INTRODUCTION

Sustainable development promotes the idea that development should be capable of meeting the needs of today without sacrificing the resources needed by future generations. This notion has evolved from recognition of the current problems faced when development occurs without regard for its impact on the surrounding ecosystem. The problems that occur are legion and the solutions complex. They involve many stakeholders with often significantly different perspectives and vastly different goals. New approaches to defining problems, approaches that incorporate multiple perspectives and support communication among multiple stakeholders, are needed to structure the complexity of modern decision-making situations and achieve sustainable development.

A recent study, sponsored jointly by the United Nations Development Program, the UN Environment Program, the World Bank and the World Resources Institute, identifies the problems at hand. The study assesses the global status of five types of ecosystems: agricultural, coastal, forest, freshwater and grassland. The
resulting report, issued in September of 2000, states that “the current rate of decline in the long-term productive capacity of ecosystems could have devastating implications for human development and the welfare of all species” (United Nations, et al., 2000, p. 6). The 197 scientists who conducted this study found, among other things, that:

- Half of the world’s wetlands were lost in the last century.
- Logging and conversion have shrunk the world’s forests by as much as half.
- Some 9% of the world’s tree species are at risk of extinction.
- Fishing fleets are 40% larger than the ocean can sustain.
- Nearly 70% of the world’s major marine fish stocks are over-fished.
- Soil degradation affects two-thirds of the world’s agricultural lands.
- Some 30% of the world’s original forests have been converted to agriculture.
- Twenty percent of the world’s freshwater fish are extinct, threatened or endangered.

The current state of the world’s ecosystems is alarming. When one considers that the global economy has tripled in size since 1980 and the population has grown by 30% to six billion people, how this state came to be is understandable. However, continued growth is expected in both the global economy and the world’s populations (United Nations et al., 2000). These trends will continue to put pressure on our current troubled ecosystems. Without some type of change in how these ecosystems are managed, their condition will only worsen.

To address the problems pointed out by this report, and to turn the current trend around, the report calls for an “ecosystems approach” to manage the world’s resources. This is an integrated approach that recognizes the “system” in ecosystem, manages systems holistically rather than sectorally and realizes that ecosystems span jurisdictional boundaries. People are viewed as part of the system and “…social and economic information is integrated with environmental information, …thus explicitly linking human needs to the biological capacity to fulfill those needs” (p. 21). The ecosystems approach involves local communities and the public in general, and integrates urban planning into ecosystems management and decision making, as “urbanization and urban consumers are among the most significant pressures on ecosystems today” (p. 22).

Information and decision-making are key issues in the ecosystems approach. Information is assembled to allow for analysis of trade-offs among ecosystem goods and services, and environmental, political, social and economic goals. The report addresses an “information gap” (p. 21) and calls for assembling, organizing and distributing knowledge and information about ecosystems and the political, social, cultural and economic environment in which they exist.

The report goes on to say that “we can continue blindly altering Earth’s ecosystems, or we can learn to use them more sustainably” (prologue). The UN’s so-called Brundtland Report (1987) suggests that development is sustainable if it “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Some believe that “…sustainability is one of the most important issues in the history of mankind–indeed in the history of life on the planet” (Nieto, Neotropian and Durbin, 1995).
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