Chapter 17
Integrating Ecosystem Management and Environmental Media for Public Policy on Public Health and Safety

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ABSTRACT

Over the past three decades, the relationship between ecology and public policy has changed because of the increasing role of scientific uncertainty in environmental policy making. While earlier policy questions might have been solved simply by looking at the scientific technicalities of the issues, the increased role of scientific uncertainty in environmental policy making requires that we re-examine the methods used in decision-making. Previously, policymakers use scientific data to support their decision-making disciplinary boundaries are less useful because uncertain environmental policy problems span the natural sciences, engineering, economics, politics, and ethics. The chapter serves as a bridge integrating environmental ecosystem, media, and justice into policy for public health and safety. The chapter attempts to demonstrate the linkage between the environmental policy from a holistic perspective with the interaction of air, water, land, and human on public health and safety.

INTRODUCTION

Since the 1980s, ecosystem management has helped to draw science into environmental policy process. Over the years, the relationship between ecology and public policy has changed because of the increasing role of scientific uncertainty in environmental policy making (Ludwig, Mangel & Haddad, 2001). While earlier policy questions might have been solved simply by looking at the scientific technicalities of the issue, recent environmental problems are often plagued by scientific uncertainty, such as international climate change and policy negotiations. Ludwig, et al. (2001) argue that this increased role of scientific uncertainty in environmental policy making requires that we re-examine the methods used in

decision making. Within this context, strong disciplinary boundaries are less useful because uncertain environmental policy problems span the natural sciences, engineering, economics, politics, and ethics. This interdisciplinary approach to environmental policy problems has led public managers and Administrators to ecosystem and adaptive management. The multi-faceted nature of ecosystem management and adaptive management make them particularly relevant for our discussion of the linkages between the natural system, physical system, the social system, and environmental policy decisions.

The purpose of this chapter is to examine how the ecosystem management perspective integrates with the environmental media to develop environmental health policy within a holistic ecological view and citizen engagement. It also highlights key issues that are important for a public manager or Administrator to consider when making policy decisions about the interactions and impacts of the natural system, concretion system and social system.

BACKGROUND

There has been a relatively recent push in the environmental policy community to encourage ecosystem management approaches in the management of natural resources (Steel & Weber, 2001). However, the local citizens must land their support for the management process to be successful. Across the world, learning from citizens in government policy has continued to grow to include a broad range of policy areas and national context. As participation of citizens in public policy has become more common around the world, and as the range of agencies that seek public input has expanded, the methods for soliciting public input have also grown in number and complexity. Steel & Weber, (2001) observe that the way an ecosystem management effort is institutionalized and implemented can be directly related to the level of citizens' support it receives.

Apart from citizens' participation, activities frequently involve a range of actors from non-governmental subsystem as well as from different levels of government. For practitioners, the basic requirement of participation is often obvious – a local, state, or federal law requires a government agency or department to hold a leaving, announce a change in zoning, or form an advisory committee on a given issue.

Following this thread of stakeholders' engagement, natural resource agencies have adopted ecosystem management principles as a way to increase stakeholder involvement in resource management (Koontz & Bodire, 2008). Eco-system management calls for "management based on stakeholder collaboration, inter-agency cooperation, integration of scientific, social, and economic information; preservation of ecological processes, and adaptive management" (p. 60). Given that eco-system management has such an integrative and collaborative focus, adoption of this approach by governmental agencies often signals that the agency is prioritizing both stakeholders' involvement and holistic perspective for environmental management.

Another aspect of stakeholder collaboration that can be addressed through an eco-system management approach involves dealing with large-scale, trans-boundary environmental problems. Management of trans-boundary environmental issues (such as air pollution that drifts across city or state lines) can require collaboration among a variety of stakeholders as well as the different owners of private property (Thompson, Anderson, & Johnson, 2004). Though it is not always easy, as Anti-trust laws often hinder the collaborative process because they do not allow industries to participate fully in the collaboration and to share information.

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