Box 4.1

What Is an Ecosystem Approach?

An ecosystem approach broadly evaluates how people's use of an ecosystem affects its functioning and productivity.

- *An ecosystem approach is an integrated approach.* Currently, we tend to manage ecosystems for one dominant good or service such as fish, timber, or hydropower without fully realizing the tradeoffs we are making. In doing so, we may be sacrificing goods or services more valuable than those we receive—often those goods and services that are not yet valued in the marketplace such as biodiversity and flood control. An ecosystem approach considers the entire range of possible goods and services and attempts to optimize the mix of benefits for a given ecosystem. Its purpose is to make tradeoffs efficient, transparent, and sustainable.

- *An ecosystem approach reorients the boundaries that traditionally have defined our management of ecosystems.* It emphasizes a systemic approach, recognizing that ecosystems function as whole entities and need to be managed as such, not in pieces. Thus it looks beyond traditional jurisdictional boundaries, since ecosystems often cross state and national lines.

- *An ecosystem approach takes the long view.* It respects ecosystem processes at the micro level, but sees them in the larger frame of landscapes and decades, working across a variety of scales and time dimensions.

- *An ecosystem approach includes people.* It integrates social and economic information with environmental information about the ecosystem. It thus explicitly links human needs to the biological capacity of ecosystems to fulfill those needs. Although it is attentive to ecosystem processes and biological thresholds, it acknowledges an appropriate place for human modification of ecosystems.

- *An ecosystem approach maintains the productive potential of ecosystems.* An ecosystem approach is not focused on production alone. It views production of goods and services as the natural product of a healthy ecosystem, not as an end in itself. Within this approach, management is not successful unless it preserves or increases the capacity of an ecosystem to produce the desired benefits in the future.

in virtually all others–from water quality and quantity to biodiversity and carbon storage. In many cases these trade-offs were unconcious. Nonetheless, even with a new awareness of the value of traditionally overlooked ecosystem services like biodiversity or carbon storage, we can't simply reverse the trade-offs we've made. We can't, for example, make do with less food in order to protect biodiversity or improve water quality. The poor and disadvantaged would pay the human consequences of such a strategy.

The case studies in Chapter 3 further underscore our dependence on ecosystems. The villagers who live near Dhani Forest in India have no ready replacement for the food and fiber that Dhani provides, any more than the residents of southern Florida–even with their greater financial means–can find an alternative supply for the plentiful water that the Everglades offers.

Fortunately, the case studies give reasons for optimism. The groundswell of political concern over the deterioration of the Everglades is one sign that awareness of the importance of ecosystems is growing. The community's response to Dhani Forest's degradation assures us that–at least in some places–we are changing our behavior for the better. With its Working for Water Programme, the South African government is simultaneously fighting invasive plants, rising water demand, and poverty. The Programme examines impacts and pressures across ecosystems, challenges political interest groups and perverse economic influences, and forges alliances with the private sector.

Nonetheless, most of the management approaches presented in Chapter 3, as innovative as they are and as difficult as they were to implement, still fall short of a true "ecosystem approach." Some focus only on facets of an ecosystem's health. They include reparative actions, but not always preventive ones. From Mongolia to Bolinao to New York City, none encompasses the broad-scale changes needed to cope with current environmental degradation and inevitable increases in consumption.

What Should We Do to Adopt an Ecosystem Approach?

The principles of the ecosystem approach, described in Box 4.1, are slowly gaining recognition among resource managers. For more than a decade, the concept of ecosystem management has been growing in theory and application. In 1992, the U.S. Forest Service officially adopted an ecosystem orientation to managing U.S. National Forests. Since then, it has struggled to articulate what this means for its timber harvest policies, grazing practices, recreation activities, and management of roadless and wilderness areas. Box 4.2 provides examples of the differences between a traditional approach and an ecosystem approach in forestry.