Developing a Framework for Analyzing Partnerships for Integrated Water Resources Management (IWRM):

An Institutional Analysis of Watershed Partnerships in the U.S.

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Abstract

The last decade witnessed growth in research examining partnerships for integrated water resources management (IWRM) and it is now employed around the world in various physical, socio-economic, cultural, and institutional settings. Unfortunately, while scholars often examine what these partnerships "do", they tend to give less attention to how their strategies and structures influence and control their processes. As a result, participants have little guidance when it comes to designing effective partnerships for IWRM. There is also little understanding of the life-cycles of these partnerships or the factors that allow the partnerships to endure as they progress through their developmental stages. The objective of this paper is to develop a framework that can be used to examine the structure of the partnerships associated with IWRM. Its central argument is that while participants in an IWRM program should think holistically when framing problems, they should act strategically because there are practical limits to how much any collection of policies and programs can or should be "integrated".

The framework draws attention to several sets of strategic choices. Participants must first identify the policy space in which the IWRM partnership will operate. The policy space involves choices about *consistency* (horizontal or vertical) in terms of how policies and problems are framed. Choices must also be made about the space, actor, issue, and time dimensions that shape the overall *comprehensiveness* of the policy space. It is also important to consider whether these decisions will be made from an overall perspective or that of some smaller subset of actors (*aggregation*). Forming the IWRM partnership within this policy space, requires a different set of explicit (or implicit) choices over some period of time concerning the particular configuration of *boundary* (member and strategy), *decision* (preference aggregation, distribution of power, distribution of roles or responsibilities, and, distribution of participation), and *coordination* (exchange, monitoring, dispute resolution, and enforcement) rules. The configuration of these rules creates the partnership's "structure". However, getting the rules right is not easy and takes time. The paper proposes a four-stage life-cycle to draw attention to the changing nature of the challenges associated with this developmental process. The paper concludes with a discussion of the factors that appear to enable these partnerships to endure and some of the challenges, possibilities, and paradoxes associated with developing effective partnerships for IWRM.

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Introduction

Integrated water resources management (IWRM) is in widespread use around the world in various physical, socio-economic, cultural, and institutional settings. While IWRM programs vary in their scope, design, complexity, and administration, they often share common characteristics including:

- Approaching problems from an integrated or systems perspective;
- Having a stronger scientific basis behind policies and programs;
- Public participation and stakeholder involvement in decision making; and,
- Coordinating policies and programs to improve performance.

While scientific research helps define problems and priorities, ultimately IWRM has a strong institutional orientation. As Bressers, O'Toole, and Richardson (1995, 4) observe, it is common for policies to "require the concerted efforts of multiple actors, all possessing significant capabilities but each dependent on multiple others to solidify policy intention and convert it into action." Since problem solving capacity is widely dispersed, few actors can succeed by acting alone. Integration is accomplished by modifying policies, changing the structure of institutional arrangements, improving coordination, and finding ways to collaborate and work together. Conversely, politics, power, negotiation, compromise, conflicting values, and the lack of trust impose practical limits on how much "integration" is possible.

Over the last few decades, a growing body of literature accumulated to examine the challenges associated with designing partnerships for IWRM and other forms of collaborative environmental management (CEM) (e.g., ecosystem-based management, integrated water resources management, integrated environmental management, watershed/catchment partnerships, and river basin management) (Koontz, et al., 2004). This literature often focuses on identifying "lessons learned" and attempts to identify factors associated with partnership effectiveness (or lack thereof) (e.g., Leach & Sabatier, 2005; Sabatier et al., 2005; Koontz, et al., 2004; Koontz & Johnson, 2004; Koontz, 2003; Leach et al., 2002; Leach and Pelkey, 2001; Steelman & Carmin 2002; Imperial & Hennessey, 2000; Wondolleck & Yaffee, 2000; Thomas, 1999). Unfortunately, little research examines the structural properties of these "partnerships" (e.g., Imperial & Koontz 2007; Imperial, 2005a; Moore & Koontz, 2003). While scholars examine what watershed partnerships "do", they often give little attention to how the partnership's strategies and structures influence and control their processes. As a result, participants have little guidance when it comes to designing effective partnerships for IWRM. There is also little understanding of the development challenges and how measures of a partnership's effectiveness will change as it progresses through different stages of its life-cycle.

An Institutional Perspective on Partnerships

This paper examines the structural characteristics of partnerships through the perspective of the institutional rational choice (IRC) literature. In particular, the study builds on the institutional analysis and development (IAD) framework developed by Elinor Ostrom (2005, 1999, 1990) and her colleagues. The IAD framework has proven to be a useful approach to examining a wide range of collaborative environmental management (CEM) programs (Imperial, 2006, 2005a, 1999a, 1999b; Imperial & Yandle, 2005; Koontz, et al., 2004; Kauneckis & Imperial, 2007; Koontz, 2005; Imperial & Kauneckis, 2003; Imperial & Hennessey, 2000; Imperial, 2006, 2005a, 2005b, 1999a, 1999b; Sabatier et al., 2005; Margerum & Born, 2000; Blomquist, 1992). Institutions are "enduring regularities of human action in situations structured by rules, norms, and shared strategies, as well as by the physical world. The rules, norms, and shared strategies are constituted and reconstituted by human interaction in frequently occurring or repetitive situations (Crawford & Ostrom, 1995, 582)." Thus, institutions include families, churches, government agencies and most organizations since they are defined by rules, norms, and shared strategies (Ostrom et al., 1993, 6). Institutions promote socially beneficial outcomes by helping actors resolve "social dilemmas" resulting when individually rational actions aggregate to produce socially irrational outcomes (Firmin-Sellers, 1995, 203).

What differentiates institutional analysis from other forms of organizational analysis is the focus on rules. Rules are implicit or explicit attempts to achieve order and predictability among humans (Ostrom, 2005, 1999, 1986). Rules are prescriptions that forbid, permit, or require some action or outcome and the sanctions authorized when rules are not followed (Crawford & Ostrom, 1995, 584). Rules can be formal (e.g., laws, policies, regulations, etc.) or informal (e.g., shared understandings). Informal rules are sometimes referred to as "rules-in-use" because they are the rules that individuals refer to when asked to explain and justify their interactions with fellow participants (Ostrom et al., 1994, 39). Rules operate at different levels for different actors (e.g., constitutional, collective choice, operational). Rules can also be nested in another set of rules that define how the first set of rules can be changed (Kiser & Ostrom, 1982). Therefore, rules operate configurationally. The way one set of rules functions depends upon the way it interacts with other sets of rules. Thus, "integration" is achieved by changing the configuration of the rule structure that governs water resources. At the same time, the rule structure will impose limits on how much change (i.e., integration) is possible. Thus, participants in an IWRM program may be able to change some rules but not others that are imposed by higher levels or organizations outside the partnership with greater power (e.g., legal authority, control over resources, etc.).

Objectives of the Study

The paper's central argument is that while participants in an IWRM program should think holistically when framing problems and solutions, they should act strategically because there are practical limits to how much any collection of policies and programs can or should be "integrated". This involves several sets of strategic choices. Participants must identify the policy space in which the IWRM partnership will operate. Participants must also make a series of choices about the rules that give rise to the structure of the partnership. The framework

advanced within this paper proposes that the structure can be defined in terms of the configuration of three different types of rules: boundary (member and strategy); decision (preference aggregation, distribution of power, distribution of roles or responsibilities, and, distribution of participation); and, coordination (exchange, monitoring, dispute resolution, and enforcement) rules. The paper then proposes a simple four-stage life-cycle model to illustrate the challenges associated with each stage of the developmental process. It concludes with a brief discussion of the factors that allow partnerships to endure and other challenges and potential paradoxes that complicate choices associated with a partnership's design and administration.

Data & Methods

The framework advanced in this paper is the product of the comparative analysis of six longitudinal case studies that examined the partnerships that evolved to facilitate IWRM in: Inland Bays (DE); Narragansett Bay (RI, MA); Salt Ponds (RI); Lake Tahoe (CA, NV); Tampa Bay (FL); and, Tillamook Bay (OR) (Imperial & Hennessey, 2000). The data consisted of field interviews with more than 200 individuals representing various organizations involved in these partnerships. Some direct observation of interorganizational events and meetings also occurred during site visits. The other primary data source is documents and archival records about the organizations, programs, and collaborative efforts in the watershed governance system throughout their history. Examining different data sources allowed triangulation to be used to improve the validity of the study's findings (Yin, 1994). Systematic qualitative techniques such as coding were used to examine these data. Codes were derived inductively and deductively from these data and generated based on a start list derived from previous research. Cross-case analysis was used to deepen our understanding of collaborative processes and determine the extent to which findings extended beyond individual cases. The basic approach was one of synthesizing interpretations and looking for themes that cut across cases (Miles & Huberman, 1994). These methods have been documented elsewhere (Imperial 2005a, 2005b; Imperial & Hennessey, 2000). This paper re-examines these data with a particular emphasis on the partnerships' rule structures and developmental processes.

Given the complexity of collaborative processes and the lack of precisely defined theories about the structure of collaborative partnerships and their life-cycles, the study is largely developmental and employed a qualitative, comparative case study research design that focused on developing theory grounded in the data and the literature (Yin, 1994; Agranoff & Radin, 1991; Strauss & Corbin, 1990; Glaser & Strauss, 1967). The study also takes an ecumenical rather than a parochial view of theory by building on previous research in a number of areas as advocated by Kiser & Ostrom (1982). This avoids the "ideological hegemony" that makes it difficult to view collaborative partnerships in a manner different from that found in a particular stream of literature (Maxwell, 1996). This is important because the complex and dynamic nature of collaborative partnerships makes it unlikely that a single theory will fully explain all aspects of the process (Menzel, 1987). Accordingly, in addition to drawing upon the growing body of literature in the general area of CEM, the study relies extensively on the extant literature on institutional rational choice (i.e., Elinor Ostrom and her colleagues) and organizational theory (i.e., organizational life cycles, structural inertia theory, liability of newness).

Towards a Framework for Analyzing Collaborative Partnerships

Little research directly examines the structural properties of "partnerships" and how this structure shapes and constrains activities and influences its ability to endure over time (e.g., Imperial & Koontz 2007; Imperial, 2005a; Moore & Koontz, 2003). This is analogous to examining what organizations "do" without understanding how their strategies and structures influence their organizational processes. Indeed, it hard to envision the development of a robust theory of how collaborative partnerships function or how to provide sound advice on their management without first understanding their underlying structure. Moreover, identifying the factors that allow these partnerships to endure over time is likely to require some understanding of the developmental processes associated with these structures since it is reasonable to assume that the factors important at the time of partnership creation may differ from those in a long-established partnership. As a consequence, the literature often provides conflicting advice to practitioners in terms of the factors that lead to partnership effectiveness.

Given the lack of generally accepted definitions for terms such as "collaboration" and "partnership" the study follows the advice of Phillips, Lawrence, and Hardy (2000) and defines these terms broadly to ensure that the framework capture the full range of activities and relationships. Following Bardach (1998), collaboration is defined as any joint activity by two or more organizations intended to create value by working together rather than separately. Joint activity requires an interactive process involves an autonomous group of rational actors who use shared rules, norms, or organizational structures to act or make collective decisions (Wood & Gray, 1991). Politics, bargaining, negotiation, and compromise become critical control mechanisms because organizations remain relatively autonomous and must be convinced to work together because they cannot be forced to do so (Phillips, et al., 2000). Thus, exchange mechanisms tend to be social and depend on communication, relationships (personal and organizational), mutual interests, and reputation and are guided less by formal authority structures (Powell, 1990). However, membership in this collaborative process may require that participants and the organizations they represent agree to contribute resources (Imperial 2005).

Thus, collaborative activities are a particular type of network process that takes place in the context of a broader interorganizational network. Networks are structures of interdependence involving multiple organizations that exhibit some degree of structural stability that include formal or informal linkages and relationships (O'Toole, 1997). Network relationships involve communication or the exchange of information, goods, services, or other resources that is structured by shared norms and rules (Aldrich & Whetten, 1981). Thus, collaborative activities and interorganizational arrangements such as a partnership for IWRM are viewed as *action sets* or groups of organizations that form temporary or permanent alliances for a limited purpose or common area of involvement (Alexander, 1995; Aldrich & Whetten, 1981). Thus, it is oriented and defined in terms of the collective activity of a group of organizations (Alexander, 1995; Mandell, 1989). An *interorganizational network* is the totality of all of the organizations connected by a certain type of relationship and is typically bounded by a common orientation such as a policy area, type of service, policy problem, or a geographic area (Alexander, 1995; Mandell, 1989; Aldrich & Whetten, 1981). In this paper, this interorganizational network is termed the *policy space* in which IWRM operates. Thus, while all of the organizations involved in the governance of a water resource problem (or set of problems) comprise the

interorganizational network or policy space, the collaborative partnership (or action set) consists of some sub-set of those members of the interorganizational network.

In order for the collaborative processes (i.e., network relationships) to occur on a frequent and reliable basis and endure for any length of time, they must be guided by a set of shared norms and rules (formal or informal) that serve guide, shape, and control behavior in routine and reliable ways (Imperial, 2005a). The framework's focus on rules allows one to then describe the "structure" or patterns of interaction (collaboration) resulting from the configuration of rules. Since these interactions occur in informal processes governed by social norms as well as highly institutionalized rule structures (e.g., agreements, by-laws, legislation, etc.) the framework is flexible enough to analyze and compare the structure of partnerships in a wide range of different political, cultural, and socio-economic contexts. It is also consistent with a wide range of organizational theories used to explain organizational and interorganizational phenomena.

The term "partnership" refers to the creation of the "second order organizations" that often is the product of collaborative processes occurring within an interorganizational network. Essentially, they are new organizations whose membership consists of other organizations (and in some cases individuals). As Imperial (2005a) and others observe, it is not unusual to find that when a group of individuals or organizations begins to embrace collaborative processes, makes joint decisions, and acts as a single entity they are in effect acting as a new organization (Jones, et al., 1997; Finn, 1996). Researchers refer to this organizational form in a variety of ways including partnerships (e.g., Teisman & Klijn, 2002), coalitions, alliances/strategic alliances (e.g., Dyer & Singh, 1998; Osborn and Hagedoorn 1997; Gulati, 1995), consortiums, network broker (Mandell, 1984), collaborative organizations (Imperial, 2005a), and network administrative organizations (Provan & Milward, 2001). For simplicity, these second order organizations are referred to as "partnerships" or "collaborative partnerships". Membership in the partnership may require duties, obligations, and resource exchanges. The partnerships may also perform a variety of functions such as serving as a convener, catalyst for action, conduit for information, advocacy, organizer, funder, technical assistance provider, capacity builder, partner, dispute resolver, or facilitator (Imperial, 2005a; Himmelman, 1996). Thus, collaborative partnerships may directly and indirectly encourage, coordinate, and help govern a wide range of collaborative activities and contribute to the improved governance within the policy space (Imperial 2005a; Provan & Milward, 2001; Jones, et al., 1997).

Determining the Policy Space for the Collaborative Partnership

From an institutional perspective, a wide range of arguments are often advanced to support the need for integrated water resources management (IWRM):

- Problems that are not addressed by existing programs;
- Opportunities for cooperation that are not taken advantage of;
- Conflicting policies and priorities that work at cross purposes;
- Fragmentation and duplication of authorities that create inefficiencies;
- Information asymmetries that impede decision making and resource allocations;
- Need for greater stakeholder and public participation in decision making;
- Coordinating policies and programs to improve efficiency and performance; and,

- ▪ Communication problems that produce poor decisions.

These governance problems provide an opportunity for some sub-set of the members of the policy space to form a partnership and occupy this niche provided that they can attract the requisite resources needed to support its development.

But at what scale should these efforts operate? What problems should be addressed? Which organizations or levels of government should these IWRM programs operate? Indeed, the first challenge confronted by any effort to initiate IWRM is to determine the policy space within which it will operate and how "integrated" the effort will be. In practice, while it may be useful to think about water resource problems holistically, as Imperial (2005a) observes, it is inherently a strategic endeavor that requires making careful choices about the problems to focus on, the organizations to involve, and the types of actions that might occur within a particular geographic or political context.

The framework advanced in this paper argues that the policy space can be defined in terms of the levels of consistency, comprehensiveness, and aggregation of with respect to a particular policy or problem (or set of policies or problems). The level of *consistency* within the policy space is viewed in terms of its horizontal (e.g., single level of government) and vertical (e.g., different governmental levels) dimensions (Underdal, 1980, 161). In federal systems of government such as the U.S., there are polycentric or multiple overlapping sets of authorities located at different levels of government (V. Ostrom, 1989). Thus, it is not uncommon for there to be an underlying tension as to which set of policies, programs, and priorities should govern decision making for a water resource. Thus, integration can often be improved in different ways. For example, IWRM could focus on getting all local governments to have similar habitat restoration priorities (*horizontal integration*) or ensure that a national program's funding priorities are consistent with local priorities (*vertical integration*). In a federal system like the U.S., the question of consistency is particularly important because the inclusion of actors from different levels of government can create both opportunities and constraints on what the collaborative partnership may be able to accomplish.

Determining the policy space also requires making a series of strategic choices about what Arild Underdal (1980, 160) refers to as the desired level of *comprehensiveness*, which is the product of the interrelated dimensions of space, actors, issues, and time. *Space* refers to the geographical scale of the ecosystem, watershed, river basin, or catchment area. The *actor* dimension refers to the proportion of actors (government agencies, interest groups, land owners, etc.) whose perspective is included in the framing of problems and solutions. The *issue* dimension includes the proportion of interdependent issues (or components) that is addressed by an IWRM partnership. *Time* implies a long-range view of the consequences of policies and their ability to collectively solve problems (Underdal, 1980, 160). These decisions have important consequences. For example, as the space dimension increases, the number of potential actors and issues also increases. This may increase the transaction costs associated with making and maintaining the changes needed to integrate the governance system over longer time periods.

Integrated water resources management (IWRM) also requires making strategic choices about the level of *aggregation* within the policy space or the extent that problems and policy

alternatives are framed from an 'overall' perspective rather than that of particular actors (Underdal, 1980, 161). For example, are stakeholders providing input to a single decisionmaker who makes the final decision or does some collection of organizational members jointly make a decision after some collective decision making process. It may also involve tradeoffs between the width and depth of participation of policy actors. *Width* is the degree to which each policy actor has the opportunity to participate in each decision while *depth* refers to their ability to determine the final outcome (Edelenbos & Klijn, 2005, 428). Thus, while all stakeholders may be involved in a decision making process, some will have more influence over the final decision than others.

While it useful to think about water resource problems holistically, practitioners are wise to temper their ambitions with a dose of pragmatism as they delineate the policy space. Not all problems are created equal. Some are strong motivators for collective action and attract the resources needed to sustain collaborative process while other will generate conflict and present insurmountable obstacles to partnership formation (Imperial, 2005a; Imperial & Hennessey, 2000). Accordingly, there are some limits to how much "integration" or "collaboration" is desirable or achievable. Even the most imaginative practitioners are constrained when statutory and budgetary responsibilities are allocated in manner that requires the pursuit of inconsistent policies. Sharing information and coordinating programmatic efforts can also be time-consuming and require a significant commitment of organizational resources (Imperial, 1999a). Organizations also possess different capacities for action (e.g., regulatory authority, technical expertise, policy responsibilities and priorities). No amount of creativity will overcome these resource shortages.

Similarly, excessive fragmentation and duplication of efforts can cause organizations to work at cross purposes, inhibit communication, produce bad resource management decisions, create costly conflict, and leave some aspects of water resource problems unaddressed. In short, there are often important reasons to strive for greater cooperation, coordination, and policy integration. However, they are not always "bad" when viewed from the overall structure of the governance system. Fragmentation may be due to technical specialization that utilizes the unique resources possessed by different organizations. This can create economies of scale that lower costs and improve the quality of information incorporated into decision making (Imperial, 1999a, 1999b; Blomquist, 1992). Overlapping and duplicative authorities help guarantee that different interests are considered and deliberated, which may be more "democratic" and provide greater accountability for decisions (Imperial, 1999a; V. Ostrom, 1989). It may also stimulate a competition of ideas that encourages policy change, learning, and the diffusion of new approaches to problem solving (Sabatier & Jenkins-Smith, 1993; Rogers, 1995). Thus, there are practical limits to how much any organization can or should be willing to sacrifice its policies and priorities (or those of their constituencies), no matter how noble the goal. Even when formal rules do not conflict, behavioral norms, professional values, knowledge, experience, autonomy, and abilities may limit participation in IWRM (Wondolleck & Yaffee, 2000). Thus, it is important to remember that altering policies and programs may come at great political cost or increase demands on limited resources.

A Framework for Comparative Analysis of Partnerships for CEM

The strategic choices that create the policy space are important because they determine who the potential members of the IWRM partnership are, what resources are available to support the partnership, and shape what it will be able to do (or not do). Once the policy space is identified, there is another set of strategic choices that are made explicitly (or implicitly) that have to be made to craft the structure of the partnership. The framework defines partnership structure in terms of the configuration of three interrelated sets of rules associated with the boundary rules (member and strategy), decision rules (preference aggregation, distribution of power, distribution of roles or responsibilities, and, distribution of participation), and coordination rules (exchange, monitoring, dispute resolution, and enforcement) (Imperial & Koontz, 2007). The rule structures vary in terms of their formality. At the formal end, rules may be embodied in statutes, legally binding documents, or some other formally approved document to institutionalize the rules and create a sense of legitimacy. At the informal end are IWRM programs where rules are embodied in norms and social agreements, which are common at the onset of a program (Imperial, 2005a; Moore & Koontz, 2003).

Boundary Rules

Boundary rules distinguish an IWRM partnership from other organizations within the policy space. They reflect important choices concerning the partnership's fundamental purposes and the problems it addresses. Two sets of boundary defining rules are of particular importance – *member rules* and *strategy rules* (Imperial & Koontz, 2007). The combination of problems and purposes helps identify the membership. At the same time, member organizations are limited in terms of what they can do by their resources, authorities, and competing interests. Accordingly, membership composition influences and constrains the program's strategy (Bonnell & Koontz, 2007; Koontz et al., 2004; Imperial & Kauneckis, 2003; Koontz, 2003).

Member rules pertain to who can or cannot be a member and may establish different types of membership (e.g., voting vs. nonvoting) (Imperial & Koontz, 2007). Some will have restrictive membership while others are more inclusive (Imperial & Hennessey, 2000). While organizations typically comprise the membership, there can be provisions for citizens or interest group representatives (Moore & Koontz, 2003). Membership can be voluntary or mandated by some higher-order set of rules (e.g., statute, articles of incorporation, charter, etc.). As the organization evolves, it typically creates rules pertaining to the addition of new members. Similarly, rules may be crafted to specify how a member is expelled. It may also involve tradeoffs between the width and depth of participation of policy actors.

Strategy rules specify the underlying purposes of a partnership for IWRM. In other words, what it will do, how will it do it, and where will it get the necessary resources for organizational activities (e.g., clients, products, goods, services, etc.) (Imperial & Koontz, 2007). They identify the problem (or set of problems) that are the partnership's domain. They also specify the legitimate responses that are within (or outside) of the IWRM program's domain. Responses might include serving as a convener, catalyst for action, information provider, advocacy, organizer, funder, technical assistance provider, capacity builder, partner, dispute resolver, facilitator, or it may even develop and implement projects and programs (Imperial,

2005a; Himmelman, 1996). The rules may also specify what roles are illegitimate. For example, the IWRM partnership may educate and provide information but lobbying on behalf of a specific policy position is restricted. This shared definition of problems and solutions shapes and constrains the collective action of its members.

Decision Rules

Decision rules shape the processes by which members make decisions (Imperial & Koontz, 2007). Interactive processes are not self-executing so important choices are made about how to make decisions. *Preference aggregation* rules specify how members make decisions. During the initial stages of a partnership, decision rules are likely to be informal with a reliance on consensus decision making or simple majority voting rules. Over time, decision rules may grow in complexity, specificity, and formality in order to reduce transaction costs by making decision making more reliable and reproducible (Edelenbos & Klijn, 2005, 426).

As the organizational structure becomes specialized and differentiated there is often increased complexity in the configuration of decision rules. There may be a *distribution of power* within the organizational arrangement by establishing voting or nonvoting members or by creating a governing board or executive committee. There may be a *distribution of roles or responsibilities* among members (e.g., establishing officers, sub-committee membership, etc.). As organizational sub-units are created (e.g., a work group or sub-committees), rules will be crafted to determine the membership and strategy of the sub-unit and specify their decision rules and relationship to the larger organization. There may also be a *distribution of participation* in organizational decision making in terms of a member's opportunity to participate in a decision (i.e., width) or their ability to determine the final outcome (i.e., depth). The level of participation afforded to any member can vary considerably from informing, consulting, advising, co-producing, to co-deciding (Edelenbos & Klijn 2005, 428 - 429). It is also common for some decisions to require greater agreement among members than others. For example, a change to the by-laws, adoption of the budget, or expelling a member might require a super majority with other decisions needing a simple majority while routine issues are handled by an executive board while other members simply monitor the board's actions (Imperial & Koontz, 2007).

Coordination Rules

As the organization evolves, preference aggregation rules give rise to a more structured set of *coordination rules* (Imperial & Koontz, 2007; Sobrero & Schrader, 1998, 586 - 587). Membership often requires some set of duties, responsibilities, or obligations such as requiring the sharing information or other organizational resources (e.g., money, equipment, staff, etc.). *Exchange rules* specify a member's rights, duties, and obligations. They also define the member's resource exchange requirements and delineate the expectations and benefits that accrue due to membership. Aligning the incentives and disincentives for membership is important because it is often voluntary.

However, some members may fail to follow through on their commitments by not attending meetings, neglecting to exchange agreed upon resources (time, money, information), or acting in a manner counter to other established rules. Thus, *monitoring rules* may be created to

foster accountability and help ensure that members follow through on commitments. While accountability and compliance with exchange rules often occurs as a result of the social norms and peer pressure that develop through monitoring processes, e*nforcement rules* may be used to sanction members for noncompliance (e.g., suspend voting privileges, fines, expulsion, etc.). Conflicts may also occur among members so it is not uncommon for *dispute resolution rules* to specify the process used to resolve differences.

Whether implicit or explicit, every IWRM partnership makes important choices about the content of the boundary, decision, and coordination rules that interact to create its structure and control its processes. The advantage of this framework is that it provides a way of systematically thinking through these choices in conjunction with determining the overall objectives of the partnership and how much integration is desirable. Unfortunately, much theoretical and empirical work remains to determine whether certain configurations of boundary, decision, and coordination rules increase the likelihood that a partnership will endure. However, the IRC literature does suggest that it is unlikely that any particular rule or set of rules will always be the most effective. Rather, the design of each partnership should be consistent with the strategic choices related to how much integration is desirable (e.g., horizontal vs. vertical integration, consistency, and aggregation) and be designed to fit with the demands of the contextual setting within the policy space (e.g., physical, socio-economic, cultural, and institutional setting).

Life-Cycles of Collaborative Partnerships

In many watersheds there is often a long history with partnerships with different structural forms coming in and out of existence when analyzed over time (Imperial & Hennessey, 2000). For example, it is not uncommon to find that the structure of a partnership used to develop a watershed management plan has to be reconfigured to oversee the implementation of the plan (Imperial & Hennessey, 2000, 1996). As Born and Genskow (2000) observe:

> Watershed partnerships, particularly with regard to the non-governmental and citizen dimensions, generally do not have the comparatively enduring and stable character of governmental agencies and unites . . . they are dynamic and nonlinear; they ebb and flow, become dormant or extinct, and resurface with old and new participants under new names and organizational forms. Furthermore, the balance of responsibility within the watershed partnership between governmental and non-governmental participants can shift markedly during the evolution of the partnership and the execution of its programs . . . (from Genskow and Born 2006, 59).

Thus, there is every reason to believe that the development of the rule structure that defines a collaborative partnership will experience some sort of developmental process. More importantly, the factors that influence the ability of this organizational arrangement to endure over time are likely to change as the partnership evolves.

Stages of Partnership Development

Understanding the stages of a collaborative partnership's development helps predict the major problems, decisions, and opportunities it will confront and what appropriate responses are to these developmental challenges (Cameron & Whetten, 1981). The framework argues that the developmental processes associated with the partnership are similar to those of other organizations (Cameron & Whetten, 1981, 1983; Quinn & Cameron, 1983; Whetten 1987; Miller & Friesen, 1983, 1984; Smith, et al., 1985; Hanks, et al., 1993). It adopts the less controversial view within the life-cycle literature viewing "stages" as clusters of issues that an organization's social system must resolve. The problems suggests a sequential ordering of the developmental stages, however, it need not follow a linear developmental process (Whetten, 1987; Tushman & Romanelli, 1985). It is based, in part, on a commonly used four-stage life-cycle model (Cameron and Whetten 1981, 1983; Quinn & Cameron, 1983; Whetten, 1987). Progression from one stage to the next should not be viewed as becoming more "advanced". For example, an older organization may change its structure in some way that requires it to revert to solving problems associated with an earlier life-cycle stage. Finally, while the last life-cycle stage is typically decline and death, there is no reason to presuppose that all organizations die. Accordingly, issues of birth, decline, and death are often explained differently in the literature using different theoretical perspectives (Whetten, 1987).

Entrepreneurial Stage: This developmental stage is externally oriented. Partnerships emerge from the purposeful interaction of a set of actors (e.g., individuals representing organizations, interest groups, coalitions, etc.) and the organizational environment (i.e., policy space) and reflects some sort of synergy where potential value can be generated by partnership creation (Katz & Gartner, 1988). Understanding the early development of a partnership is important because the initial "imprinting" establishes the parameters that limit the degree and direction of its future development (Stinchcombe, 1965; Kimberly, 1980; Cameron & Whetten, 1981; Quinn & Cameron, 1983). It is during this early stage that the parameters of the boundary rules emerge. Creating a partnership also involves an element of *intentionality* that reflects the goals of actors or its founding members (Katz & Gartner, 1988). At its earliest stages, the difference between the partnership's goals and its members may be hard to distinguish. However, as the partnership progresses through this developmental stage, it begins to embody a *strategy* that is increasingly distinct from those of its constituent members as evidenced by its goals, purposes, strategies, traditions, and other belief structures. In essence, the emerging member and strategy rules establish the boundary that defines and distinguishes the partnership's niche within the policy space (Cameron & Whetten, 1981).

During this stage, the member rules begin to take shape. At the earliest stages, it may be difficult to identify all of the members. Potential members come and go as they explore whether the proposed strategy is consistent with their needs and they can afford the resource exchanges required by membership (e.g., information, staff, money, etc.). Potential members must also view the partnership as a legitimate response to problems within the policy space so that members can justify their *resource* contribution. If it isn't viewed as a legitimate response, potential members may allocate their resources to some competing response to problems in the policy space.

The *entrepreneurial stage* is also marked by early innovation, lots of ideas, entrepreneurial activities, little planning and coordination, the formation of a "niche", and high creativity (Cameron & Whetten, 1981; Quinn & Cameron, 1983). Therefore, we expect to find great diversity and frequent changes in the rule structure governing exchange processes as members consider, try, and abandon many organizational forms. The costs of changing strategies, structures, and processes is much lower now that it will be during later stages when rules, routines, and processes are established and institutionalized (Katz & Gartner, 1988). However, despite the creativity and change, the processes will soon begin to *reproduce* themselves in *reliable* ways such that basic rules give rise to increasingly complex rules and the structure becomes identifiable.

Decision and coordination rules are relatively simple at this stage. As Stinchombe (1965) points out, new organizations (and partnerships) typically rely on the cooperation of strangers. The focus is inward and the development of trust and personal relationships maybe important to help sustain the partnership during this turbulent period of its development while it seeks to attract members (and resources) and determine its niche in the policy space. It also takes time for these repeated interactions to begin developing the norms, trust, and routines. Since the partnership is heavily dependent on individuals and personal relationships at this point, they are heavily dependent on the vision and leadership of selected opinion leaders, what Khator (1999) refers to as "champions" (Quinn and Cameron 1983), and what Imperial (2005b) refers to as "entrepreneurs" who view the new partnership as a way to attract resources to address problems in the policy space.

Success during the entrepreneurial stage reflects flexibility, growth, resource acquisition, and the development of external support (Quinn & Cameron, 1983). Essentially, survival depends on acquiring the inputs needed to create and sustain the partnership. If the partnership's members lack anything to contribute (e.g., time, money, technology, information) during this critical stage, the relationships will not develop and endure (Katz & Gartner, 1988).

The challenges during this stage are formidable and it is reasonable to assume that collaborative partnerships are likely to suffer the same "liability of newness" that plagues most new organizations (Stinchombe, 1965; Singh, et al., 1986; Hannan & Freeman, 1984). Simply put, young organizations (and partnerships) have a higher propensity to die than older organizations. Empirical studies provide relatively consistent support for this basic proposition in different organizational (e.g., Amburgey, et al. 1993; Bruderl & Schussler, 1990; Gray & Ariss, 1985; Singh, et al., 1986; Freeman, et al., 1983) and network settings (Koka, et al., 2006; Burt, 2002). There is some evidence that suggests this is the case. Researchers often report that partnerships are often overwhelmed by effort required to develop and maintain a partnership (Imperial & Hennessey, 2000; Bardach, 1998; Bonnell & Koontz, 2007). Developing the external legitimacy necessary to attract resources for survival can be a critical problem for young partnerships (Singh, et al., 1986, 173). This problem is often attenuated by including members and refining the strategy in ways that enhance legitimacy by attracting the public or political support (e.g., politicians, stakeholders, or the general public) that encourages members to contribute resources or helps attract resources from outside of the partnership.

Collectivity Stage: The second stage of the partnership's life-cycle is exemplified by high cohesion among the members of the collaborative organization, a sense of family, face-to-face communications, and informal communication and structures. By the end of this developmental stage, the partnership's boundary is well defined. Although, changes may occur to attract resources or enhance the partnership's legitimacy (e.g., adding new partners, adopting a formal structure, etc.) (Singh, et al., 1986, 590; Meyer & Rowan, 1977; DiMaggio & Powell, 1983). The cycles of exchange within and outside the partnership have taken hold (Katz & Gartner, 1988). Resources needed to maintain interactions among the partnership's members are relatively secure (e.g., information, staff time, technical, financial, or other necessary forms of support). While the investment of member resources still exceeds returns, there is a growing sense of commitment to the partnership's strategy and a perception among the members that the resource exchanges provide benefits sufficient to justify ongoing investments (Katz & Gartner, 1988; Cameron & Whetten, 1981; Quinn & Cameron, 1983).

As this developmental stage progresses, the emphasis remains internally-oriented and soon begins to focus on enhancing the partnership's processes so its members can collectively produce some good or service of a given quality repeatedly and reliably (Hannan & Freeman, 1984, 153). During this stage, the partnership must begin demonstrating "proof-of-concept" and that it can fulfill aspects of its strategy, begin attracting new resources, fulfilling its roles, and providing the services to its members and external clients. By the end of this developmental stage, reliability becomes important to clients and the partnership's members. It also takes time for the partnership's members to develop and acquire relationship-specific skills. Since these skills may have no value outside the partnership, members may be reluctant to invest in relation-specific assets until the partnership proves itself (Kim, et al., 2006, 714). Returns on these investments also take time to be realized. Thus, once the partnership survives its initial testing period, it may become less risky for members to commit the necessary resources to expand and improve its internal processes.

The importance of social norms, trust, a shared sense of purpose, and personal relationships is still critical during the collectivity stage, however, the need for a structured set of rules emerges and there may be some effort to formalize aspects of the structure. However, while the leadership of "champions" is still needed, there is now likely a need for someone to serve the role of a coordinator and manage the interactive processes in a reliable and reproducible fashion. Facilitators may be needed to resolve and negotiate disputes that emerge as efforts to develop the rule structure continue. A fixer or broker may be needed to keep the group focused on its mission and resolve impasses (Imperial, 2005b). By the end of this stage, there is a clear set of rules that specifies how decisions are made. Coordination rules are crafted to specify resource exchanges and expectations of members that are enforced through peer pressure and other social processes. Accordingly, during the collectivity stage, success is now measured differently. The emphasis on survival gives way to the development of effective internal processes that are reliable and reproducible and generate the requisite trust and personal relationships. Thus, appropriate evaluative criteria might be human resource development, morale, cohesion, and trust (Quinn & Cameron, 1983).

Formalization and Control Stage: The *formalization and control* stage is marked by the institutionalization and formalization of the partnership's rules, routines, and procedures (Hannan & Freeman, 1984, 154). During this stage flexibility is supplanted for stability. There is now a focus on ensuring that the rule structure is no longer dependent on trust and personal relationships. Various aspects of the boundary, decision, and coordination rules are formalized and institutionalized in some way during this developmental stage. The institutionalization of the rules is important because the individuals involved in the partnership's founding will eventually be replaced by other representatives from their organizations. These departures are less problematic when key aspects of the rules structure are institutionalized.

The partnership's identity and niche within the policy space is now well established. With the resources necessary for survival relatively secure, the emphasis shifts towards the efficiency of production and maintenance of the collaborative organization's ability to achieve its goals (Cameron & Whetten, 1981; Quinn & Cameron, 1983). Accountability both within and outside the partnership soon becomes important for continued survival and resource acquisition. During this developmental stage, maintenance of the partnership becomes a primary goal because the resources invested in building the partnership will largely be lost if it dissolves. "Indeed, there appears to be a strong tendency for organizations to become ends in themselves and to accumulate personnel and an elaborate structure far beyond the technical demands of work (Hannan & Freeman, 1984, 152)." Similarly, once the partners invest time and other resources in the partnership, the cost to switch to a new organizational form rise and create the incentive for members to keep the partnership going.

While factors like social norms, trust, and personal relationships remain important, by now the partnership and its activities are now clearly the product of the rule configuration. During this stage, there is an ongoing emphasis on improving internal processes and the specialization and differentiation of decision and coordination rules. Efforts to enhance accountability can lead to new rules governing exchanges, monitoring, and enforcement. The emphasis on rule-ordered processes ensures a need for coordinators and facilitators to manage these processes. There may be an increased need for a fixer or broker to help with institutionalization processes. There may even be a need for an unsnarler to help the group navigate through internal and external bureaucratic constraints that emerge as a result of institutionalizing aspects of the rule structure (Imperial, 2005b).

Measures of success shift again. While reliability and reproducibility of the rule structure remain important, there is more emphasis on accountability and the efficiency of internal processes that reduce the transaction costs. This is likely to result in the development of additional decision and coordination rules designed to reduce the transaction costs associated with internal processes. This may require making investments in relation-specific assets designed to improve performance. This emphasis on efficient production of internal processes may also correspond with effort to enhance the partnership's legitimacy. Thus, effectiveness may now be gauged by goal setting, goal attainment, productivity, efficiency, and the degree of stability-control associated with the partnership.

Elaboration of Structure Stage: Whereas the last stage was marked by the institutionalization of the rules, the final developmental stage, the *elaboration of structure*, is marked by modifications to the rule structure driven by both internal and external threats and opportunities. Once the partnership had demonstrated a capacity for *reliable* performance and can *account* rationally for its actions, its members may seek to respond to threats and opportunities in the external environment through boundary expansion (or contraction). Member rules may be modified to attract new members and resources. It may also involve the expulsion of members. Once the partnership demonstrates its ability to reliably achieve its strategy, boundary expansion may occur through modifications to the partnership's goals, strategies, or processes to expand its domain within the policy space. Elements of the strategy that that prove to be ineffective may be jettisoned to streamline operations. Thus, while leadership roles such as coordinators, facilitators, devil's advocates, and unsnarlers are still needed, there may be a renewed need for entrepreneurs and "champions" in order for the partnership to grow and expand. (Imperial 2005b).

The partnership will retain its inward focus by continually looking for ways to enhance reliability efficiently utilize partnership resources. This may lead to new multi-purpose subsystems or the decentralization of functions to sub-units to improve reliability and efficiency (Cameron & Whetten, 1981; Quinn & Cameron, 1983). As the partnership attracts new resources, the partnership may continue investing in relation-specific assets like support staff to increasingly do much of the partnership's work.

The scope of change is relatively small during the elaboration of structure stage. The partnership is likely to respond relatively slowly and cautiously to threats and opportunities (Hannan & Freeman, 1984). Major changes in core rules, routines, and processes will be more difficult to achieve than minor changes to peripheral aspects of the partnership's structure. This *structural inertia* is not a symptom of "bad management". Rather, it is the result of a well-tuned organizational architecture that exploits strategic advantage to generate synergies among participating organizations (Kim, et al., 2006, 705; Hannan & Freeman, 1984, 149). Fundamental changes in core rules and processes such as revisions in established routines, communication patterns, reshuffling work groups, hiring new employees to staff the organization, changing organizational leadership, changing the individuals representing the members, and most importantly adding entirely new partners can reduce the reliability of performance to that of a new organization. Essentially, fundamental changes in internal processes serve to rob the partnership of its history and reset the liability of newness clock back to zero (Amburgey, et al., 1999, 53; Singh, et al., 1986, 589; Hannan & Freeman, 1984, 160).

During this stage, the emphasis on accountability and the efficient production as measured by goal setting, goal attainment, productivity, efficiency, and the degree of stability-control associated with the partnership remain important internal measures of effectiveness. However, the renewed focus on boundary expansion which may trigger the need for externally oriented measures to gauge the effectiveness of resource acquisition, growth, and expansion are often used to gauge the effectiveness of the organization (Quinn and Cameron 1983).

Factors Allowing Partnerships to Endure During the Developmental Process

Unfortunately, there is almost no agreement in the broad CEM literature in terms of understanding the factors that contribute to the development and management of effective collaborative partnerships. This lack of agreement is not surprising since research examines partnerships with different structures, in different policy spaces, that are affected by different contextual conditions. Moreover, much of the research is cross-sectional in nature and focuses on partnerships at different points of their developmental life-cycle and different factors may be more or less important as the partnership evolves. One of the most comprehensive reviews of the empirical research on the factors that influence the effectiveness of watershed partnerships was conducted by Leach and Pelkey (2001). They reviewed 37 empirical studies and identified 210 distinct "lessons learned". Similar conclusions were then grouped into 28 themes, seven of which are seemingly contradictory with groups of authors reaching opposite conclusions (Leach & Pelkey, 2001, 381). Their findings lend considerable support for the need to utilize a framework such as that proposed in this paper to better understand partnership structure and their developmental processes.

Eight factors identified by Leach and Pelkey (2001) were resource related: (1) Funding; (2) Agency staff support and participation; (3) Adequate scientific & technical information; (4) adequate time; (5) legislature aids agency participation; (6) training in collaborative processes; (7) agency encourage staff participation; (8) community resources. Two factors were leadership oriented: (1) effective coordinator or facilitator; and (2) local, bottom-up leadership (others had contradictory findings). Funding and the importance of an effective coordinator or facilitator were the two most frequently cited findings (Leach & Pelkey, 2001, 381). Further examination of these themes suggests the importance of identifying a niche in the policy space and attracting members with the requisite resources and leadership skills needed to enable the partnership to evolve. Some of these resources are the result of what members bring to a partnership as a result of coordination rules (e.g., exchange). Thus, the causal linkages are less than clear. Does the presence of these resources allow a partnership to form or are effective partnerships able to attract members that agree to exchange the resources needed for survival? More research is needed to better understand these resource linkages.

What is also particularly revealing about Leach and Pelkey's (2001) findings is that while only 3 of the 37 studies explicitly cited the IAD framework (Ostrom 1990), the other 18 factors are all directly (or indirectly) related to the boundary, decision, and coordination rules. In terms of boundary rules, Leach and Pelkey (2001) identified: (1) scope of activities is broad or limited (others had contradictory conclusions); (2) broad or inclusive membership (others had contradictory conclusions); (3) appropriate geographic scope; and (4) cooperative and committed participants. Factors related to decision and coordination rules include: (1) low or medium conflict (others had contradictory conclusions); (2) well-defined decision or process rules (others had contradictory conclusions); (3) consensus decision making (others had contradictory conclusions); (4) formal enforcement mechanisms (others had contradictory conclusions); (5) monitoring or adaptive management; (6) effective communication and data sharing; and (7) trust. The seemingly contradictory nature of some of the findings about critical decision and coordination rules strongly suggests that no one structure is likely to always be most effective. Moreover, Leach and Pelkey (2001) did not include a life-cycle variable in their analyses even

though the empirical research examines partnerships at different stages of their developmental processes. This may also help explain the seemingly contradictory nature of their findings. For example, while well-defined rules and formal enforcement rules may exist during later stages of their developmental process, researchers examining a partnership's formation may conclude that more informal, consensus based processes, and trust are the keys to success. Thus, since the measures of effectiveness change as the partnership evolves, researches may inadvertently bias their findings due to the life-cycle stage they choose to study.

Implications, Possibilities, and Paradoxes Associated with IWRM

One of the main rationales behind integrated water resource management (IWRM) is its ability to holistically address problems rather than functioning along traditional programmatic boundaries. Participants look beyond their particular programs, acknowledge the interrelationship among problems, and craft changes that improve the governance system for a water resource (e.g., watershed, river basin, catchment area, etc.). However, the proposed framework clearly demonstrates the need to approach this task strategically. Some water resources and their corresponding policy space are likely to be more appropriate for IWRM than others. Decisions have to be made about how much "integration" is possible or desirable. Choices have to be made about who will participate, the problems addressed, and the objectives and purposes of the partnership (i.e., boundary rules). Participants need to determine how decisions will be made and the relative distribution of power, participation, and responsibilities within the program (i.e., decision rules) as well the obligations of members and how conflicts will be resolved (i.e., coordination rules). When making these decisions, participants would be wise to consider some other challenges and potential paradoxes.

Stability vs. Change

Organizations with high reliability, low variance in performance, high accountability, and a high ability to account rationally for their actions are favored by selection processes in organizational populations (Hannan & Freeman, 1984). This suggests as the IWRM partnership evolves it will become increasingly formalized and institutionalized. As a result, they are likely to begin responding slower to threats and opportunities that suggest that adaptation and change are necessary. This inertia (i.e., resistance to change) is not a symptom of "bad management". It is the product of a well-tuned organizational architecture. Effective organizations, particularly those with bureaucratic structures, are designed to be stable and resist change (Kim et al., 2006, 705). This has important implications because it suggests that many effective IWRM partnerships are unlikely to have the ability to practice the type of adaptive management advocated by researchers (e.g., Gunderson et al., 1995; Lee, 1993). Moreover, it is also possible that it will be difficult for members of an IWRM partnership to make some of the changes needed as a result of their membership because their organizations will resist change. While these changes may ultimately prove beneficial, they can also be disruptive and potentially threaten an organization's survival (Amburgey et al., 1993, 53; Hannan & Freeman, 1984, 159). Similarly, as noted earlier when the IWRM partnership evolves and matures, it may increasingly resist change and focus on its own resource maintenance (e.g., adding personnel, maintaining budgets, accumulating power, etc.).

Institutionalizing Rule Structures

The modern world also favors organizations that demonstrate a capacity for *reliable* performance or the ability to produce goods and services of a given quality repeatedly (Hannan & Freeman, 1984, 153). Thus, an IWRM partnership's boundary, decision, and coordination rules must be reproducible and this is typically accomplished through their formalization. This lowers transaction costs because participants no longer need to negotiate and invent organizational routines. However, the institutionalization of these rules also produces the inertia and stability that makes the partnership resistant to adaptation and change. Thus, institutionalization is a "two-edged sword". On the one hand it promotes stability and enables a partnership to endure and survive such things as changes in leadership, staff, and resources. On the other hand, revising established routines, communication patterns, existing programs, or adding new partners may be resisted because it reduces the reliability of performance, which decreases short-term effectiveness and creates new organizational challenges that can even increase the chances of death (Amburgey et al., 1993, 53; Singh et al., 1986, 589; Hannan & Freeman, 1984, 160).

Accountability

Organizations must also be *accountable* for their actions (Hannan & Freeman, 1984, 153; Amburgey et al., 1993). An IWRM partnership must be able to document how resources are used and the series of decisions, rules, and actions associated with outputs and outcomes. Accountability is a critical issue, particularly during the early stages of a partnership. Members, resource contributors, and stakeholders are likely to test the partnership's accountability. If it fails these tests, it is unlikely to sustain the resources and commitments needed for survival. However, too much accountability and poorly designed monitoring systems will create strong disincentives for participation (Imperial, 2005a, 2005b). There is a constant tension between accountability to the IWRM partnership and the autonomy of members. Monitoring and peer pressure can enforce agreements, reduce strategic behavior (e.g., rent seeking, shirking, etc.), and encourage adherence to commitments. Conversely, excessive monitoring and enforcement can create powerful disincentives, particularly when a member fears reprisals or criticism due to their participation. Thus, designing an IWRM partnership with a desirable level of accountability is a challenging endeavor and participants would be wise to focus on designing a performance management system that focuses on collective goal achievement and allowing members to share credit or blame (Imperial, 2005b).

Legitimacy

Organizations must have some level of external legitimacy if they are to mobilize the resources needed for survival (Hannan & Freeman, 1984, 158; Singh et al., 1986, 590; Singh et al., 1986, 173; Meyer & Rowan, 1977; DiMaggio & Powell, 1983). An IWRM partnership must be viewed as a legitimate response to water resource problems if it is to attract public and political support (e.g., politicians, stakeholders, or the general public), get its members to contribute needed resources, and make the changes needed to enhance integration. Otherwise, these resources may be allocated to competing efforts or members may exit the partnership and develop their own responses to environmental problems.

Developing and maintaining legitimacy is a challenging process. Over time, legitimacy increases as a partnership develops stronger exchange relationships, becomes part of the established power hierarchy, and begins having its actions endorsed by powerful actors. The level of legitimacy is also influenced by the strategic choices reflected in the framework. While increasing the scope of membership may improve legitimacy, leaving out just one critical policy actor could destroy it (Imperial, 1999b). Increasing the scope of membership can also increase transaction costs, which can impair perceptions about the partnership's legitimacy or effectiveness. A large membership may inject politics, power, and turf issues that make it difficult to reach agreement on meaningful changes. Conversely, a relatively small membership that includes a meaningful set of actors may reduce transaction costs and produce meaningful policy changes. Thus, more participation is not inherently better and less is not necessarily worse. What is important is to strike a balance in membership size and composition that is consistent with other strategic design choices.

Which individuals represent organizations also influences legitimacy. When organizations send opinion leaders and high level officials it conveys an added sense of legitimacy than when low level officials participate. How much influence each organization has on decisions also matters. If important actors lack an ability to influence the partnership's decisions, they (and the constituencies they represent) are likely to view them with less legitimacy than if they shared in decision making. There must also be a good fit between the geographic scale, the problems addressed, and the partnership's membership or it may reduce its legitimacy. Similarly, the partnership's response to environmental problems may affect a wide range of actors (e.g., political jurisdictions, agency programs, nongovernmental organizations, land owners, etc.). If those affected interests were not represented when decisions were made, they may not view them as legitimate responses to water resource problems.

Summary & Conclusions

Integrated water resource management (IWRM) is inherently a strategic endeavor that is largely an exercise in institutional design. The configuration of rules that creates and sustains the "structure" of the partnership will shape what these partnerships do, how they do it, and will help determine whether they attract the resources needed to advance their goals and objectives. The first set of strategic choices give rise to the policy space within which the partnership will operate. The policy space involves choices about *consistency* (horizontal or vertical) in terms of how policies and problems are framed. Choices must also be made about the space, actor, issue, and time dimensions that shape the overall *comprehensiveness* of the policy space (Underdal, 1980). It is also important to consider whether these decisions will be made from an overall perspective or that of some smaller subset of actors (aggregation).

Forming the IWRM partnership within the policy space then requires a second set of explicit (or implicit) choices over some period of time to craft the particular configuration of *boundary* (member and strategy), *decision* (preference aggregation, distribution of power, distribution of roles or responsibilities, and, distribution of participation), and *coordination* (exchange, monitoring, dispute resolution, and enforcement) rules that will interact to create the partnership's "structure" (Imperial & Koontz, 2007). No one structure (i.e., configuration of rules) is likely to be the most effective. Rather, it is the degree of fit between the IWRM

partnership's rule structure, its goals and purposes, and the contextual setting within the policy space that is likely to have the strongest influence on its ability to endure over time.

These design choices are important because there is no substitute for a well-managed program. However, getting the rules right is not easy and often takes much longer than participants realize and is fraught with challenges (Imperial & Hennessey, 2000). The advantage of the life-cycle perspective is that it draws attention to the different challenges confronting the partnership during the different stages of its development. The partnership's "structure" then evolves as additional rules are crafted to address the new challenges associated with each developmental stage. Moreover, the measures of the partnership's effectiveness are likely to shift as it moves through the different life-cycle stages.

Unfortunately, at the onset of creating a new IWRM program there is often little consideration of these strategic design choices or their implications. One advantage of this framework is that it provides some general guidance for practitioners to help them think through the myriad of choices and understand the developmental processes associated with a collaborative partnership. It also makes clear that while IWRM partnerships often want to holistically address problems in a comprehensive manner, it is wise to temper these ambitions and remember that the struggle to create a partnership can be costly, time-consuming, divisive, and sometimes the benefits are limited. A strategic approach that takes advantage of the resources that members in the policy space can deploy to address shared problems of mutual concern is often a more useful starting point to build the partnership.

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