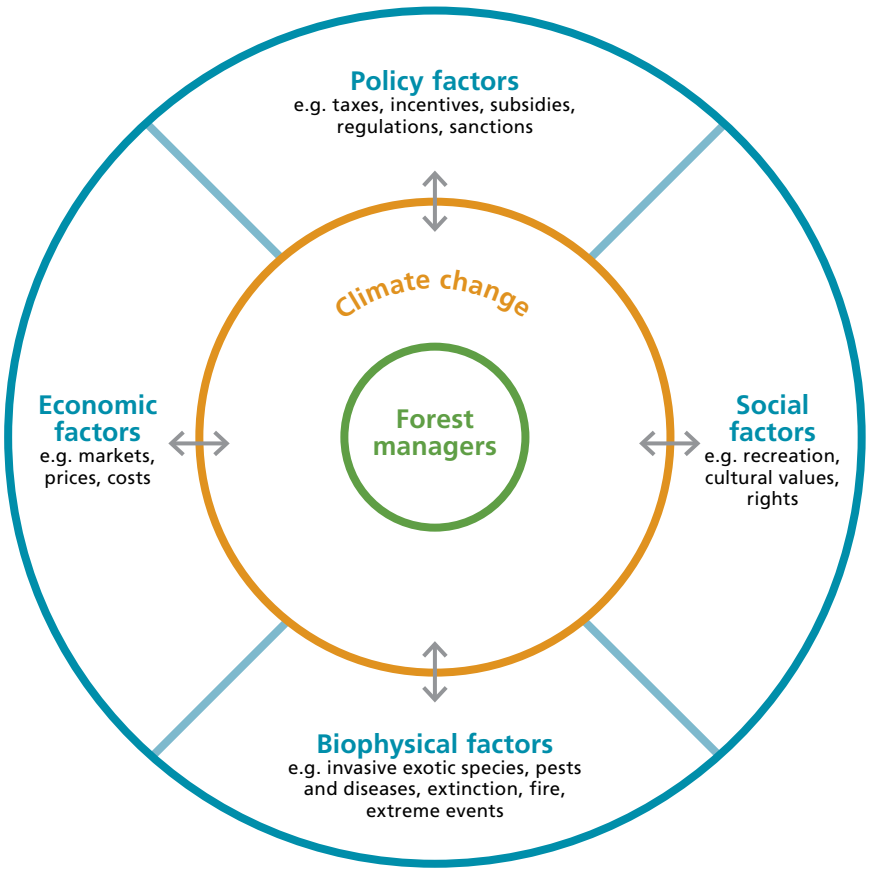
1. Introduction

The effects of climate change and climate variability on forest ecosystems are evident around the world and further impacts are unavoidable, at least in the short to medium term. In some cases, climate change is impairing the ability of forests to deliver critical goods and ecosystem services, such as wood and non-wood products and clean water, to the detriment of the livelihoods of forest dwellers, forest-dependent communities and others

FIGURE 1
Forest managers need to respond to a wide range of factors, all of which may be influenced by climate change



who benefit from forests. Meeting the challenges posed by climate change will require adjustments to forest strategies and changes to forest management plans and practices. Delays in taking action will increase the cost and difficulty of making those adjustments.

Climate change is only one of many factors that forest managers must deal with (Figure 1), but its impacts are projected to increase and to have wide-ranging repercussions. While some forests will benefit from increased temperatures and changes in precipitation, most will experience losses of important species, declines in yields, and increases in the frequency and intensity of storms and other disturbances. Adjusting forest management plans and practices to reduce vulnerabilities and facilitate adaptation to climate change is likely to incur additional costs, but these will probably be less than the costs of remedial action in the aftermath of climate-inflicted damage. Forest managers usually bear any increases in management costs, but they may not always benefit from the savings that are made when they take action in response to climate change. Nevertheless, well-informed forest managers will be able to benefit from financial and policy incentives to support climate change mitigation and adaptation actions, and this will help offset the additional costs of managing for climate change.

AUDIENCE AND PURPOSE

These guidelines have been prepared to assist forest managers (Box 1) to better assess and respond to climate change challenges and opportunities at the forest management unit (FMU) level. The document provides guidance on how to identify, assess and prioritize options for adjusting forest management plans and practices in response to and in anticipation of climate change. These guidelines will also be of interest to stakeholders outside the forest sector, since forest management responses to climate change will influence and be influenced by other sectors and stakeholders.

BOX 1

Forest management and forest managers

What is forest management?

Forest management encompasses the administrative, economic, legal, social and technical measures involved in the conservation, protection and use of natural and planted forests. It involves various degrees of human intervention to safeguard forest ecosystems and their functions and resources for the sustained production of goods and the provision of ecosystem services.

Who is a forest manager?

A forest manager is an individual or entity responsible for overseeing the management of forest lands or the use and development of forest resources to meet specific objectives. Individual forest managers may have formal education in forestry, equivalent qualifications or local knowledge, and experience in forest-related matters.

SCOPE

The actions outlined in these guidelines are intended to be relevant to all kinds of forest manager – such as individual forest owners, private forest enterprises, public-sector agencies, indigenous groups and community forest organizations. The actions are applicable in all forest types in all regions and for all management objectives (e.g. for production, protection, conservation and multiple use). The wide scope of the document means that, by design, the guidance it provides is generic. When recommended actions are specific to a certain type of forest owner or management objective, this is stated. FAO looks forward to collaborating with interested parties in the development of more detailed guidelines specific to particular forest types or forest managers and also encourages others to use these guidelines as a basis for developing more detailed, site-specific guidance.

CONTENT AND ORGANIZATION

The document has five chapters in addition to this introduction. Chapter 2 provides background on climate change and discusses its relevance to forests and forest managers. Chapter 3 presents an overview of sustainable forest management (SFM), adaptive management, landscape approaches, partnerships and participatory approaches, and the international framework for climate change adaptation and mitigation as it relates to forest management. Chapter 4 looks at management responses to climate change, including assessments of risk, vulnerability and options for mitigation, and offers operational guidance on management actions for climate change adaptation and mitigation. Chapter 5 provides guidance on how to monitor the impacts of climate change and on planning and evaluating adaptation and mitigation measures. Chapter 6 comprises a short conclusion. Three annexes present a glossary of terms, a list of knowledge tools and information sources, and the names of experts who participated in exercises to validate these guidelines.

Tonle Sap flood plain, Cambodia. Action is needed to prevent the degradation and loss of inundated forest habitat, which is essential for the maintenance of productive fisheries within the lake and for the capacity of communities to adapt to climate change.