection functions, provide for soil and water conservation that supports agricultural systems and contributes to the delivery of clean and reliable drinking water supplies for populations downstream. Many farm families rely on forests and trees for ecosystem services (e.g. wind protection, shade) or products for subsistence use or sale in markets. Agricultural developments may increase pressure on forest lands, but in some cases they can also enhance forests and trees in the landscapes.

Similarly, there are strong links between the forest and energy sector. Demand for forest-based energy (e.g. woodfuel, palm oil) is increasing in many countries, driving changes in forest management. Many of the mitigation options mentioned in Figure 1.1 can facilitate or hinder the adaptation of local people to climate change, whereas several of the listed adaptation options can affect ecosystems and their potential to sequester carbon. Taking into account the broader landscape management ensures that the synergies and tradeoffs are clear so that it is possible to enhance carbon uptake while also increasing the resilience of forests and people to climate change across landscapes.

Sustainable Forest Management and National Forest Programmes

In recent decades, there have been significant changes in society's demands for forest goods and services and in approaches to forest policy formulation and forest management. Formerly, the predominant emphasis of forest management was on timber production, and forest policy formulation was considered a technical task to be undertaken by the forest agency. Now management objectives encompass a broader scope of forest goods and ecosystem services, pressures from other land uses have increased, and the formulation of forest policy is now widely accepted as a process necessarily involving a range of forest stakeholders as well as representatives

from other sectors. These developments are reflected in the concept of sustainable forest management (SFM)[5] and in national forest programmes (NFPs).

The UN General Assembly (UNGA), in Resolution A/RES/62/98 "Non-legally binding instrument on all types of forests", described SFM as a dynamic and evolving concept intended to "maintain and enhance the economic, social and environmental value of all types of forests for the benefit of present and future generations". The Resolution further endorses the seven "thematic elements" of SFM, namely i) extent of forest resources, ii) forest biological diversity, iii) forest health and vitality, iv) productive functions of forest resources, v) protective functions of forest resources, vi) socio-economic functions of forests, and vii) legal, policy and institutional framework.

National forest programmes (NFPs) are recognized by all countries as comprehensive forest policy frameworks in pursuit of SFM at the country level. NFPs are comprised of the following three elements:

- forest policy and forest-related policies;
- forest-related legislation; and
- institutional framework, including organizational structures and coordination and participation mechanisms.

NFPs were conceived to enable countries to integrate various forest-related policy processes and initiatives under one umbrella and approach, and to strengthen consistency among forest-related policies in a cross-sectoral context. As such, NFPs can provide an effective framework for climate change adaptation and mitigation efforts related to forests and linked to other land uses. By integrating climate change mitigation and adaptation goals into NFPs, climate change objectives can be balanced with other objectives of forest management, and synergies can be captured with other forest-related processes such as forest law enforcement, governance and trade (FLEGT).

[5] In the international climate change and REDD+ discussions the concept "sustainable management of forests" or SMF is used, referring to forest management that maintains carbon stock at least at constant levels on average over time, in particular in the context of production forests. This has caused confusion on the definitions of and differences between SFM and SMF. Based on the UN General Assembly resolution from 2007, SFM represents a broad goal for the forest sector, the achievement of which is facilitated on the ground by the application of best practices for the sustainable management of forests.

To maintain updated NFPs, reflecting the new, emerging issues and opportunities, NFP processes need to be dynamic and iterative with interconnected phases of evidence collection and analysis, planning process, implementation, and monitoring and evaluation. The NFP process follows agreed principles that can be summarized in three clusters:

- National sovereignty and country leadership. This acknowledges a nation's right to manage its forest resources in accordance with its perceived needs and interests.
- Consistency within and beyond the forest sector. This stresses the need to consider all of the economic, social and environmental dimensions of forests and requires the NFP to be consistent with national economic development planning, poverty reduction strategies, macroeconomic policy frameworks and other relevant strategies.
- Partnership and participation. This recognizes the importance of involving in decision-making and policy implementation all forest stakeholders, including all who depend on, or benefit from, the use of forest resources, as well as those who decide on, control or regulate access to forest resources. Partnership and participation can operate at a range of levels from national to local.

These principles and the NFP approach support countries' work towards good forest governance, including accountability, effectiveness, efficiency, fairness/equity, participation and transparency[6].

Integrating climate change into NFPs entails making necessary changes to forest-relevant policies and then revising related legislation, adapting organizations and adjusting coordination and participation mechanisms accordingly, while ensuring coherence, consistency and coordination with national climate change policies and strategies.

The six elements that countries need to address to integrate climate change into their NFP are illustrated in Figure 1.2. These include the three elements of the national forest programme - policies and strategies, legislation, and institutional framework, and three enabling factors - capacity, financial arrangements as well

[6] In accordance with "Framework for Assessing and Monitoring Forest Governance" by FAO and World Bank/PROFOR, 2011.

as information, communication and research. In this publication they together are called the "NFP framework". Descriptions of the six elements are provided in Box 1.2.

FIGURE 1.2
The six elements of the NFP framework

BOX 1.2 - DESCRIPTION OF THE SIX ELEMENTS OF THE NFP FRAMEWORK

Policies and strategies: the body of national and sub-national policies on forests and their use that define the goals, the ways in which these goals are to be achieved, the distribution of responsibilities as well as the relationship with other related policies such as on land use and on climate change.

Legislation: statutory laws, as well as customary laws, which help to effect policies. This includes rules and regulations defining rights and obligations.

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BOX 1.2 - DESCRIPTION OF THE SIX ELEMENTS OF THE NFP FRAMEWORK

Institutional framework: the organizations in place to develop, decide upon and implement forest-related rules, policies, strategies and legislation. These comprise public and private bodies at national and sub-national levels. They include a range of administrative bodies dealing with forest matters; community-based organizations, associations and other non-governmental organizations; and research, training, and extension bodies. Also included are mechanisms for coordination (i.e. intra and inter-agency coordination/cooperation mechanisms at national and sub-national level); processes and mechanisms for stakeholder consultation and participation in planning, implementation and monitoring; and mechanisms to deal with conflict management/resolution.

Information, communication and research: forest inventories and forest information systems; information and data generation, exchange and dissemination on forests and climate change, including e.g. climate change impact and vulnerability assessments; research on biophysical, social, and policy aspects of forests and climate change; traditional knowledge; systems for reporting data and information to UNFCCC and other international bodies; and communications and outreach to stakeholder groups and the public.

Capacity: skills, knowledge and expertise that enable countries to respond effectively to the challenges in the forest sector posed by climate change, and capacities of stakeholders to carry out tasks related to process planning, leading, managing and participation. These capacities need to be considered across individual and organizational (public, private and civil society organizations) levels.

Financial arrangements: public (e.g. national budgets, loans, compensation, grants, taxation, multilateral and bilateral contributions) and private mechanisms used to finance the forest sector; mechanisms to attract, manage and distribute financial resources; and mechanisms to monitor benefit distribution and impacts.

Aim and Objectives of the Approach

The aim of this document is to help policy-makers integrate climate change into NFPs in a participatory manner to support forest-related responses to climate change and to achieve coherence with other sectors and national strategies on climate change.

The objectives are:

- to assist forest policy makers in identifying and prioritizing needed changes in policy or practice to be better able to respond effectively to climate change;
- to provide an operational approach for integrating climate change consistently into the national forest programme framework;
- to clarify forest and forest-related land use issues that should be considered in climate change policies at national level; and
- to strengthen cross-sectoral coordination on climate change between forestry and other relevant land use sectors.

Use of the Approach

This document can be used in different ways depending on the country's particular needs and the stage of development of its climate change strategies (see Figure 1.3). Countries that have not yet identified priority actions in the forest sector for climate change mitigation and adaptation may use the approach outlined in this document to develop a national forest and climate change strategy. Countries that already have a forest and climate change strategy or a REDD+ strategy may use the approach to identify and make needed adjustments to their national forest policy framework to facilitate strategy implementation. Others may use the approach identified in the document as a way to check that existing strategies in relevant sectors are comprehensive and adequately take into consideration stakeholder interests and priorities. The approach can also be used at sub-national levels for similar purposes.

FIGURE 1.3
Possible uses of the approach

AIM	POSSIBLE USE OF THE DOCUMENT	INDICATIVE DURATION
Awareness raising amongst stakeholders	Stimulation of multi-stakeholder discussion of forest and climate change issues and priority actions in a workshop setting.	2-3 days
Initial analysis of status quo	Checklist for in-depth identification of status, gaps and priorities.	Several months
Planning of revision of policies and strategies	Guidance for planning and conducting revision of forest policy to integrate climate change-related priorities and subsequent revision of legislation. Guidance for embedding REDD+ strategy in wider forest and land use policy. Guidance for revisions of the institutional framework.	Several months
Implementation of revised policies and strategies	Referral document during implementation of revised policy, legislation and amended institutional framework to help keep actions taken on the six elements of the NFP framework aligned and in sync with one another.	Several years
Monitoring and review	Guidance for development of monitoring and review indicators. Checklist for identification of process. Guidance for in-depth implementation review.	Several weeks to years

Section 2 – Strategic Level Outcomes to be Achieved

This section summarizes desired outcomes at a strategic level for the six elements of the NFP framework. The achievement of the outcomes would be facilitated by actions outlined in Section 3.

Element A – Policies and strategies

Countries might need to review and revise their forest-related policies to facilitate the achievement of climate change mitigation and adaptation goals. Revisions will have to take into consideration synergies and trade-offs with other objectives of the forest sector, climate change-related policies, national development policies, land use plans, and policies of key sectors, such as agriculture and energy. Revisions also have to ensure consistency with international commitments and obligations.

Desired outcomes

- National forest-relevant policies support the implementation of climate change strategies, while being consistent with other objectives of forest management and other forest-related international commitments and obligations. Close coordination among policy-makers and stakeholders maintains cross-sectoral consistency between policies and strategies on climate change in the forest and other sectors.
- Policy development and revision related to forests and climate change are made at national and sub-national levels and further amendments are made as new needs arise.

Element B – Legislation

Forest law and related regulations are likely to require review and adjustment to ensure consistency with forest policies revised to accommodate climate change. Adaptation and mitigation actions require a legal basis for related rights and obligations.

Desired outcomes

- Forest-related legislation effectively enables and supports the implementation of forest-relevant climate change policies and actions and is consistent with revised forest and other relevant policies and legislation, in particular on tenure and land use.
- For developing countries engaged in REDD+, legislation is in place to enable REDD+ implementation and to secure equitable and well-defined distribution of respective rights (e.g. carbon rights), responsibilities and benefits.

Element C – Institutional framework

Responding to climate change is likely to entail a range of new initiatives and tasks as well as engage new actors and bodies in forest and land use-related climate change activities. It is therefore likely that modifications to existing organizational structures; establishment of new bodies; and revision of roles, responsibilities and work modalities will be needed. New or revised cross- and intra-sectoral coordination and participation mechanisms in planning, decision-making, implementation and monitoring are likely to be required. Conflict management mechanisms will have to be adequate to deal with new conflicts that arise due to climate change.

Desired outcomes

- Organizational structures effectively support the planning, implementation and monitoring of forest and climate change strategies and policies. Responsibilities of key organizations and bodies in forestry and other relevant land use sectors are clearly defined.
- Mechanisms are in place to support coordination and collaboration of different bodies and initiatives related to the implementation of forest-related climate change policies and actions. Conflict management mechanisms are in place to support stakeholder mediation and other services to manage and resolve conflicts related to forest and climate change.

Element D – Information, communication and research

New data and information will be needed to carry out climate change impact and vulnerability assessments for forests. Forest-related adaptation and mitigation

strategies need to be identified, developed and implemented based on traditional and scientific knowledge. Impacts of climate change and of response measures need to be monitored. International reporting commitments need to be fulfilled. It will be essential to raise awareness of forest and climate change issues in a broad land use context, and to disseminate and provide access to information to a wide range of stakeholders at all levels (national to local). All of these emerging needs will require adjustments to forest-related information, communication and research systems and strategies.

Desired outcomes

- Accurate, timely, relevant and consistent information on forests and climate change issues, impacts and response measures are available and communicated to decision-makers and to other stakeholders at all levels. International reporting commitments are met.
- Forest research provides timely and accurate information and knowledge on climate change impacts and vulnerabilities; compiles traditional knowledge and generates knowledge to help guide adaptation and mitigation measures. This is done through coordinated efforts at national, regional and international levels.

Element E – Capacity

New knowledge, skills and expertise will be needed to enable timely and well informed decision-making. Stakeholders must have sufficient capacity to plan, lead, manage and participate in relevant processes. Building capacities at individual and organizational levels will require modified and new training and skills-building programmes.

Desired outcomes

- Sufficient knowledge and expertise are available to conduct climate change impact and vulnerability assessments for forests, to design and implement climate change policies and programmes in forest and related land use sectors, to carry out monitoring and reporting on forests and climate change, and to undertake relevant research.
- Individuals and organizations have sufficient capacity to plan, participate in and manage processes necessary to support climate change actions in forestry.

- Capacity development systems, including education and training programmes, are in place and available to stakeholders at all levels. The systems and programmes are reviewed regularly and adjusted as needed so as to maintain the level of expertise necessary to address effectively climate change challenges related to forests and land use.

Element F – Financial arrangements

Additional financial resources will be required to support needed forest and climate change actions. Some of this funding can come from national sources (e.g. earmarked allocations from public budgets, credit programs by development banks, revenues from taxation, etc.). Additional financial resources are becoming available from international funds created to support climate change mitigation and adaptation in developing countries. Countries could consider setting up financial incentive systems to support climate change response measures in the forest sector and develop or improve existing systems at national level to access new funds, manage their distribution, and monitor their impact.

Desired outcomes

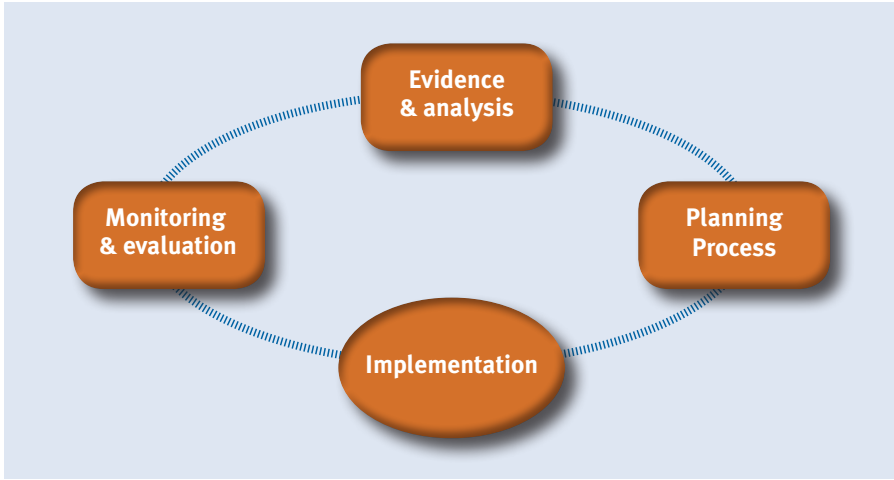
- Multiple sources of national and international finance for forest adaptation and mitigation measures are identified and used.
- Additional or reallocated financial resources are made available and distributed in an equitable and transparent manner to support climate change activities related to forests and land use. Actions are taken to encourage the alignment of incentives with forest-related climate change objectives.

Section 3 – Operational Actions

This section presents suggested actions with the aim of achieving the outcomes in the six elements of the NFP framework. The actions are applicable across a wide range of national circumstances. However, some countries may find that some actions are not relevant to them, and they may choose to adjust some actions to be more consistent with the national situation. Each country will have to decide how best to carry out the relevant actions, taking into consideration its particular needs.

In practice, integrating climate change into NFPs involves a range of different and often parallel processes, and stages of the processes are often not distinguishable. Nonetheless, it can be useful to conceptualize the process as separate stages in a continuous, iterative cycle. Activities that in practice often occur in parallel (or not at all) are thereby simplified and divided into four sequential stages of a cycle (Figure 3.1 and Box 3.1).

FIGURE 3.1
The four-stage policy process



BOX 3.1 - DESCRIPTION OF THE FOUR STAGES OF A POLICY PROCESS MODEL

Evidence and analysis: the policy challenges and issues are identified and related evidence is collected and analyzed.

Planning process: together with key stakeholders, priority issues are identified, discussed, and response proposals are developed, negotiated and decided. Agreed strategic directions are made legitimate through actions by the government (e.g. by a formal announcement of a policy, amendment of legislation) and by other stakeholders.

Implementation: policies, strategies and agreed actions are implemented through the administration, executive agencies, and other public and private stakeholders at national and sub-national levels.

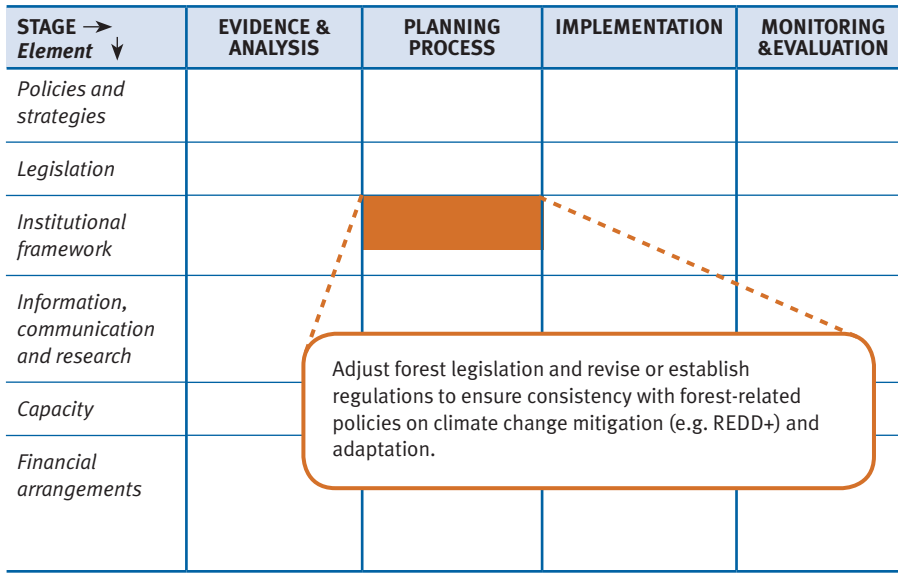
Monitoring and evaluation: data are collected on the implementation of planned actions, and the results are evaluated. This allows the identification of deviations from objectives and planned actions - and corrections, if warranted. Evaluation of performance (whether goals were appropriate and reasonable, and whether action has been cost-effective) is usually done periodically or as the need arises, using monitoring data as an information source.

The major strength of this simplified four-stage model is that it reduces the complexity of policy-making to manageable, analytical units, thus facilitating understanding. It also emphasizes that the integration of climate change into NFPs is an iterative process. New developments, experiences and lessons learned need to be reflected in revisions of policies and implementation arrangements. Understanding the process as a cycle also encourages a continuous and constructive dialogue amongst the many stakeholders involved in different stages and at different levels. It is thus important to recognize that processes related to forests and climate change are and need to be well embedded in the overall national governance system.

The remainder of Section 3 lists possible actions to be taken to integrate climate change considerations into NFPs. The actions are organized by the four stages of the policy process model and by the six elements of the NFP framework. This organization, with an example, is depicted in Figure 3.2. The approach laid out by this document

should allow users to systematically and comprehensively analyze the status of the country with regard to the six elements of the NFP framework and the stage in which a country considers itself to be.

FIGURE 3.2
Organization of operational actions included in Section 3



Evidence and analysis

Prior to undertaking actions outlined in this section, it is important to have information and understanding of the following:

- National and sub-national climate change impact, risk and vulnerability assessments and findings related to forests and land use;
- National adaptation and mitigation options for the forest sector and their effects;
- Climate change strategies, including a National Climate Change Strategy, National Adaptation Programme of Action, REDD+ strategy, other relevant sectoral climate change strategies (e.g. agriculture, energy);
- Existing national institutional structure for coordination and action on climate change; and
- Key stakeholders and interests in relation to forest and climate change issues including relevant stakeholders from outside the forest sector.

Collection, familiarization of, and regular reference to this information will be needed to put the following actions related to forests and climate change into context and to ensure their continued relevance.

Policies and strategies

1. Identify existing forest and climate change policies and strategies (e.g. REDD+ strategy, forest adaptation strategy) and analyze their coherence with other climate change strategies (e.g. national climate change strategy).
2. Analyze the possible climate change mitigation and adaptation actions relevant for the forest sector, using research results and other sources of information.
3. Identify conflicts and synergies of other sector policies (agriculture, energy, mining, rural development, transport, poverty reduction, etc.) with climate change strategies or actions in the forest sector.
4. Identify national forest-related commitments under international and regional climate change agreements.

Legislation

5. Identify gaps, inconsistencies and areas for harmonization in the legal framework for the forest sector with regard to enabling implementation of climate change related policies and actions.
6. Identify where in the legislation the distribution of rights, responsibilities and benefits related to climate change mitigation (including REDD+ and forest carbon rights) and adaptation in the forest sector need to be defined, clarified or amended.
7. Identify inconsistencies between forest legislation and legislation in other sectors that hinder the achievement of forest sector goals for climate change adaptation and mitigation including international obligations.

Institutional framework

8. Identify new and emerging roles in the country related to development and implementation of forest-related climate change policies and strategies and fulfilling related international commitments.
9. Identify gaps, overlaps and potential synergies in the mandates and functions of governmental and non-governmental organizations at different levels and identify options to address these gaps.

10. Identify needs to strengthen transparency, stakeholder engagement and cross-sectoral coordination in the forest sector and with related land use sectors and identify options to address the needs in order to ensure effective implementation of forest and climate change actions.
11. Identify areas of actual and potential conflict among forest stakeholders caused by climate change or limiting the effectiveness of climate change actions in forestry. Assess adequacy of existing mechanisms for conflict management.

Information, communication and research

12. Identify new data and information needs related to climate change, forests and land use, and identify ways to amend the current forest information systems so that the national and international needs for forest monitoring, measurement, reporting and verification can be met in accordance with national circumstances.
13. Assess the adequacy of current strategies and means of communication to different stakeholders and bodies at all levels in the forest sector to meet the new demands generated by climate change and identify changes needed.
14. Identify new national research needs[7] related to climate change adaptation and mitigation in forests and assess options for regional and international collaboration on research.
15. Identify and document traditional knowledge relevant to climate change mitigation and adaptation in forests and consider ways to expand their use.

Capacity

16. Analyze capacity development needs of forest related bodies, the private sector, local community organizations and indigenous groups with respect to both climate change-related expertise and capacities to plan, participate in and/or manage related processes.

Financial arrangements

17. Assess the need for additional financial resources to enable effective integration of climate change into NFPs and to implement related actions.

[7] Identification of research needs should be based on national vulnerability assessments, review of forest ecosystem ecology and need for changed practices in different sectors.

18. Identify new sources of finance (public, private, national and international including e.g. REDD+, Adaptation Fund, Green Climate Fund, GEF funds) to support climate change-related actions in the forest sector and determine their suitability for different stakeholders and types of intervention.
19. Evaluate the effectiveness and efficiency of existing mechanisms for allocating resources transparently and equitably to the appropriate stakeholders or organizational levels for implementation of policies and actions related to forests and climate change.
20. Identify incentives, both positive and negative, in the forest and other sectors that influence the implementation of forest-related climate change policies or actions.

Planning process

Policies and strategies

1. Involve stakeholders, including from other key sectors and from national and sub-national levels, in consultations and deliberations to assess needs, identify priority actions and develop strategies on forest and climate change.
2. Revise forest policies so that they are consistent with policies, strategies and agreed priority actions related to climate change.
3. Participate in the development of national climate change strategies and of climate change strategies in sectors of relevance to forests, promoting the inclusion of forests in these strategies and policies, as appropriate.
4. Contribute to the development of the country's positions on forest and climate change-related issues under debate in international conventions and agreements (e.g. UNFCCC, CBD, UNCCD and UNFF).

Legislation

5. Adjust forest legislation and revise or establish regulations to ensure consistency with forest-related policies on climate change mitigation (e.g. REDD+[8]) and adaptation.

[8] Key needs include equitable distribution of financial incentives, rights and responsibilities; rights of ownership and trade of forest carbon, and related land tenure issues; alignment of national laws/regulations with international obligations; and adherence to REDD+ safeguards.

6. Promote the revision of legislation of other sectors to eliminate conflicts and enhance synergies with forest-related climate change policies and actions.

Institutional framework

7. Decide on the division of roles and responsibilities between governmental bodies and among other stakeholder organizations needed to facilitate effective implementation of forest-related climate change policies.
8. Involve bodies responsible for climate change and land use issues, discuss and decide on possible improvements in mechanisms for coordination and collaboration on forest-relevant and climate change actions.
9. Adapt or establish effective and appropriate mechanisms for stakeholder involvement in implementing climate change-related revisions to the NFP.
10. Establish clearly defined procedures for resolution of forest-related conflicts arising from climate change impacts and response measures.

Information, communication and research

11. Adjust national forest information systems (e.g. national forest inventories) to accommodate new forest monitoring, assessment and reporting needs, and identify indicators for monitoring climate change impacts and effectiveness of adaptation and mitigation measures. Ensure coherence with international monitoring and measurement, reporting and verification requirements (including on REDD+).
12. Develop a national communications strategy on forests, land use and climate change that provides appropriate and timely information to all key stakeholders, informs other sectors, increases public awareness of the role of forests in climate change, and promotes the use of traditional knowledge that reduces vulnerabilities and enhances adaptation to climate change.
13. Agree on actions to adjust forestry research programmes and strategies to include the identified new needs and encourage inter-disciplinary problem-oriented approaches and international, regional, and national cooperation.

Capacity

14. Amend capacity development strategies to include forests, land use and climate change related issues, and devise ways and means to provide capacity development to key stakeholders at all levels.

Financial arrangements

15. Revise existing, or design new, incentives (e.g. loans, grants, taxes) to be in line with forest-related climate change strategies and goals.
16. Promote the elimination of perverse incentives in other sectors that work against the achievement of forest related strategies and goals.
17. Design mechanisms to ensure that new sources of financing are tapped and that resources are channelled in an equitable and transparent manner to targeted stakeholders and through suitable means (e.g. micro-credit, project actions, insurance against extreme events, risk-sharing schemes) and that coordination and coherence of fund distribution mechanisms are ensured.
18. Revise policies and introduce measures aimed at encouraging private sector investments in forest-related climate change actions.

Implementation

Policies and strategies

1. Implement forest policies related to climate change by amending and/or developing operational plans at national and sub-national levels.
2. Maintain close contact with regional and international forest-related bodies and processes and engage, where appropriate, in policy-relevant initiatives on climate change.
3. Implement policies that facilitate decision making at the local level to ensure rapid and locally appropriate adaptation responses as well as the uptake of traditional coping strategies.

Legislation

4. Enforce revisions of forest law and regulations related to climate change.

Institutional framework

5. Implement agreed changes in the organizational frameworks and the realignment of bodies consistent with new mandates and tasks related to forests and climate change.
6. Revise existing or develop new intra- and cross-departmental and sectoral mechanisms to facilitate coordination between bodies at national sub-national and local level and between public and private bodies.

7. Employ, and where necessary strengthen, conflict management mechanisms to resolve conflicts among stakeholders arising from climate change impacts or climate change responses in forestry.
8. Engage stakeholder consultative mechanisms to enhance participatory decision-making and engagement in the implementation of actions on forests and climate change, adhering to the principle of Free, Prior and Informed Consent.

Information, communication and research

9. Amend forest monitoring and reporting systems related to climate change mitigation and adaptation measures, including reporting to UNFCCC and other international processes, as part of the country's overall forest monitoring and assessment system.
10. If the country is engaged in REDD+ activities, develop systems for addressing and reporting on social and environmental safeguards and identify the country's reference emission level and/or reference level, as consistent with the related decisions in UNFCCC.
11. Implement the communications strategy and related programmes, including by developing means to communicate with different stakeholder groups, summarizing and disseminating forest and climate change relevant knowledge (e.g. traditional knowledge) from sources within and outside the country, and engaging stakeholder consultative mechanisms, adhering to the principle of Free, Prior and Informed Consent.
12. Strengthen research on forest, land use and climate change and encourage research collaboration across sectors and country boundaries.

Capacity

13. Implement education and training programmes on forests, land use and climate change tailored to specific user groups at different levels within governmental bodies, the private sector, community-based organizations and indigenous groups.

Financial arrangements

14. Secure and apply a mix of public and private as well as domestic and externally sourced climate and development funds (e.g. Joint Implementation, CDM,REDD+) to support forest related adaptation and mitigation actions by different actors commensurate with their needs and capacities.

15. Implement changes in financing and incentives in the forestry sector to support adaptation and mitigation investments, innovative approaches and equitable and transparent distribution of resources. Work with other sectors to eliminate perverse financial incentives that undermine forest related climate change responses.
16. Reinvest part of the revenues from forest related climate change activities to strengthen forestry organizations and financial and governance frameworks.

Monitoring and evaluation

Policies and strategies

1. Monitor emerging issues and decisions related to national and international climate change policy processes with relevance for forests.
2. Monitor progress and periodically evaluate impacts of the implementation of forest-related climate change strategies and the need for policy revisions.
3. Assess whether efforts to eliminate perverse incentives or to amend policies in other sectors that hinder the achievement of forest-related adaptation and mitigation have been successful.

Legislation

4. Monitor progress and periodically evaluate impacts of revisions of climate change related forest laws and regulations including issues in relation to tenure, ownership and trading rights of forest carbon.
5. Monitor changes in international agreements on climate change and assess their implications for national forest laws and regulations.

Institutional framework

6. Monitor progress and periodically evaluate implementation of revisions in organizational frameworks and related responsibilities and the respective alignment of bodies with the new tasks and duties.
7. Periodically evaluate the degree and effectiveness of coordination across organizational frameworks and sectors relevant to forests and climate change, in particular between bodies at national, sub-national and local level and between public and private bodies.

8. Monitor and assess the degree of participation of stakeholder groups and application of the principle of Free, Prior and Informed Consent and of conflict management mechanisms in forest and climate change decision-making.

Information, communication and research

9. Monitor progress in data collection, assessment, reporting and verification related to forests and climate change.
10. Monitor and periodically evaluate the update and impact of information and communications messages on forests and climate change on all relevant stakeholders.
11. Monitor and assess the application of social and environmental safeguards for climate change adaptation and mitigation, in particularly safeguards for REDD+ if the country is participating in REDD+ programmes.
12. Periodically monitor and evaluate: forest research programmes for their relevance and contribution to climate change adaptation and mitigation programmes; progress in strengthening regional, international and cross-sectoral research cooperation; and dissemination and uptake of findings.

Capacity

13. Periodically monitor progress in improving the level of climate change knowledge and expertise, both technical and managerial, in government forestry bodies at different levels; in research, training and education institutions; and in non-governmental organizations, community-based organizations and other stakeholder groups.

Financial arrangements

14. Monitor the emergence of new national and international sources of finance for forest-related climate change actions.
15. Monitor and periodically evaluate the allocations and funds spent on forest and climate change responses, in particular with regard to effectiveness, efficiency, equity and accountability.

Section 4 – Tools and Information

One of the challenges of dealing with climate change is the rapidity with which new information is developed. Another is the sheer volume of information and material being produced.

This section lists basic information, case studies and useful tools. It is structured according to the four stages of the policy process model (Figure 3.1). The content will be regularly updated by FAO and posted on its web-based information resource (see Box 4.1).

BOX 4.1 - WEB-PORTAL ON TOOLS AND INFORMATION

Updated tools and information related to "Climate Change for Forest Policy-Makers" can be accessed via FAO's forest and climate change site. Further information on the development of this document and country experiences on integrating climate change in NFP's is also available.

The web-site: www.fao.org/forestry/climatechange/64862

Evidence and analysis

References

- **Adaptation of Forests and People to Climate Change – A Global Assessment Report (2009)**
  The report, IUFRO World Series 22, is the work of the Global Forest Expert Panel and constitutes the most comprehensive assessment to date of scientific information about climate change impacts and how forests and people can adapt to it.
  http://www.iufro.org/science/gfep/adaptaion-panel/the-report/download-by-chapter/

- **IPCC Fourth Assessment Report: Climate Change (2007)**
  The reports summarizes the findings of the three Working Group reports and provides a synthesis that specifically addresses the issues of concern to policy-makers in the domain of climate change: it confirms that climate change is occurring now, most probably largely as a result of human activities; it illustrates the impacts of global warming already under way and to be expected in the future, and describes the potential for adaptation of society to reduce its vulnerability; finally it presents an analysis of costs, policies and technologies intended to limit the extent of future changes in the climate system.
  http://ipcc.ch/publications_and_data/publications_and_data_reports.shtml#1

- **Biodiversity and Climate Change Mitigation and Adaptation: Report of the Second Ad Hoc Technical Expert Group on Biodiversity and Climate Change (2009)**
  This document has been produced by a suite of world-renowned experts in the fields of biodiversity and climate change and helps up to better understand how biodiversity and climate change interact.
  http://www.cbd.int/doc/publications/cbd-ts-41-en.pdf

- **Combating Climate Change a Role for UK Forests, An assessment of the potential of the UK's trees and woodlands to mitigate and adapt to climate change**
  This assessment aims to provide a better understanding of how forestry can adapt to and improve its contribution to mitigation of climate change. The report has the following specific objectives: review and synthesize existing knowledge on the impacts of climate change on UK trees, woodlands and forests; provide a baseline of the current potential of different mitigation and adaptation actions; identify gaps and weaknesses to help determine research priorities for the next five years. It is a good example of a country's efforts to define the role of forests in climate change responses.
  http://www.forestry.gov.uk/readreport

- **Vulnerability and Climate Change Impact Assessments for Adaptation (2010)**
  The UNEP publication outlines key approaches to help in assessing vulnerability to climate change in the context of other non-climatic issues and stresses such

as environmental change and consumption levels, and their integration with other drivers and pressures.
http://www.unep.org/ieacp/climate/

Tools

- **The REDD Opportunities Scoping Exercise (2010)**
  This publication by Forest Trends provides a tool for classifying and prioritizing potential REDD+ sub-national activities and for assessing critical constraints to project development, especially those associated with the legal, political, and institutional framework for carbon finance. The ROSE tool was developed and refined during 2009 in the course of conducting case studies in Tanzania, Uganda and Ghana.
  http://www.forest-trends.org/documents/files/doc_2431.pdf

- **Methods and Tools for Assessing the Vulnerability of Forests and People to Climate Change (2009)**
  This working paper from CIFOR provides an overview of methods and tools suitable for assessing the vulnerability of forests, forest ecosystem services and forest-dependent people or sectors to climate change. It provides a typology of methods and tools and gives examples.
  http://www.cifor.cgiar.org/publications/pdf_files/WPapers/WP43Locatelli.pdf

- **PRECIS (2011)**
  PRECIS stands for "Providing Regional Climates for Impacts Studies." Researchers at the Met Office Hadley Centre (metrological service and world area forecasting) produce and maintain a range of gridded datasets of meteorological variables for use in climate monitoring and climate modelling.
  http://www.metoffice.gov.uk/precis/

- **Community-based Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL) (2011)**
  This tool is designed to help project planners and managers integrate climate change adaptation and risk reduction into community-level projects.
  http://www.cristaltool.org/

- **World Bank Climate Change Portal and ADAPT (2010)**
  The World Bank Climate Change Portal is intended to provide quick and readily accessible global climate and climate-related data to the development community.
  http://sdwebx.worldbank.org/climateportal/

- **weADAPT Climate Change Explorer (2011)**
  The Climate Change Explorer, developed by the Stockholm Environment Institute, provides users with an analytical foundation from which to explore the climate variables relevant to their particular adaptation decisions.
  www.weadapt.org

- **Vulnerability Mapping and Impact Assessment (2006)**
  This tool developed for Sub-Saharan Africa by ILRI, CIAT and TERI, identifies vulnerable populations, assesses climate change impacts and adaptation options. It uses GCM outputs, GIS and vulnerability data, agriculture systems and land use data. The tool concentrates only on agricultural impacts in the Sub-Saharan region.
  http://webarchive.nationalarchives.gov.uk/+/http://www.dfid.gov.uk/research/mapping-climate.pdf

- **A training manual on Estimating the Opportunity Costs of REDD+ (2011)**
  The manual addresses the calculation of costs and benefits of the various land use alternatives in relation to their carbon stocks. As required data are generally not readily available, the manual also includes information on data collection, analysis and evaluation techniques. Although sections of the manual are relevant for subnational or project analysis, it is not intended to calculate compensation for farmers or landowners at a given site.
  http://www.asb.cgiar.org/PDFwebdocs/OppCostsREDD_Manual_v1%203_low-res.pdf

Planning process

References

- **Understanding national forest programmes, Guidance for practitioners** (2006)
  This FAO publication aims to promote understanding and facilitate coordination, collaboration and capacity building among stakeholders, for participatory formulation and implementation of forest and forest-related policies. It is not a recipe book, but rather a guidance document intended to inspire thinking and acting on best practices that correspond to the conditions of individual countries.
  http://www.fao.org/forestry/13533-0d0e0d879a9f3efc6ca9f847cd6ebb654.pdf

- **The Cancun Agreements (2010)**
  The UNFCCC COP 16 agreement confirms the scope of REDD+ (Paragraph 70): reducing emissions from deforestation; reducing emissions from forest degradation, conservation of forest carbon stocks, sustainable management of forest; and enhancement of forest carbon stocks and outlines principles as well as safeguards against negative social and environmental impacts of REDD+ actions (annex 1). Countries are requested to develop national strategies and action plans for REDD+, a national forest reference emissions level and/or a forest reference level; a national forest monitoring system for the monitoring and reporting on REDD+ activities, and a system for providing information on how the safeguards are being addressed and respected (paragraph 71). A phased approach – from strategy development to pilot activities and finally to results-based actions – is adopted (paragraph 73).
  http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=2

- **Enhancing Stakeholder Participation in National Forest Programmes (2009)**
  This policy brief has been written for the benefit of those who make and implement forest policies. This includes government staff working in forest departments and agencies as well as senior level decision-makers within ministries concerned with forests, environment and natural resources.
  ftp://ftp.fao.org/docrep/fao/012/i1044e/i1044e00.pdf

- **Forest Agencies' Early Adaptations to Climate Change (2009)**
  This report by IUFRO seeks to determine the extent to which forest agencies are changing their policies and management operations in response to current and anticipated future climate change and summarizes the state of the art of forest policy responses regarding adaptation to climate change in Australia, Austria, Brazil, Canada, Chile, China, Costa Rica, Finland, France, Germany, Russia, Spain, Sweden, and the United States.
  http://www.iufro.org/download/file/4373/387/op23.pdf/

- **Participatory governance assessments for REDD+ (2011)**
  The UNDP/UN-REDD platform can be a central resource for all actors interested in initiating country-led governance assessments, and may be useful to policy-makers, the national statistic agency, civil society organizations (CSOs), academia, the media.
  http://www.gaportal.org/participatory-governance-assessments-redd

- **Forest Governance and Climate Change Mitigation (2009)**
  In this brief, FAO and ITTO highlight lessons learned from experiences on the ground and sets out the key elements of an approach to forest law compliance and governance that will ensure the optimal role of forests in mitigating climate change.
  http://www.fao.org/forestry/19488-1-0.pdf

- **Developing effective forest policy (2010)**
  In this FAO publication for government officials and civil society organizations, the aim is to support countries in planning or revising national forest policy. Based on a review of practical experiences, it outlines the purpose and goals of a national forest policy and provides recommendations for an effective policy development process.
  http://www.fao.org/docrep/013/i1679e/i1679e00.htm

- **Forests Sourcebook (2009)**
  This publication from the Word Bank provides practical guidance for sustaining forests in development cooperation
  http://siteresources.worldbank.org/EXTFORSOUBOOK/Resources/completeforestsourcebookapril2008.pdf

- **Legal Frameworks for REDD: Design and Implementation at the National Level (2009)**
  IUCN has summarized a wide range of information and insights from legal and policy experts on REDD and forest carbon payment for environmental services (PES) schemes. The publication presents a detailed overview of regulatory design and implementation options specifically for a non-lawyer audience. The report is based on substantive findings from four national case studies carefully chosen for their varying geographies, forest cover and deforestation rates, and stages of REDD preparations.
  http://www.iucn.org/what/tpas/climate/resourcespublications/?uPubsID=3943

- **Forests and climate change in Latin America - Linking adaptation and mitigation in projects and policies (2010)**
  In this brief CIFOR focuses on the fact that current forest policies can facilitate the integration of adaptation and mitigation in the forest sector, but few policies in Latin America have addressed the linkages between adaptation and mitigation.
  http://www.cifor.cgiar.org/nc/online-library/browse/view-publication/publication/3273.html

- **Reforming forest tenure issues, principles and process (2011)**
  This FAO publication is intended to provide practical guidance for people involved in forest policy reforms associated with tenure and for those reflecting on the effectiveness of existing tenure systems.
  http://www.fao.org/docrep/014/i2185e/i2185e00.pdf

Tools

- **Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures (2010)**
  This publications was developed by UNDP on behalf of the Global Environment Facility. It provides a structured approach to formulating and implementing adaptation strategies, policies and measures to ensure human development in the face of climate variability and change.
  http://www.undp.org/climatechange/adapt/apf.html

- **Guidelines on Stakeholder Engagement in REDD+ Readiness (2011)**
  In order to best serve developing countries preparing to undertake REDD+, the UN-REDD Programme and the Forest Carbon Partnership Facility (FCPF) have collaborated to develop joint Guidelines on Stakeholder Engagement. This document incorporates all substantive guidance from the UN-REDD Programme's Operational Guidance: Engagement of IPs and Other Forest Dependent Communities as well as including guidance from the FCPF's Guidance Note on National Consultation and Participation for REDD.
  http://www.unredd.net/index.php?option=com_docman&task=cat_view&gid=1120&Itemid=53

- **Free, Prior, and Informed Consent for REDD+: Principles and Approaches for Policy and Project Development (2011)**
  Developed by RECOFTC and GIZ, Sector Network Natural Resources and Rural Development – Asia. This publication is targeted at people concerned with the design and implementation of REDD+ projects or programmes. It provides an overview of REDD+ and the importance of Free, Prior, and Informed Consent (FPIC), describes the development of a process that respects FPIC and offers guidelines on twelve aspects or 'elements' of a generic process to respect the right of indigenous peoples and local communities to FPIC.
  http://www.forclime.org/images/stories/RECOFTC-GIZ_FPIC_in_REDD_2011.pdf

- **Cross-Sectoral Toolkit for the Conservation and Sustainable Management of Forest Biodiversity (2008)**
  This CBD Technical Series Publication summarizes information on policy approaches that aim to minimize the negative impacts of other sectoral policies on forests and forest biodiversity.
  http://www.cbd.int/doc/publications/cbd-ts-39-en.pdf

- **Nairobi Work Programme on impacts, vulnerability and adaptation to climate change (2011)**
  The Nairobi Work Programme disseminates knowledge and information on adaptation, and highlights the work of partners as widely as possible through a variety of knowledge products and publications. Organizations, institutions and private sector companies at all levels and in a wide range of sectors can become

engaged with the programme by becoming a partner and making an Action Pledge.
http://unfccc.int/adaptation/nairobi_work_programme/items/3633.php

Implementation

References

- **Making REDD Work - A Practitioner's Guide for Successful Implementation of REDD (2009)**
  This brochure by Silvestrum aims to provide an overview and understanding of the REDD concept, the current proposals and the issues under negotiation. The recommendations made for further reading and the references to other available resources are intended to enhance broader participation and the full engagement of both governments and practitioners in the REDD debate.
  http://www2.gtz.de/dokumente/bib-2011/giz2011-0108en-making-redd-work.pdf

- **Financing for Sustainable Forest Management and REDD+ (2010)**
  This Global Environment Facility brief provides information on its investment programme for sustainable forest management (SFM) and reducing emissions from deforestation and forest degradation in developing countries, conservation, sustainable management of forests and enhancement of carbon stocks (REDD+), as well as opportunities for funding of forest-related activities in the fifth GEF cycle.
  http://www.thegef.org/gef/sites/thegef.org/files/publication/REDDEnglish.pdf

- **Guidance for the Provision of Information on REDD+ Governance (2011)**
  This UN-REDD guidance is intended for use by national governments, who are primarily responsible for ensuring that REDD+ activities are effectively implemented and safeguards are addressed and respected. The Guidance offers a common language and structure necessary to facilitate multi-stakeholder approaches to the provision of information on REDD+ governance.
  http://www.unredd.net/index.php?option=com_docman&task=doc_download&gid=5336&Itemid=53

- **Framework for Assessing and Monitoring Forest Governance (2011)**
  While the FAO/Profor framework is not an assessment or monitoring tool itself, it can facilitate the use of existing tools specifically designed for the purpose. It can serve as a starting point for understanding forest governance and for contextualizing the various tools available that can be appropriately employed for forest governance assessment and monitoring.
  http://www.fao.org/climatechange/27526-0cc61ecc084048c7a9425f64942df70a8.pdf

Tools

- **Platform on Climate Funding Options (2011)**
  This World Bank platform aims at providing comprehensive guidance on financial options available for climate action in developing countries. It contains information on where to access the wide range of funds available from multilateral and bilateral institution, as well as public and private sources. The site includes information about how funds are governed and whether projects are eligible and users are invited to be a resource to share their experiences with investment projects and offer feedback and comments on ongoing projects.
  http://www.climatefinanceoptions.org/cfo/Funding%20Sources

- **Voluntary REDD+ Database (2011)**
  This Database run by the REDD+ Partnership provides access to information on REDD+ financing, actions and results that has been reported to the REDD+ Partnership and aims to improve effectiveness, efficiency, transparency and coordination of REDD+ initiatives; and to support efforts to identify and analyze gaps and overlaps in REDD+ financing.
  http://www.reddplusdatabase.org/

- **Climate Funds Update (2011)**
  This is an independent website that provides information on the growing number of international funding initiatives designed to help developing countries address the challenges of climate change.
  http://www.climatefundsupdate.org

- **Forests and Climate Change Toolbox (2010)**
  A toolbox of resources developed by the Centre for International Forestry Research (CIFOR) to build understanding and technical proficiency on issues of climate change and forests. Consists of a series of PowerPoint presentations with accompanying notes, arranged according to a syllabus-like structure.
  http://www.cifor.cgiar.org/fctoolbox/
- **Case Studies on Measuring and Assessing Forest Degradation (2009)**
  This FAO publication aims to present promising methodologies and tools for assessing these different aspects of forest degradation from the point of view of the seven thematic elements of sustainable forest management (SFM). The initiative intends to identify suitable indicators to assess the degree of degradation of a forest at different management scales.
  http://www.fao.org/docrep/012/k8592e/k8592e00.pdf

- **REDD information sharing web platform (2011)**
  This UNFCCC web platform provides information submitted by Parties, relevant organizations and stakeholders. The information can be found under the following areas: Technical Assistance, Demonstration Activities, Country Specific Information and Methodologies and Tools.
  http://unfccc.int/methods_science/redd/items/4531.php

Monitoring and evaluation

References

- **FAO National Forest Monitoring and Assessment: Manual for integrated field data collection (2009)**
  The FAO manual for integrated field data collection constitutes the basis for the development of the methodology in each country. The manual serves as the template and reference document for forest monitoring.
  http://www.fao.org/forestry/19900-026212d9ecb093f72c140429df893aea7.pdf

- **Financing Climate Change Mitigation: Towards a Framework for Measurement, Reporting and Verification (2009)**
  In this publication OECD and IEA highlights existing knowledge and information about a range of different types of mitigation support and outlines a structure for the future framework for measurement, reporting and verification (MRV) to provide greater accountability and transparency.
  http://www.oecd.org/dataoecd/0/60/44019962.pdf

- **Measuring and Monitoring Terrestrial Carbon as Part of "REDD+" MRV Systems: The State of the Science and Implications for Policy Makers (2009)**
  This Policy Brief by Terrestrial Carbon Group summarizes important aspects of key methods, including their maturity, cost, and availability. It also describes how policy choices determine measurement and monitoring quality, and input and capacity requirements, and provides recommendations to progress to full terrestrial carbon accounting.
  http://www.terrestrialcarbon.org/Publications.aspx

Tools

- **A sourcebook of methods and procedures for monitoring measuring and reporting (2010)**
  A updated version of the GOFC-GOLD REDD Sourcebook with methods and procedures for monitoring measuring and reporting.
  www.gofc-gold.uni-jena.de\redd

The critical role of forests in climate change mitigation and adaptation is now widely recognized. Forests contribute significantly to climate change mitigation through their carbon sink and carbon storage functions. They play an essential role in reducing vulnerabilities and enhancing adaptation of people and ecosystems to climate change and climate variability, the negative impacts of which are becoming increasingly evident in many parts of the world.

In many countries climate change issues have not been fully addressed in national forest policies, forestry mitigation and adaptation needs at national level have not been thoroughly considered in national climate change strategies, and cross-sectoral dimensions of climate change impacts and response measures have not been fully appreciated. This publication seeks to provide a practical approach to the process of integrating climate change into national forest programmes. The aim is to assist senior officials in government administrations and the representatives of other stakeholders, including civil society organizations and the private sector, prepare the forest sector for the challenges and opportunities posed by climate change.

FOR FURTHER INFORMATION PLEASE SEE: www.fao.org/forestry
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