Capacity Building for Co-management of

Wildlife in North America

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Prepared by:

Daniela B. Raik
Human Dimensions Research Unit
Department of Natural Resources
Cornell University
Ithaca, New York, 14853-3001

EXECUTIVE SUMMARY

The purpose of this paper is to explore the concept of capacity building with respect to wildlife management. I review literature on capacity building and discuss the related concepts of capacity, empowerment, and capital, with particular attention to how they may apply to community-based co-management of wildlife. The literature included in this review draws from experience in a variety of disciplines, namely community psychology, personnel management, natural resource management, sociology, and international development.

The review identified the following key points:

- No single, widely accepted definition of capacity exists. The term has been used to describe a variety of resources, skills, and abilities that fall into three main categories: institutional, community, and individual.

- Empowerment is the impetus that can lead people who have the capacity to participate in collaborative wildlife management to take action. Three forms of empowerment have been identified: institutional, community, and individual.

- People depend upon reservoirs of physical, social, and human capital when engaging in a collaborative endeavor.

- The concepts of capacity, empowerment and capital are integral to community-based co-management of wildlife. Agencies, groups, and individuals draw upon sources of physical, social, and human capital when engaging in community participation. Increased capacity contributes to growing reservoirs of capital and empowers agencies, groups, and individuals to engage in collaboration over time.

- Interventionists may play a crucial role in building capacity in communities. This leads to empowerment and sustained participation in the collaborative process.

- The case of co-management of deer in Cayuga Heights illustrates the interplay of capacity, empowerment, capital, and participation.

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INTRODUCTION

As community involvement in co-management of wildlife expands, wildlife agencies, community leaders, local government officials, and others engaged in community-based management have recognized many challenges to success. Typically among these is some limitation in the capacity of individuals, communities, and institutions to understand and respond effectively to the wildlife management problem they seek to address.

The purpose of this paper is to discuss how the processes of individual, community, and institutional capacity building and empowerment draw from and contribute to the physical, social, and human capital essential to community-based co-management of wildlife. Based on a review of literature, I define "capacity building," "empowerment," and "capital." After discussing how these concepts have been applied in the literature and practice of various disciplines, I integrate them into a conceptual model. I examine a co-management case using this model, illustrating the potential utility of the model for planning and evaluating co-management programs for wildlife.

CO-MANAGEMENT

Public participation in wildlife management in North America increased markedly during the last two decades of the 20th century. As the diversity of stakeholders grew, the approach to wildlife management changed to include wider and more direct citizen participation (Decker and Chase 1997). Stakeholder participation takes several forms today, and is spread across a continuum of management approaches to decision making, ranging from total agency control to broad power sharing among stakeholders (Chase et al. 2000). Co-management, a community-based collaborative approach, is not common but is increasingly being used in wildlife management in North America. This approach involves collaboration of state and federal wildlife management agencies with other stakeholder entities, such as local governments, organized interest groups, and citizens who have a stake in wildlife management (Schusler 1999). The variety of interests around human-wildlife interactions occurring across the landscape has created a demand for management strategies that are tailored to specific communities, and require community participation and investment, typical elements of co-management (Chase et al. 2000, Decker et al. 2000).

The goals for co-management of wildlife mirror those for most kinds of citizen participation (Lauber and Knuth 2000) in having two related but distinct categories: process goals and outcome goals.

Process goals include:

- ♦ Fairness (provision of adequate opportunity for people to participate)
- ♦ Quality (representation of all relevant stakeholders and receptivity of agencies to citizens' input)

♦ Wisdom (the quality of knowledge of both the management agencies and citizens)
♦ Efficiency (consideration of time and cost)
♦ Stability (constancy of management decisions, improved relationships, increased knowledge)

Outcome goals include:

♦ Better management decisions (better information for decisions and better judgment)
♦ Better management climate (articulated beliefs and attitudes, established behaviors, new or stronger relationships, increased capacity to contribute to management decisions)

The attainment of these goals requires the capacity to contribute to decision making on the parts of local governments, organizations, communities and individuals. Enhanced agency capacity to work with such entities as partners in co-management is also needed. Collaborative processes can be designed to build the capacity of agencies, communities, and individuals to participate in decision making (Wondelleck and Yaffee 2000). To the extent that capacity results from and contributes to successful collaboration and the attainment of co-management goals, capacity building should be of keen interest for co-management. Capacity building and its connections to the concepts of empowerment and physical, social, and human capital, are discussed below.

CAPACITY BUILDING

The term *capacity building* has appeared recently in the wildlife management literature in the context of community-based co-management. *Capacity building* has been cited as both a process and an outcome goal in reference to the stakeholders involved in wildlife decision-making processes (Lauber and Knuth 2000). However, no specific definition has been given for capacity building focused on stakeholders or communities with respect to wildlife management.

We can trace the concept of *capacity building* to both theoretical and applied research (Mengers 2000). Relevant discussion occurs in the literature of sociology, community psychology, community development, social work, natural resource management, international development, and personnel management. Literature from all of these disciplines was reviewed to gain insight from the wide-ranging views on the concept.

Many discussions of capacity building lack specific definition of the term, and the literature exhibits no convention in definitions between the various disciplines, or even within them (Newland 1981, Johnson 1993, Ohiorhenuan et al. 1995, Lauber and Knuth 2000). Nevertheless, the importance of capacity building in some fields is evident, such

as when it is an objective of major, high-budget projects (Ohiorhenuan et al. 1995). The term seems to have *implicit* meaning that is assumed to be generally understood. The present-continuous tense of capacity building suggests that it is a long-term and continuous process (Ohiorhenuan et al. 1995, Mengers 2000). (Examples of definitions are cited in Table 1. They are divided into two types, [a] definitions of the <u>process</u> of capacity building and [b] definitions of the <u>goals</u> of capacity building.)

Table 1: *Definitions of "capacity building"*
Process
"Seeking to develop… skills and resources, and also problem-solving capability, at five levels: the individual; within… teams; within… organizations; across organizations; within the community" (Hawe et al. 1998:285).
"…takes the form of technical assistance concerned with operational issues, …organizational assistance concerned with everyday organizational needs, …and finally organizational development interventions, in the form of a longer-term comprehensive look at organizational capacities…." (Lewis 1998:504).
Increasing "skills, experience, or knowledge…of citizens or agencies" (Lauber and Knuth 2000:10).
Increasing "participation and leadership, access to and prudent application of resources, social and interorganizational networks, sense of community, community history of collective actions, community power, shared core values, and capacity to engage in critical reflection" (Poole 1997:163).
Goals
"Increasing the ability of people and institutions to do what is required of them" (Newland 1981:4).
Building "the characteristics of communities that affect their ability to identify, mobilize, and address social…problems" (Goodman et al. 1998:259).
"Enhancing the ability to evaluate and address the crucial questions related to policy choices and modes of implementation among development options, based on an understanding of environmental potentials and limits and of needs as perceived by the people of the country concerned" (Johnson 1993:481).

The variety and vagueness in definitions of capacity building are illustrated in Table 1. Whether or not a definition is given, meaning can be inferred from the context. From this analytic perspective, regardless of the discipline, *capacity building* is used in three major contexts and can be categorized thus:

1. **institutional** (referring to an organization or set of organizations; e.g., state or federal wildlife management agency, local government)
2. **community** (referring to informal groups bounded geographically; e.g., town, neighborhood)
3. **individual** (referring to people as such; i.e., citizens)

Each of these three broad categories of capacity has several components.

1. Institutional Capacity
   a. Resources
      i. Personnel (Mengers 2000, Ta'I 2000, Wondelleck and Yaffee 2000)
      ii. Funding (Lewis 1998, Crisp et al. 2000, Ta'I 2000)
      iii. Physical infrastructure (Ta'I 2000)
      iv. Materials (Ta'I 2000, Troja 2000)

   b. Organization
      i. Management structure (Crisp et al. 2000; Mengers 2000, Ta'I 2000)
      ii. Communication (Mengers 2000)
      iii. Partnerships with other institutions and networks within institutions (Lewis 1998, Murray and Dunn 1995, Crisp et al. 2000, Wondelleck and Yaffee 2000)
      iv. Programming (Troja 2000, Howat et al. 2001)

2. Community Capacity
   a. Relationships (Landre and Knuth 1993, Moyer et al. 1999, Schusler 2001)
   b. Common purpose (Moyer et al. 1999, Balcazar et al. 2001, Schusler, 2001)
   c. Sense of shared values and history (Goodman et al. 1998)

3. Individual Capacity
   a. Leadership skills (Murray and Dunn, 1995, Rowe 1997, Goodman et al. 1998, Hawe et al. 1998). Leadership refers to the facilitation of meetings, the ability to motivate, organize, and empower, and the creation of social networks.
   b. Analytical skills/problem identification (Poole 1997, Goodman et al. 1998, Maton 1999, Li et al. 2001). Analytical skills include the ability to identify the issues, understand the alternatives, and come to a conclusion about the best possible solution.
   c. Technical knowledge and skills/information (Goodman et al. 1998, Sharif 1999, Wondelleck and Yaffee 2000, Howat et al. 2001). Technical skills include the ability to carry out some technical aspect of a collaborative process (e.g., collecting data, conducting interviews); knowledge is possession of information needed to assess alternative solutions to the problem at hand.

These capacities, after being gained by the institution, community, or individual, may remain dormant unless there is some impetus to action, or empowerment (Rappaport 1987). That is, capacities of individuals, groups, or organizations may go unrecognized, unvalued, or unexercised. Through a process of empowerment, these capacities may

contribute to sustained and meaningful action or participation (Rappaport 1981). Thus, empowerment plays a central role in community-based co-management of wildlife.

EMPOWERMENT

Empowerment in the context of co-management generally refers to the process of gaining a sense of democratic participation in one's community, particularly a sense of ownership about and influence over important events and outcomes in one's own life (Rappaport 1987). Empowerment is cited as an outcome of both capacity building (Foster-Fishman et al. 2001) and participation in decision making (McMillan et al. 1995). According to Rappaport (1987), empowerment is a mechanism by which organizations, communities, and individuals gain a sense of mastery over their affairs. Empowerment occurs in a particular social environment and therefore cannot be understood apart from its context.

The concept of empowerment implies that capacities may exist or could be developed given the right circumstances, and therefore lack of participation or action in a given situation reflects a defective social structure or insufficient resources. For instance, weak social networks may prevent people from using existing competencies or developing latent ones (Rappaport 1981). The process of empowerment may unfold at multiple and interconnected levels, including the organization or institution (Chavis and Wandersman 1990), the community (Fawcett et al. 1995, Balcazar and Keys 2001), and the individual (Zimmerman and Rappaport 1988).

Organizational or institutional empowerment appears in two forms. *Empowering* institutions build the confidence and facilitate the competencies of groups and individuals, and provide mechanisms for the public to influence decisions (i.e., when wildlife agencies work with communities to improve their effectiveness as partners or participants in wildlife management). *Empowered* institutions learn new ways to use their resource and organizational capacities to influence their environment (Rich 1995).

Community empowerment is "the efforts of individuals with common concerns and characteristics to increase the degree of control over their own destiny and their capacity to influence bodies that make decisions that affect the community and its members" (Balcazar and Keys 2001:54). This process of empowerment assumes a sense of common purpose among individuals that allows them to take action collectively.

Individual empowerment has been defined more specifically as a psychological phenomenon (Zimmerman 1990). It refers to the connection between a sense of personal competence and a desire to take action in the public domain (Zimmerman and Rappaport 1988). Competence to take action is determined by the interaction of such factors as relevant knowledge and analytical ability (Rich 1995).

The three types of empowerment resonate with the three types of capacity described earlier – institutional, community, and individual – and can be linked. The

literature suggests that for empowerment to take place certain "competencies" must exist. These competencies can be thought of in terms of *institutional*, *community* and *individual* capacities. The link between empowerment and capacity can be articulated as a flow. For the most part this flow has been described as unidirectional, from capacity to empowerment, but in the context of citizen participation in wildlife decision making, evidence indicates that empowerment can indirectly lead to increased capacities as well. This feedback aspect, arising from experiential learning, will be discussed below.

CAPITAL

People also depend upon reservoirs of physical, social and human capital when they engage in a collaborative endeavor. The context of collaborative management includes many aspects of "capital" – physical resources, social networks and relationships, and individual values, beliefs, knowledge, and skills. Although capital and capacity are similar in that they represent resources and abilities, these concepts have developed independently and are not used synonymously (see Newland 1981 and Woolcock 1998). Capital refers to a reservoir of assets from which capacity building draws. Woolcock describes three types of capital identified in the social science literature: physical capital, social capital, and human capital (Woolcock 1998). Each of these types of capital provides a basis for building capacity in collaborative management. The participants in this complex and dynamic system of collaboration can be viewed as both drawing from and contributing to sources of capital as they engage in collaboration.

The definition of *physical capital* used here will be limited to monetary and material assets. A platform for capacity building, monetary and material assets can increase an institution's ability to conduct work effectively and efficiently (Lewis 1998). The "platform" metaphor suggests some initial, or underlying resource commitment that leads to further investment in the hopes of an eventual increase in the stock of physical capital (e.g., a surplus).
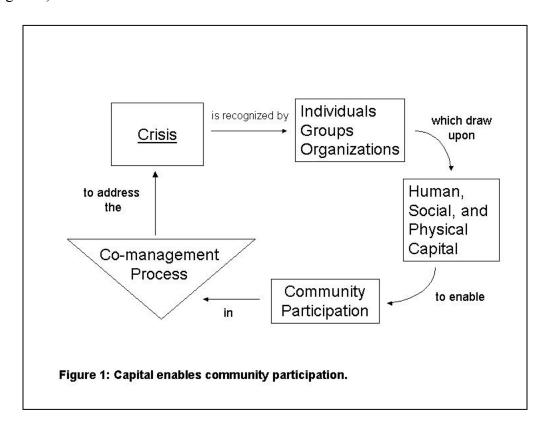
Social capital is generally defined as the formal and informal networks among people (Coleman, 1990, Putnam 1993a, Woolcock 1998). Such networks rely upon information, trust, and norms of reciprocity to build features of social organization and to facilitate coordinated action. Social capital is a relatively new concept that has recently been the focus of much theoretical and empirical research (Woolcock 1998, Rees 2000). Relevant to wildlife management interests, social capital has been explored with respect to civic participation and principles of democracy (Putnam 1993b). Stocks of social capital can influence the social climate and therefore have implications for the kind and quality of capacity building that can occur in a co-management scenario.

Human capital refers to the body of knowledge, skills, and experience an individual relies upon and contributes to over time. Human capital relates to individual capacity and is enhanced when individuals interact, acquire information, and experience learning (Lawrence and Deagen 2001). While it is true that people draw from the resource of human capital when they participate in collaborative efforts, their

participation can also increase the stock of human capital by gaining new knowledge or skills (e.g., enhancing decision-making skills).

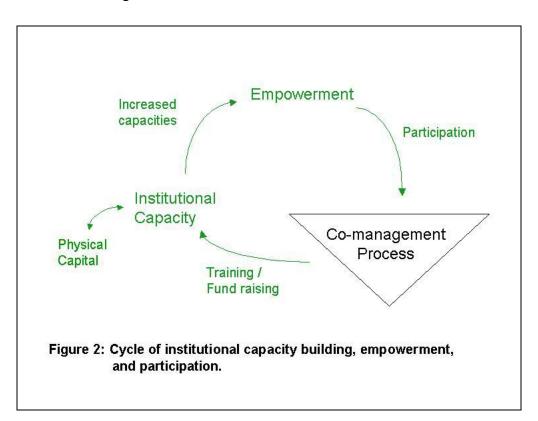## CAPACITY BUILDING FOR CO-MANAGEMENT OF WILDLIFE

Historically, the co-management approach to natural resources in North America has been a response to crisis situations (Schusler 1999). In a crisis situation, communities draw on physical, social and human capital while engaging in some form of action (Figure 1).

Figure 1: Capital enables community participation.

Inherent in a co-management approach is the presence of multiple stakeholders, each willing and able, in varying degrees, to participate in some aspect(s) of co-management. This collection of stakeholders, representing different interests in management, typically manifests all three categories of capacity. To illustrate, we can think of **institutional** capacities as referring to the managing agency, NGO partners, local government, and any other formally constituted group. **Community** capacities refer to the informal relationships among individuals of a given geographical location. Social networks are not bound by a formal institution but instead flow from the day-to-day contact individuals in a community have with one another. In a co-management scenario, this could be a concerned group of citizens (e.g., a neighborhood ad hoc group) representing a common interest who build relationships with one another, or individuals representing differing interests who come to identify a common goal. **Individual**

capacities refer to those qualities that a person may have that can flourish in a collaborative management process. These capacities may rely on the capacities of institutions and the community, but they are cultivated on an individual basis. These individual traits include leadership skills, analytical skills, technical skills, and various kinds of knowledge.
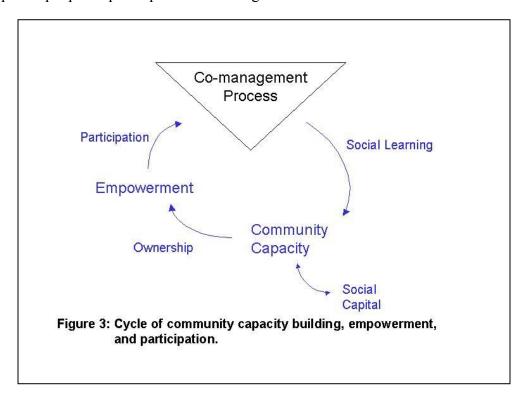
The three types of capacities may overlap, but for this discussion they will be considered separate categories. To illustrate how concepts of capacity, empowerment, and capital interconnect and apply to community-based co-management, I will rely on visual conceptualizations. The depictions that follow are simple models that do not precisely represent the intricacies and complexities of reality, but serve to illustrate the relationships of the concepts to one another, and to help consider their application in natural resource management.

Figure 2: Cycle of institutional capacity building, empowerment, and participation.

Collaboration in general (Wondelleck and Yaffee 2000) and capacity building more specifically (Balcazar et al. 2001) lead to empowerment. In the case of institutions (Figure 2), this empowerment contributes to two traits of the organization: the *empowered* organization and the *empowering* organization. To illustrate, a wildlife-management agency may invest physical capital in the training of key staff in organizational communication, a form of institutional capacity. The resulting increase in communication capacity may motivate the agency to communicate better with its partners or to communicate its message to stakeholders more effectively (*empowered*

organization).   Increased communication effectiveness may also enable the agency to encourage successfully more participation of citizens or groups in the deliberative decision-making process necessary for co-management (*empowering* organization). Both forms of empowerment can stimulate collaborative action. As Figure 2 illustrates, co-management is a cyclical process by which organizations remain engaged over time. Capacities built during the process may contribute to the institutions' reservoirs of physical capital, which can be re-applied to the same process or used in other situations and at other times. The process has a reinforcing character that provides opportunities for increasing capacity, which leads to empowerment, and in turn enables continued action in co-management.

Similarly, collaboration creates an environment in which *community* capacities are built through *social learning*. Social learning occurs when people share diverse perspectives and experiences to develop a common framework of understanding and basis for joint action. Collaborative processes have been shown to enable social learning in natural resource management when they have open communication, diverse participation, unrestrained thinking, constructive conflict, democratic structure, multiple sources of knowledge, extended engagement, and facilitation (Schusler 2001). The capacities that result from collaboration then lead to empowerment (Figure 3). As with institutions, increased *community* capacities produce a sense of ownership of the co-management process. This leads to the development of relationships, social norms, and unity of purpose, all of which add to the community's stock of social capital that empower people to participate in co-management.

Figure 3: Cycle of community capacity building, empowerment, and participation.
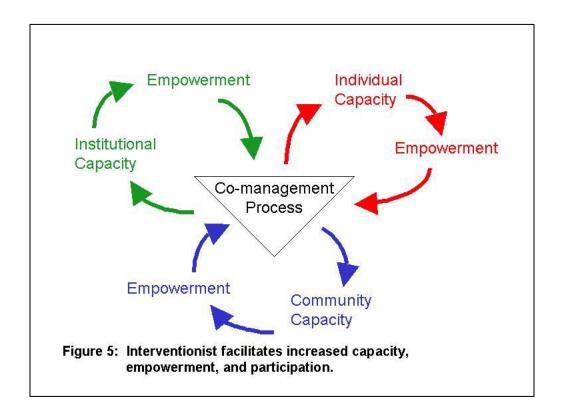
Increased *individual* capacities result in individual or *psychological* empowerment. Knowledge and skills foster an individual's confidence and feelings of competence to participate in collaborative action (Figure 4). Individual empowerment leads to continued and genuine participation in the co-management process. The individual's sense of ownership, community, common purpose, and competence instills commitment to the process. As this cycle plays out repeatedly, increased individual capacities add to the repository of human capital.

Figure 4: Cycle of individual capacity building, empowerment, and participation.

INTERVENTIONIST – AGENT FOR CHANGE

In considering the application of capacity building to wildlife management, the role of the interventionist (e.g., agency staff) deserves consideration. An interventionist frequently plays the role of "third party" in public organizing efforts (Rogers 1990). An individual or a group can fill this role. Important goals of an interventionist with respect to capacity building in community-based wildlife management would include facilitating the deliberation process, creating relationships among participants, encouraging learning, and developing leadership skills in local people involved in the process (Payne 1995). In co-management of wildlife, an interventionist facilitates a particular type of learning that leads to increased capacity. Figure 5 illustrates a conceptual model for how the three cycles of capacity building relate to a co-management process. In this model, it is the interventionist who facilitates the training, collaboration, social learning, and experiences

that are the vectors between co-management and increased capacities. That is, although all participants contribute to the environment where capacities are built, the interventionist's focus is on cultivating that environment.

Figure 5: Interventionist facilitates increased capacity, empowerment, and participation.

In addition, the interventionist seeks to create the conditions that lead to the development of empowerment (Rappaport 1987). For instance, an interventionist, in collaboration with community members, may work to create relationships, enabling people to realize that their personal values are shared by others and empowering them to act on those values.

The interventionist may also facilitate the transition from *empowerment* to *action or participation* in a collaborative process. For instance, the interventionist may, in some cases, create partnerships, purpose, or leadership that motivate collaborative actions. Figure 5 illustrates where intervention may occur: capacity building, empowerment, and action.
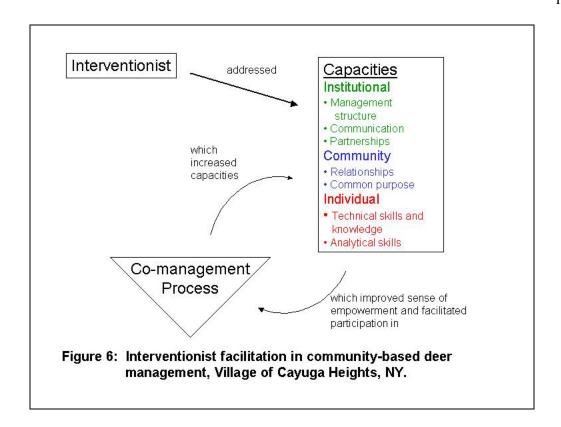
CAPACITY BUILDING AND EMPOWERMENT IN COMMUNITY-BASED DEER MANAGEMENT:
The Cayuga Heights Case

Co-management of deer in Cayuga Heights, New York is a case that illustrates the capacity model and highlights the role of the interventionist (Siemer et al. 2000). In this case, the New York State Department of Environmental Conservation worked with Cornell University and Cornell Cooperative Extension to assist a community organization to create an informed public dialogue about local deer management. Siemer et al. (2000) used a consensus-building framework to analyze the planning process that produced the dialogue. Specifically, they looked at the role of a third-party interventionist in contributing to capacity building, empowerment, and more effective working relationships among stakeholders in the community.

The Village of Cayuga Heights is a small, relatively affluent residential community bordering the City of Ithaca and Cornell University in Tompkins County, New York. Like many suburban communities in the United States, Cayuga Heights is experiencing increases in its local deer population. Commensurate with these increases has been a rise in public concern about deer-related problems and controversy over how deer should be managed. In response, the Village Trustees appointed a citizens' Deer Advisory Committee in the summer of 1998 to study the deer situation (Chase et al. 1999). Working with a Cornell Cooperative Extension facilitator, the Committee gathered information to inform the local public about potential management options. This included a survey aimed at identifying residents' attitudes about the deer situation. Results of this survey, conducted by the Human Dimensions Research Unit at Cornell, indicated overwhelming (98%) support for community involvement in deer management decisions (Curtis et al. 2000). This desire on the part of the community to be involved and the professional facilitation provided by Cornell Cooperative Extension staff were key factors contributing to co-management in Cayuga Heights. Specifically, the Cooperative Extension facilitator contributed to a more effective working relationship among the concerned parties.

Figure 6 illustrates three points at which the facilitator had impact, as identified by evaluation of the process (Siemer et al. 2000). The facilitator did not motivate the initial community action, but instead helped the community to build capacity as the process developed. For instance, she facilitated development of process protocols, including protocols for dealing with the media, and protocols for the public meetings. This necessitated improving three *institutional* capacities: management structure, communication, and partnerships. The facilitator also helped ensure that more stakeholders were represented in the process. As a result, *community* capacities increased because new relationships were built and a sense of common purpose developed. Finally, helping with fact-finding contributed to the development of *individual* capacities by providing technical knowledge to inform the participants' deliberations and analytical skills in debating the merits of proposed deer management strategies.

Figure 6: Interventionist facilitation in community-based deer management, Village of Cayuga Heights, NY.

According to the participants in the process, the work that the facilitator did to increase institutional, community, and individual capacities contributed to empowerment of the local community and sustained participation (*action*) in the process. For instance, through the joint fact-finding efforts that the facilitator organized, people felt empowered to participate as informed citizen stakeholders. "Information provided by noncommittee members who had biological, wildlife management, or social science expertise played a valuable role in empowering Deer Committee members and other stakeholders with the information they needed to sustain thoughtful deliberation about deer management in Cayuga Heights" (Siemer et al. 2000:15). This illustrates how an interventionist can act not only at the capacity-building level (as depicted in Figure 6), but also at the empowerment and action levels (Figure 5).

QUESTIONS FOR FURTHER RESEARCH

Co-management is still uncommon in wildlife management. More theoretical and empirical work is needed on the human-dimensions complexity of the process, especially with respect to the concepts of capacity and empowerment. We know little about the nature and importance of capacity building and empowerment in the context of community-based co-management of wildlife. Further research is needed to understand these processes.

Questions of interest include: What capacity building is required for a collaborative process to be successful? What form of intervention (e.g., facilitation,

negotiation) will help create the circumstances under which this capacity building can take place? Answers lie in more fully understanding the participants, their interactions, and the role of the interventionist with regard to capacity and capital, empowerment, and action. Evaluations that shed light on the critical capacity-building processes contributing to collaborative success are needed. Does success *require* minimal institutional, community, and individual capacities, and if so, what are the minimums and are some components more important than others in contributing to success? How might wildlife agencies or other appropriate interventionists effectively engage communities to build capacities where needed?

The role of an interventionist also deserves further exploration. When is intervention necessary or helpful for increased capacity to be achieved? What qualities of the interventionist affect the quality of capacity building? What specific factors may contribute to the interventionist's ability to build capacity and facilitate empowerment? What are the characteristics of comprehensive and effective interventions to facilitate community-based co-management of wildlife? These questions probe one of the recognized merits of co-management, increased capacity of participants. Because building capacities for co-management is time-consuming and costly, it is prudent to investigate whether the initial investment for co-management has long-term benefits, such as improving a community's ability to sustain effective management of a particular species of wildlife, and developing capacity that is transferable to other wildlife management needs the community may subsequently face.

CONCLUSION

Co-management presents an opportunity for wildlife-management agencies to work collaboratively with communities to manage wildlife effectively. Community involvement also presents a challenge to wildlife-management agencies, as it often requires an investment of time and energy to build the capacities of individuals, communities, and institutions to understand and respond to a given wildlife problem. This review revealed the relevance of the process of capacity building, empowerment, and participation for wildlife managers in planning and evaluating co-management programs for wildlife. The success of community-based co-management will require that all stakeholders understand that investments in capacity likely are necessary to ensure sustained community participation in wildlife management over time.

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APPENDIX A
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