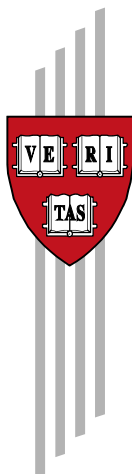


Motivation to Engage in Social Learning About Sustainability: An Institutional Analysis

Krister Andersson

CID Graduate Student and Research Fellow
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Abstract

We need better explanations of why some efforts to create forums for social learning succeed while others fail. I argue that a critical part of such explanations is a better understanding of the institutional constraints that impinge on individual motivations to engage in the coproduction of policy-relevant knowledge. I propose that framing the social learning process as a public-goods dilemma can provide several useful insights for both analysts and promoters of social learning initiatives. My institutional analysis identifies a series of hypothetical contextual conditions that are likely to influence potential participants' interest in social learning activities. I examine these ideas empirically in a case study of organizational learning within the Swedish International Development Cooperation Agency (Sida).

Keywords: social learning, institutional analysis, collective action, incentives, development aid, Sweden, donor organization

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Krister Andersson is a Giorgio Ruffolo Research Fellow in Sustainability Science in the Sustainability Science Program at Harvard's Center for International Development and an assistant professor in environmental policy at the University of Colorado at Boulder. His work focuses on issues related to the use of biophysical indicators in policy analysis, and the ways in which such transdisciplinary research influence human decision making in different contexts. His work on the politics of environmental governance focuses on the policy domains of forestry policy reforms in developing countries and international climate change mitigation strategies. In *The Samaritans' Dilemma* (Oxford, 2005) he examined the institutional incentive structures of development aid. His forthcoming book, *Decentralization and Rural Development: Local Governance Lessons from Latin America*, analyzes decentralization reforms and their mixed effects on rural development outcomes in Brazil, Chile, Mexico and Peru. He received his PhD in Public Policy from Indiana University in 2002.

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Motivation to Engage in Social Learning About Sustainability: An Institutional Analysis

INTRODUCTION

The characteristics of many of today's most pressing social and environmental problems, such as food insecurity, ethnic conflicts, deforestation, and fish-stock collapses are so complex that they defy simple, main-streamed policy solutions. Acknowledging the limitations of conventional government-centered interventions to address such problems, many policy analysts now argue that effective governance of complex human-environmental interactions requires more active engagement of a variety of actors in the policy process—including scientists, politicians, resource users, employees of governmental and non-governmental organizations, private firms, and citizens at large (i.e., Fiksel 2006; Holmes and Scoones 2000; Beierle and Konisky 2000; Paehlke and Torgerson 2005). The logic behind this argument is that policy decisions about human-environmental interactions that fail to take account of research findings and stakeholder interests tend to lack legitimacy, and research that fail to consider certain policy and stakeholder realities will often lack relevance and credibility. To foster closer collaboration between these actors in the policy process, government-led stakeholder consultations may be insufficient (Grafé-Buckens and Hinton 1998; Ulén and Kalisky 2005), and recent research suggests that inclusive policy making may work better when stakeholders are not merely consulted but asked to engage more actively in a broader process of social learning about human-environmental interactions (Pohl 2008; Luks and Siebenhüner 2007; Collins et al. 2007). This paper examines the institutional conditions under which such co-production of knowledge seems feasible.

Because of the complexity of many environmental problems, all new policy responses—even the ones developed with the input of a variety of actors—are likely to be only partially successful. Policy responses, as most human artifacts, are imperfect and need to be assessed and monitored continuously so that the existing responses can be adjusted or revised. In this view, shaped by Dewey (1927) and Lindblom (1957), policies are experiments in an incremental learning process rather than final and static prescriptions. Social learning about policy performance moves scientists, policy actors, and resource managers away from conventional top-down, coercive policies and opens up new possibilities for original and unconventional responses to complex problems. Governance approaches that emphasize the need for co-production of knowledge are gaining popularity not just in academia but also among practitioners—since 2000 there has been an enormous increase in new programs with labels called “Adaptive Management,” “Collaborative Learning,” and “Co-Governance” in both government and non-governmental organizations, and in rich as well as poor countries (Ison et al. 2007; Stankey et al. 2005). To design new programs is one thing. Successfully achieving the lofty goals of knowledge co-production and inclusive, adaptive decision making is another, more difficult task.

To create a social learning process can be a daunting task in many ways. As pointed out by Mitchell et al. (2006), the actors who are relevant stakeholders for a particular problem, and who *should* participate in an inclusive social learning process, often have vastly different interests and knowledge about the issues at hand. They may also possess varying degrees of economic and political power. What all the relevant actors are likely to have in common, however, is a busy schedule in which it would be difficult to fit in yet another meeting. All of these factors may get in the way of motivating the actors to participate in an inclusive social learning process. This raises an important question: What institutional factors may sway these actors to reorient their priorities so that they are more motivated to engage in processes of social learning about sustainability?

I argue that the challenge to create new arenas for transdisciplinary environmental problem solving may be framed as a collective action problem. Such a framing has the potential to provide useful insights about the underlying institutional conditions that make the creation of a productive learning environment more likely. I view this as a collective action problem because the creation of an inclusive social learning

space will not happen automatically and the operation of such a participatory forum involves individual costs to the participants while the benefits are all shared collectively. Such a situation is known to produce strong incentives for participants to free-ride on the efforts of others—in this case the efforts to generate new knowledge about effective policy responses to environmental problems.

Framing this issue as a collective action problem broadens the scope of analysis to consider not only the factors that make some social learning experiences more effective than others, but also the underlying institutional conditions that contribute to the *creation* of any transdisciplinary learning activity in the first place. Bringing together earlier work in new institutional economics and social learning, I carry out an institutional analysis of social learning about sustainability following the structure of the Institutional Analysis and Development (IAD) framework.

To illustrate the usefulness of the institutional approach, I use the IAD framework to analyze the Swedish International Development Cooperation Agency (Sida) and their efforts to encourage their employees and many partners to engage in learning about sustainability. Hence, I seek to use my specific observations on Sida's organization of activities related to inclusive learning and co-production of knowledge to inform my theoretical inquiry about social learning in human-environmental interactions more generally. What can the study of learning within an organization, such as Sida, teach us about social learning at the societal level? I argue that the case of Sida represents a case in which the institutional conditions for organizing social learning activities are quite favorable. Hence, we can expect that the institutional barriers to *organizational* learning identified at Sida to be even more prominent under other, less favorable circumstances, such as the case of *social* learning about sustainability at the societal scale.

The rest of the paper is structured as follows: The next section defines social learning and discusses the results of previous research with regards to the issue of motivation of individuals to engage in social learning activities. I then use the IAD framework to identify the main action arenas, actors, and the potential contextual factors that affect the actors' motivation to engage in social learning activities. Using the case of Sida, I proceed to test these ideas about motivation in the next section. I end with a reflection on the value-added of this institutional approach to the field of social learning about sustainability.

PREVIOUS RESEARCH

As the literature on social learning continues to grow, so does the number of definitions of “social learning” as a concept. In this essay, I refer to social learning as a social process in which individuals with different roles and specialty knowledge interact regularly for the purpose of co-producing knowledge. Participants may belong to a single organization, a multitude of organizations, or no organization at all. If the group ends up meeting regularly to achieve a common purpose, this social enterprise would represent the creation of an association in and of itself. The meetings may take place in physical, real-time forums, in cyberspace, or by using other communication media. The co-production of knowledge is oriented towards addressing problems that none of the individuals would be capable of solving effectively on their own. New knowledge may come about through sharing knowledge acquired through individual experience and investigation and by conducting their own research projects.

One of the core findings of the literature on social learning about sustainability is that for research to be useful for policy making it needs to be perceived by a majority of science and policy actors to be salient, credible, and legitimate (McNie 2006; Clark and Dickson 2001; Cash et al. 2002). In a comparative analysis of different environmental assessments at the international level, Mitchell et al. (2006) suggest that the organization of broad stakeholder participation processes are fundamental for promoting salience, credibility, and legitimacy in the science-policy interface. The authors explain that

“Stakeholder participation fosters salience, since decision-maker participation is crucial to matching the information assessments produced to the decisions being faced [...] Stakeholder participation fosters credibility, since assessments often must involve those responsible for a problem because they have data and evidence needed to understand it and because their involvement fosters their understanding, and

reduces their distrust, of the knowledge the assessment produces. Stakeholder participation fosters legitimacy, since ongoing interactions among scientists and potential users reassure the latter that their perspectives and concerns are fully understood and accounted for in the models and analyses that scientists undertake”(Mitchell et al. 2006, 325).

The idea that stakeholder participation can produce more useful research results is consonant with findings by Gordillo and Andersson (2004) who examined differences in organizational responses to policy evaluation studies in Bolivia and Brazil. They found that evaluations that were demanded by beneficiaries and in which beneficiaries participated were more likely to be taken seriously by management in the organization being evaluated: “increased participation by different citizen groups in the design and implementation of [monitoring and evaluation] studies may help make decision makers more responsive to evaluation findings” (306).

Investigating the attributes of successful social learning about comanagement of a Wildlife Management Area in the state of New York’s Eastern Lake Ontario Basin, Schusler et al. (2003) find that eight different characteristics contributed to an enabling environment, among them a democratic structure and diverse participation: “Learning about the variety of interests in the Eastern Basin’s natural resources led participants to recognize the legitimacy of views other than their own...” (318), and “participants guided the direction of the process by determining the content of discussion and deciding upon priorities to be addressed in action planning” (320).

To deal with society’s most complex and “wicked” environmental problems, Karl et al. (2007) call for the creation of forums and procedures that can successfully integrate necessary contributions from social science, natural science and stakeholder interests. One strategy that, according to the authors, has shown promising results in the creation of such participatory forums is what the authors call joint fact finding—a procedure for “involving those affected by policy decisions in a continual process of generating and analyzing the information needed to shape scientific inquiry and to make sense of what it produces” (23). For this strategy to be effective, the authors stress the need for all key stakeholder groups to be involved in the governance of the social learning experience.

A more cautious call for participatory learning activities related to environmental problem solving is put forth by Kerkhoff et al. (2006), who propose a critical assessment of what participation means in different context and argue that “participatory processes need to be carefully designed and executed to fulfill their promise in sustainable development” (461). Some social learning scholars, relying on evidence from case studies of social learning about the problems and responses to acid rain and ozone depletion at the broad societal scale, suggest that the formal organization of the social learning process may be one way of supporting and sustaining this process in the long run (Eijndhoven, Clark and Jäger, 2001).

Together, these studies reflect an important trend in the literature: there is a growing number of studies that call for broadened and increased stakeholder participation in efforts to learn about and construct responses to complex problems in human-environmental interactions. They all seem to agree that the co-production of knowledge is absolutely necessary to improve the governance of complex problems. Although many of these studies recognize that the organization of participatory processes are not without its problems—indeed, many of these studies recognize asymmetries in power, resources, knowledge, and capacities among actors as major constraints—few existing studies specifically analyze the institutional conditions that affect the likelihood of successfully organizing a participatory learning process. This paper seeks to do just that.

To organize a participatory stakeholder process is no simple affair. For a transdisciplinary learning process to work, I argue that participants must resolve at least four sequential collective dilemmas. First, some potential participants need to take the initiative to form a group for social learning. Among the many potentially relevant actors who operate at different governance levels, there is often no easily identifiable actor who will assume leadership. Hence the first collective dilemma is: who will invite the

different actors to participate in the social learning process? Second, even if there were an actor who assumes a leadership role to convene the relevant actors, it is not evident to whom the invitations should be sent out and to whom they should not. The second dilemma is: Who are included and who are excluded in the social learning activities? But even if both these issues are resolved, the invited policy actors may or may not be motivated to participate in the proposed social learning process. Most scientists, politicians, and other policy actors are busy people and their meeting schedules are already full. This observation produces the third collective dilemma: Why would busy scientists and researchers be motivated to engage in social learning activities about sustainability?

Finally, let us assume that all of the above issues have been resolved and a group for social learning is created, perhaps within the auspices of an organization. Even though the participants have agreed to participate, they may or may not be motivated to contribute to the co-production of knowledge about sustainability per se. Some may be present because their superiors have determined that it is part of their jobs. Others may have ulterior motives to use the forum to further their own self-interested goals rather than learning about sustainability. This possibility gives us the fourth collective dilemma: What motivates actors to contribute to a collective effort to learn about *sustainability*? Next, I use the Institutional Analysis and Development (IAD) framework to explore and analyze the institutional conditions that may affect the participating actors' efforts of solving these four dilemmas.

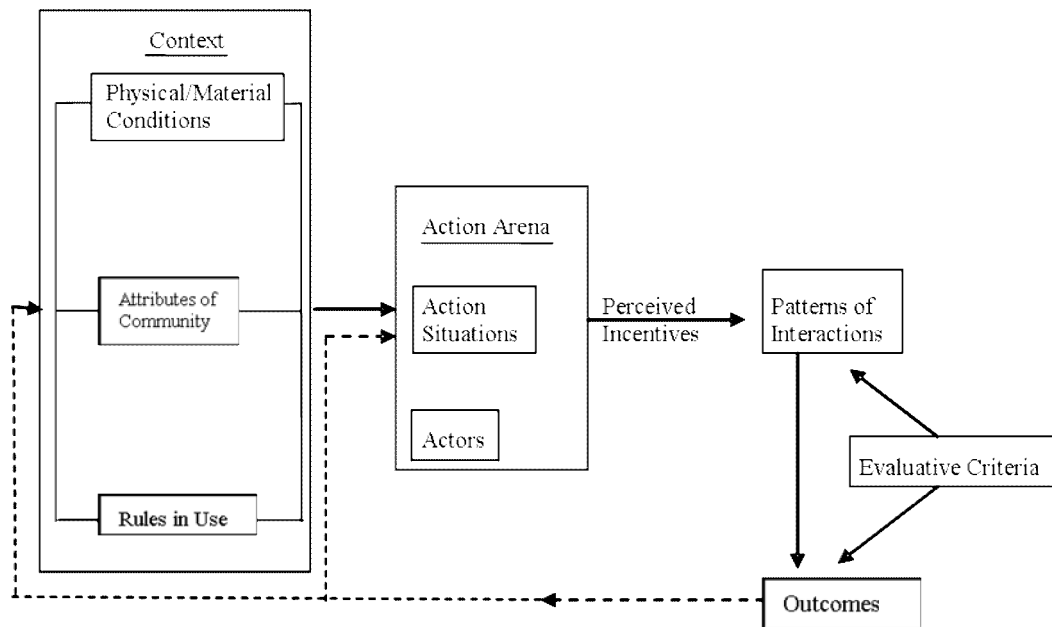
THE INSTITUTIONAL ANALYSIS AND DEVELOPMENT FRAMEWORK

So far in this essay, I have dealt with the problem of creating participatory learning forums in very general terms. It is time to unpack this problem to arrive at a more precise formulation of not only the problem, but also the main research questions and hypotheses associated with social learning about sustainability. The Institutional Analysis and Development (IAD) framework can help the analyst to do this.

The IAD framework was developed by colleagues at Indiana University (Kiser and Ostrom 1982; Ostrom 2005). The framework has been used for a large number of empirical studies including those that analyzed (1) the effects of varying local governance arrangements on public service delivery (Ostrom and Ostrom 1977; Oakerson, 1999; Andersson et al. 2008) (2) how institutional incentives affect the sustainability of international development cooperation projects in developing countries (Ostrom et al. 2002; Gibson et al. 2005); (3) how diverse forms of community organization affect irrigation system performance (Ostrom 1990; Shivakoti and Bastakoti 2006); and (4) how ecological conditions combined with socioeconomic and local institutional structures interact to produce varying patterns of natural resource use in developing countries (Ostrom 1999; Gibson et al. 2000; Andersson 2004; Mwangi 2007). So far, the analysis of human interactions to create opportunities for social learning about sustainability has not been a major area of application (but see Ostrom 1968; Gibson et al. 2005).

In a nutshell, the IAD framework facilitates the organization of the institutional inquiry by posing a series of questions about how a range of possible contextual attributes may influence the nature of human interactions, and how these interactions may generate variation in observable collective patterns and outcomes. The relationships between the different IAD categories of variables are depicted in Figure 1.

Figure 1: The Institutional and Development (IAD) Framework



Source: Gibson, Andersson, et al. (2005); and Ostrom (2005)

What follows below is a brief presentation of some of the core IAD questions that may be used to structure the study of human efforts to create participatory forums for environmental problem solving.

What is the action arena of social learning about sustainability?

According to the IAD approach, the first task is to establish the conceptual boundaries of the inquiry: to delineate the action arena. In IAD language, action arenas represent the space where all those human interactions take place that are related to a particular issue of interest. In the action arena, a number of actors interact with each other in specific action situations. The purpose of this first step of the analysis is to produce a more precise definition of the issues that are at the center of the analysis. A natural point of departure is the main research question, in this case: What factors contribute to the creation and functioning of transdisciplinary learning forums about environmental problem solving? From this central question, the IAD framework asks the analyst to characterize the particular environmental problems that the participatory forums would seek to address. What are the spatial and temporal extents of those problems? Are they local, regional or global in nature? The problem of aquifer contamination, for example, has a much more limited spatial extent than acid rain or global warming. The delimitation of a physical space within which the environmental problem exists, facilitates the identification of the different actors, actions, and decisions that are likely to contribute to the particular problem. The temporal scale of the problem is another aspect that is likely to influence the way in which participants in social learning activities perceive the urgency of these activities. A slow, creeping problem is not likely to create the same level of urgency that a fast-moving problem that may have already caused a biological resource to degrade to a critical level. These spatial and temporal scale characterizations of the problem at hand will help the analyst to consider the different types of expertise that may be needed and which specific actors would be relevant for efforts to construct effective solutions to the problem of interest.

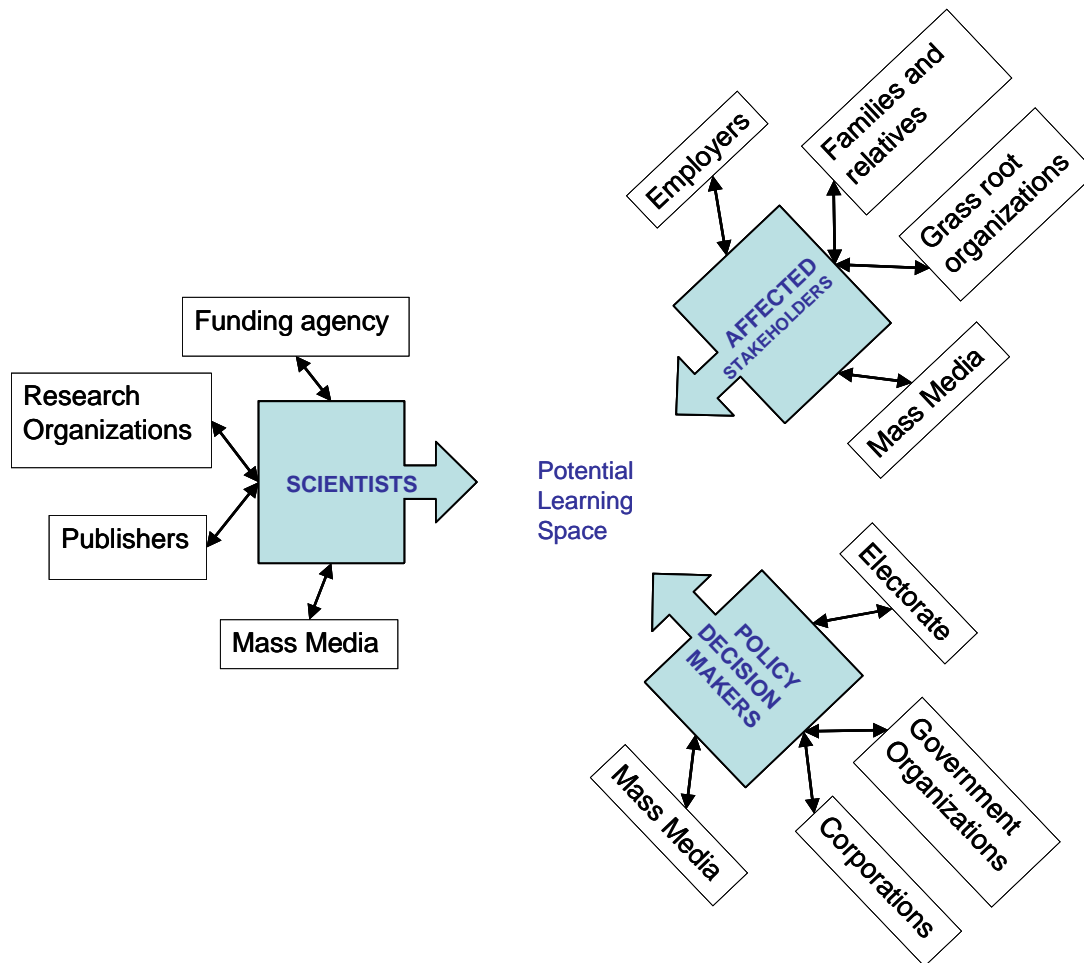
Who are the actors?

Depending on the results of the action arena analysis, the degree to which it makes sense to involve a large number of actors with different roles and expertise will vary—the characteristics of the problem may be such that it can be solved without a major effort of creating a participatory forum for transdisciplinary knowledge integration. Those forums that are not selective in their invitations to experts run the risk of losing credibility with actors who may see their participation as superfluous. Moreover, forums that invite more participants than are necessary for solving the particular problem are inefficient because they waste resources and the scarce time of the participants. That said, it is questionable whether there are any environmental problems that do not require *some* integration of different sources of expertise and *some* incorporation of different stakeholder interests. Some kind of participatory learning forum seems desirable for most efforts to improve human capacities of environmental problem solving, but to determine which actors are the most relevant, merits careful attention.

Many existing studies of social learning about sustainability analyze the degree to which there is meaningful interaction between two linchpin actors: scientists and policy makers. In the analysis below, I also consider a third actor—the affected stakeholders—because if we omit this actor from the analysis we are likely to fail to understand the origins of legitimacy of social learning processes as well as the role of local knowledge in the search for sustainability.

The decisions of whether any of these three actors would like to participate in a social learning process are likely to depend on two different types of relationships. The first type of relationship is that between the three types of actors. Do they know each other? Have they worked with each other before? Were previous experiences positive? Do they trust each other? The second type of relationships concerns the linkages between each of the three linchpin actors and other actors who are external to the social learning process but are nevertheless likely to affect the decision making the three actors. The relationships that seem to be most crucial for the three linchpin actors with regards to their respective decision to participate in a social learning process are mapped out in figure 2. The nature of each of these relationships is shaped by the characteristics of the actors as well as the socio-economic and institutional contexts in which they take place. These factors combine to produce incentives that are likely to influence the actors' behavior with regards to its potential participation in the social learning process. The identification of these incentives and their sources represent one of the most important outputs of the institutional analysis and will be analyzed in more depth below (under the step of the analysis called “patterns of interactions”).

Figure 2: Potentially Influential Relationships for the Creation of Social Learning Space



What are the principal action situations of participatory learning?

The creation of participatory forums for the production of useful transdisciplinary knowledge can be a complicated affair that involves a series of linked actions and decisions by individual actors. Each of these may be analyzed individually as an action situation, which refers to the specific type of interaction that actors engage in to arrive at a particular decision.

Consider a situation in which a local government in a coastal region is trying to come to grips with pervasive algal blooming along their coast. After receiving strong political pressure from the local fishing and tourism industries to do something about the problem, the local government administration decides to take the initiative to create a transdisciplinary forum to generate policy proposals for how the algal blooming situation might be addressed. This represents the first of a series of linked action situations that will eventually produce an observable outcome with regards to social learning.

The local government administration sends out a number of invitations to potential participants with needed expertise about the causes, consequences, and potential responses to algal blooming. The different participants' decision, to accept or reject an invitation to meet in the participatory learning activity, represents a second action situation and is likely to be influenced by a number of contextual factors as

well as the decisions of other actors who are also invited. To map out the action situations will help the analyst identify those decisions that seem most critical the creation and functioning of the participatory learning forum. In turn, the behavior and decisions of each of the actors in these action situations can be viewed as a function of a set of contextual factors that the IAD framework breaks up into three main categories: 1) Biophysical conditions; 2) Community attributes, and 3) Local institutional arrangements, as depicted in Figure 1.

Biophysical characteristics: What is the nature of the good?

In the introduction, I argued that the creation of a participatory learning forum is a collective dilemma, but exactly what type of collective action problem is it? The IAD framework helps in the characterization of the problem by asking specific questions about the nature of the good or service that the human interactions seek to produce. Two criteria are applied in the definition of the characteristics of the service or good: the extent to which the good/service is (a) subtractable and (b) excludable. The creation of a meeting place in which a variety of actors from different disciplines, professions and governance roles get together to solve problems in human-environmental relations, we would consider whether the results of this meeting generate benefits that are *subtractable* and *excludable*. What does this mean? It may help to put this into a more specific context.

Let us assume that the meeting is successful, that is, the actors meet regularly, they communicate effectively and thanks to their efforts they produce new, useful knowledge that helps to address environmental problems more effectively. When problems are solved thanks to this social learning forum, no individual members of society can be excluded from enjoying such benefits. Consequently, one of the characteristics of this service is that it has low *excludability*. On the other hand, one group members' consumption of this new knowledge does not render less "knowledge units" available to other members of society, which means the service provided has low *subtractability*. Institutional analysts call goods with these characteristics *public goods*. This definition of the collective problem is useful because knowing that the problem is a public-good problem, the institutional analyst can draw on previous analyses of other types of public good problems to analyze how these have been solved. For example, the production of all public goods and services—whether national defense, radio waves, or a transdisciplinary learning group about sustainability—face the challenge of how to prevent free-riding in the production process.

Free-riding is a motivational problem of collective action, in which the individuals who are supposed to contribute to the collective process receive only a small portion of the collective efforts and therefore face strong incentives to shirk and let the other group members do all the work/pay all the costs. Participants in a public good situation are tempted to contribute less to the creation of the public good than what would have been optimal for the group. When those group members who did contribute detect that some group members shirked, the collective efforts are likely to unravel because participants will not be motivated to assume a disproportionate share of the burden of the costs without receiving a similar share of the benefits. The likely result is that the public good will not be produced at all.

In the creation of a transdisciplinary forum for social learning about sustainability, there are likely to be similar motivation problems. Most people concerned with sustainability issues—scientists, politicians, private firms, and citizens alike—are likely to agree that, in principle, the creation of more such forums is desirable. When asked to invest time and efforts to participate in such activities, however, many of the participants may not be as supportive. As flagged in the introduction, we may discern at least three major motivation problems that need to be overcome in order to prevent free-riding in the creation of a successful transdisciplinary forum in which a variety of actors are motivated to engage in social learning about sustainability: (1) An individual or a group of individuals will have to take the initiative to create and organize the social learning process; (2) Somebody will need to make a decision about who should be invited and who should be excluded, and be willing to be held accountable for this decision, and (3)

Invited participants will need to be sufficiently motivated to accept the invitation and participate actively in the social learning process.

The factors that motivate participants to contribute to the solution of each of these three collective action dilemmas are at the heart of the institutional analysis of social learning. These factors are likely to be very context-specific factors, such as the nature of the problem, socioeconomic and cultural attributes of the participants, as well as the institutional arrangements that regulate the interactions between these participants. I will dedicate the rest of the paper to the discussion of these factors.

In which socioeconomic and cultural contexts do actors operate?

In this stage of the institutional analysis, the analyst is asked to consider the attributes of the specific human communities to which the action arena actors belong. For example, how do members of these communities associate with each other within, as well as outside, their respective communities? More specifically, are participating scientists accustomed to work in a transdisciplinary environment in which they are asked to work together with not only scientists from other disciplines but also with policy folks and citizen groups?

The analyst would pay particular attention to those contextual factors that previous research has found to influence the willingness to cooperate in the production of public goods, such as the presence of managerial leadership that breeds a culture of cooperation (Miller 1992); a commonly held value among both scientists and politicians that it is a moral obligation to serve the public (Holt and Webb 2007); participants are intrinsically motivated to do “the right thing”; a clear and pervasive identification with the organization’s objectives among participants and an organizational *mystique* (Gibson et al. 2005; Grindle and Hildebrand 1995); the general level of trust in society—do citizens trust their neighbors? (Woolcock 1998; Ostrom and Ahn 2003); the number of participants (Varughese 1999) and the degree of economic and political inequalities among participants (Rae 1981; Olson 1965). Depending on the presence or absence of these contextual characteristics in the interactions between participants, they will be more or less inclined to contribute to a social learning process. These characteristics also set the stage for the human-made institutional arrangements that seek to boost the likelihood of cooperation, the theme of the next step in the institutional analysis.

What institutional arrangements shape transdisciplinary cooperation?

One of the unique features of the IAD framework is the way it distinguishes between rules-in-use and rules-in-form. The rules-in-use are the rules that are actually respected by participants, and rules-in-form are the rules that are on the books, but may or may not mean anything for the actual behavior of participants. The IAD stresses the importance of documenting the rules-in-use in order to understand how institutional arrangements affect individual decision making and actions related to the production of collective goods and services. This is easier said than done as rules-in-use are invisible, not just for the researchers but also for the participants themselves. For example, the problem for field researchers who ask natural resource users about the rules that exist regarding the harvesting of a particular resource is that many of the rules may be so closely associated with the local customs and norms that local people no longer recognizes that their behavior is constrained by rules (Ostrom 2005). To document rules-in-use accurately requires extensive time in the field during which the researchers get to know the participants’ institutional context and how it constrains behavior in concrete, every-day terms. This often requires the researcher to engage in participant observation, in-depth personal interviews, participatory environmental assessments, or other qualitative field methods.

Drawing on the previous studies that analyze how human-made institutional arrangements affect the protection, maintenance, and production of both common-pool resources and public goods (for reviews of this research, see Agrawal 2001; Poteete and Ostrom 2007; Andersson 2006), we can identify several potential institutional influences on the motivation for engaging in social learning. Several rules-in-use

within the participating organizations are likely to affect both the creation and performance of this process, including (1) which type of research/learning activity is eligible to receive grants, awards, distinctions, and prizes; (2) the types of actions and qualifications that are considered most important for promotion (as well as demotion and firing) decisions; (3) the space and importance given to transdisciplinary work by different media, including academic journals, conferences, and mass media; (4) the degree of exclusivity of the social learning forums in terms of the number of participants invited (the more restricted the number of invitations, the more exclusive and prestigious the participants might perceive the event to be), and (5) the extent to which participation has financial implications for participants, either by expending high opportunity costs or by receiving a generous honorarium for participating.

More subtle institutional arrangements that are also likely to affect individuals' participation include rules and norms about the non-monetary ways through which managers and leaders recognize good work. For example, the individual who leads the transdisciplinary learning process may strengthen cooperative behavior by making it part of regular business to recognize publicly participants' accomplishments and contributions related to the learning process. The leadership may be in a position to offer public exposure and recognition in forums that are valued by participants. Finally, another managerial norm that may improve the chances of active participation in the social learning process is the selective delegation of important responsibilities to individuals who have showed good performance in past activities. All of these norm-based actions may serve to boost participants' non-monetary incentives to contribute to the public good of developing new and better ways of addressing environmental problems.

Patterns of interactions: Incentive structures for learning

Overtime, as actors interact with each other in repeated action situations; they position themselves and find strategies that seem to work best for them and the outcomes they seek; patterns of interactions emerge. It is by studying these patterns of interaction that we are able to identify the main institutional incentives influencing each actor. This section lays out a hypothetical pattern of interactions among three of the main actors. I map the main incentives that may affect the likelihood of scientists, policy makers, and affected citizens—our action arena's linchpin actors—to decide to participate actively in a social learning process about environmental problem solving.¹

Incentives for social learning are context-sensitive and personal, which means that incentives are individual perceptions of probable rewards and punishments that individuals expect to receive as a result of interactions with other people in the specific social learning context (Gibson et al. 2005). Because incentives are perceptions that form inside the minds of participants, they are difficult to identify, observe, or measure as an outsider to the interactions. Nevertheless, what the IAD helps us to do as analysts, is to explore what the different types of potential incentives are for a given set of actors that operate in a specific context. By putting together the many specific characteristics of the actors with a detailed depiction of the context of interactions, the IAD framework can assist the analysts in thinking about the incentives that are likely to be present in individual actors' decision making. This suggests that it is possible to distinguish between two main types of incentives for participation. First there are those incentives that are derived from the individuals' perceptions of the problem and overall biophysical, socio-economic, and cultural context in which the activities take place. And secondly there are the incentives that actors perceive as a result of direct interactions with other participants. While these two sources of incentives affect one another to a high degree in the real world, it can be analytically useful to think about them separately.

¹ I limit the analysis to these three actors. This is not to suggest that these are the only relevant actors of all efforts to create participatory learning spaces. The identification of linchpin actors is context-dependent.

Participants' different motivations to participate in social learning are likely to be closely related to their perceptions of the overall context and the specific characteristics of the environmental problem at hand. For example, independent of the nature of the relationships between the three linchpin participants, these are more likely to participate in a new initiative if they perceive the following contextual conditions to hold: (1) the particular environmental problem is clearly identified and is a problem that affect invited participants personally; (2) the problem appears to be in need of urgent, new responses, and it seems solvable, and (3) participants believe that neither markets nor governments are likely to address the problem effectively on their own.

In addition to these contextual factors, other more relationship-specific attributes are likely to influence the incentives of the three linchpin actors. Apart from the relationships among the three linchpin actors at the center of the action arena, each individual actor's well being often depends on relationships with a variety of other actors who are more peripheral to the analysis, yet the nature of these relationships may be absolutely crucial for the motivation of the linchpin actors. Next, I explore the potential sources of institutional incentives that emerge from each of these individual relationships. The lists of potential incentives that follow are by no means exhaustive but seek to capture some of the sources that are likely to exist. As working hypotheses I suggest that:

Scientists are more likely to invest their time and energy in transdisciplinary social learning activities when they perceive that their engagement (1) is valued and rewarded by their employers (2) increases the chances of publishing in prestigious journals, receive research grants, or receive honorary awards; (3) generates more public attention and praise for their research and personas; (4) is consistent with their own core values about the role of science in society, and (5) produces other benefits that make them tick.

Policy decision makers, on the other hand, are more likely to engage in social learning about sustainability when they perceive that their involvement (1) is rewarded by key constituents—including citizens at large, interest groups, political actors higher up in the organizational hierarchy; (2) increases mass media exposure and the building of a “cleaner” and greener image; (3) augments the chances of potential financial gains for the organization, (4); is linked with a high probability of success of actually solving the problem; (5) makes it possible to claim credit for success and deflect blame (onto other participants) in case of failure, (6) offers opportunities to expand their social network of “friends” who may be useful for future, less public-oriented activities, and (7) produces outcomes that make them happy.

Finally, *affected citizens and stakeholders* at large are more likely to invest their time and effort in social learning activities when (1) their families and friends are supportive of such engagement; (2) their own health and livelihoods are affected by the problem and/or proposed solution; (3) they perceive their participation as being crucial for solving the problem and (4) they are organized as a group and the group asks them to represent the group. We should note that both scientists and policy decision makers are also affected citizens and stakeholders. In fact, when they are—like in the previously mentioned example of local government staff and scientists who sought to address the algae blooming problem—it seems reasonable to assume that scientists and policy makers will be more motivated to engage in the social learning process.

Outcomes: Evaluating the creation and performance of the social learning process

There are three principal outcomes of interest for our institutional analysis: (1) The establishment of the learning process (whether its creation took place or not) and (2) the performance of the learning process (the extent to which new, useful knowledge was produced or not), and (3) whether the process helped address the environmental problems. The IAD framework suggests a variety of evaluative criteria that may be applied to assess these outcomes, including efficiency, effectiveness, equity, accountability, transparency, and ecological sustainability. In the case of the first outcome—the creation of the learning process—effectiveness, efficiency, and accountability all seem like reasonable criteria to consider. For the performance of the social learning process, efficiency seems like the most adequate criterion (i.e., are

there alternative ways in which the same results could have been achieved at less cost?), while the third outcome may be best assessed with effectiveness and sustainability criteria (i.e., were any new actions taken as a result of the learning process and did these affect the sustainability of the human-environment interactions?).

This brief application of the IAD framework to the problem of social learning about sustainability has attempted to illustrate how the framework can help scholars and practitioners to think through and explore in a systematic fashion the multiple factors that influence human interactions as they relate to the organization of collective action. Such a theoretical exploration is particularly useful as a first step for scholars who are preparing for empirical work in which collective action and governance dilemmas are of interest. Carrying out an IAD-guided exploration before going to the field may help the orientation of the research and provide focus for the development of *a priori* research hypotheses as well as inputs for core themes in the actual research instruments. In the next section, I examine some of the hypotheses generated so far in a real-world setting: the Swedish International Development Cooperation Agency (Sida) and their efforts to encourage their employees and partners to engage in social learning about sustainability. The empirical analysis presented here draws on archival research and semi-structured interviews with 95 Sida staff and contractors involved with Sida-supported activities.²

EMPRICIAL ANALYSIS OF SOCIAL LEARNING ABOUT SUSTAINABILITY³

In this section, I look at the institutional context for learning about sustainability in Sida-supported activities. This is an appropriate case for the study of social learning for many reasons. Sida invests heavily in organizational learning and has actually turned the ideas of stakeholder participation and sustainability into official policy goals. Their professional staff is extremely well-trained. It is hard to imagine a place where the conditions for social learning are more favorable than they are at Sida.

The case of Sida is also relevant for researchers interested in how processes of social learning may be strengthened by learning within organizations. Recent research suggests that social learning processes about responses to environmental risks would benefit from the institutionalization of the social learning processes by structuring the interactions between participants into more stable organizations (see The Social Learning Group 2001; and Eijndhoven et al. 2001, in particular). Sida is an example of the institutionalization of social learning from which one might draw lessons for the study of social learning about human-environmental interactions at the societal scale.

The case of Sida

The Swedish International Development Cooperation Agency (Sida) is the government agency responsible for planning and implementing Sweden's bilateral aid program. As of 2007, it administered approximately USD \$ 3 billion annually to recipient developing countries and employs about 750 individuals, the majority of which works at the Sida headquarters in Stockholm (Sida 2007). The main development goals of Sida's operations are related to the strengthening of gender equality, democratic values and structures, economic growth, and environmental protection in recipient countries. The overarching objective of all Sida-supported activities is to contribute to the increased sustainability of development efforts (Sida 2007).

Sida staff faces several challenges to achieving sustainability. First, they confront a complex mix of collective action problems at multiple levels of society in the recipient countries that they are trying to

² Our team interviewed staff members working at all levels within Sida headquarters in Stockholm. The interviews were concluded in 2002. Our sample included all 14 members of the Sida management team, 18 key informants selected by Sida, as well as 63 randomly selected desk officers and support staff. For the randomly selected staff, we constructed a semi-structured interview that addressed a variety of incentives that the staff faced, as well as some of their own career patterns.

³ The section draws on parts of chapter 7 of Gibson et al. (2005).

help. To approach the goal of sustainable development in partner countries, Sida staff members attempt to affect the existing, unproductive action situations through well-designed interventions and partnerships. To accomplish this requires substantial knowledge about the history and context of the existing action situations as well as about the way operational, policy, and constitutional choices are made in the partner country context. Second, Sida staff members face a set of principal-agent relationships within their own organization as well as with many external actors, such as contractors and citizen groups, both at home and in partner countries. Even though Sida staff are often enthusiastic and hard working, they still find themselves in situations complicated by many motivation and information problems that often get in the way of acting collectively and productively in processes of social learning.

Precisely because it is so difficult to construct effective institutions to address collective-action problems on the ground, it is essential for Sida and its multiple partners to try to figure out how its programs may become more effective. Without ongoing learning about why the organization's activities produced the results it did, Sida's efforts to adapt its future intervention strategies to changing contexts in the field will have little meaning. Meaningful adaptation, in turn, needs to be informed by knowledge about the changing context and why some interventions might be more appropriate than others for that context. Without meaningful adaptation, Sida's portfolio of projects will continue to have the same success and failure rates. Understanding the factors that affect the motivation of the different stakeholders to engage in the co-production of knowledge may enable the organizations to improve its performance.

The action arena: Interactions between Stockholm and field activities

The particular focus of this section is to analyze how Sida's internal organization affects the prospects for learning about sustainability in the field. Consequently, we define the focal action arena to encompass the web of interactions between the Sida headquarters and the different actors in the field.

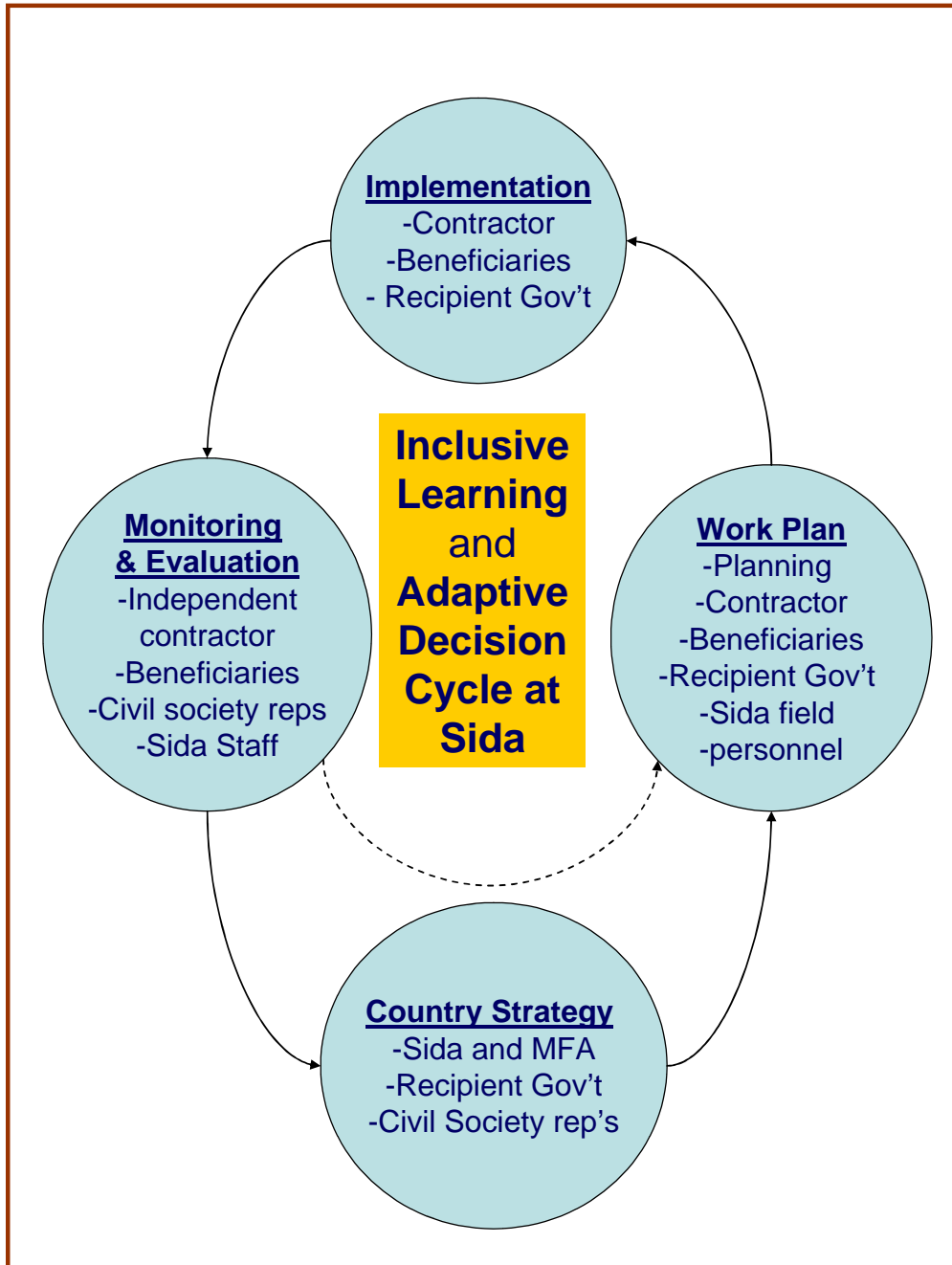
Serious information asymmetries frequently plague the interaction between headquarters in the donor country and the main actors in the field. One way of dealing with these information asymmetries is for headquarters personnel to interact directly with actors in the field to learn about the field actor's actions and strategies. Such interactions, if structured in a meaningful manner, can lead to an improved understanding of the possible causes of observed outcomes in donor-sponsored activities.

Actors and their action situations related to learning

The structure of the action situations in which Sida staff members interact with their many development partners is characterized by severe information asymmetries. Many different actors in the field—such as contractors, recipient government agencies, and colleagues at the Swedish Embassy—report to a Sida staff members in Stockholm. Before making crucial funding decisions, Sida personnel relies on the input from these recipient country-level actors, but pieces of information are often lost in each of these interactions. This information loss is the product of a strategic selection process that actors engage in because they often have an incentive to select and transmit primarily the information that will benefit them personally. Another problem is that seldom do these intermediary actors have direct contact with the ultimate beneficiaries of the development cooperation. Consequently, Sida is often forced to rely on secondary sources for beneficiary-level information. The broken feedback loops between the field-level outcomes and Sida is a real problem for an organization that strives for sustainability.

The challenge for any development agency to address the information asymmetry problem is to create an environment in which its staff members are encouraged to find reliable ways to acquire essential information from interactions with their colleagues at home and in recipient countries—to create opportunities for learning about sustainability. Sida's strategy for addressing this challenge is through the establishment of an iterative and structured cycle for inclusive learning and adaptation. Figure 3 depicts the core stages of this cycle.

Figure 3: Sida's *de jure* policy for inclusive learning and adaptive decision making



Source: Author's elaboration based on Sida (2005).

In all of the stages in Figure 3, there is a different set of stakeholders. For example, in the Country Strategy stage, the main stakeholders are the Swedish Ministry for Foreign Affairs, Sida, Recipient government representatives, other countries' donor organizations, and representatives of civil society organizations in the recipient country. These actors negotiate the focus and the main objectives of Swedish development support to be administered by Sida over the next five years, when this stage is repeated. The stages that are the most critical for the co-production of knowledge for sustainability are

likely to be the middle stages, starting with the development of the joint work plan and ending with the monitoring and review stage. It is during these stages that the different stakeholders on the ground—typically contractors, beneficiary groups, and recipient government staff—meet regularly to review and analyze whether there might be better ways of achieving the goals of the project. At least that is the official policy.

Patterns of interactions: Incentives for learning about sustainable outcomes

The intrinsic individual motivations and commitment to sustainability are very high for Sida staff. According to a human resources survey that was conducted by Sida in 2000, more than two-thirds of Sida staff strongly agreed with the statement that they “felt engaged by and committed to their work,” and even a larger proportion said that they “were willing to stand up an push for Sida’s goals and vision, even outside Sida” (Sida 2001). This raises the questions of whether this high level of personal commitment among Sida staff is sufficient to overcome the motivational problems associated with social learning about sustainability.

The evidence from our interviews suggests that the high level of intrinsic motivation can make a big difference for getting such efforts off the ground. At the same time, we identify powerful external incentives that often get in the way of sustaining iterative, structured learning over time. I argue that there are several institutional incentives that negatively affect participants’ motivation to engage in social learning activities about sustainability in Sida-supported activities. These, which are discussed below, include (1) Supply-driven resource allocations; (2) Staff assessments; (3) Contractor control, and (4) Personnel policy.

Supply-driven resource allocations

All public organizations face pressure to spend their allocated resources within the budgetary year. All public servants know that if they fail to spend the allocated resources they may have to return the unspent money and possibly receive less in future budgets. Sida is no different. Our interviews with a representative sample of Sida staff revealed that more than two-thirds of Sida staff perceive pressure to spend budgeted resources and that the individual disbursement rates were being actively monitored by their superiors. These incentives to “move the money” have serious implications for staff members’ motivations to organize and engage in social learning about sustainability.⁴

Within Sida, the desk officers are the organization’s foot soldiers whose task it is to organize the development cooperation with a large number of partners in both Sweden and in recipient countries. Desk officers oversee and participate in all the stages of the adaptive management cycle, illustrated in figure 3. One of their crucial roles is to facilitate the participation of a broad spectrum of stakeholders at each stage. For example, in the review and evaluation stages, desk officers make sure that these learning activities include representatives from different groups associated with the Sida-supported activities—such as beneficiary target groups, international and local experts, recipient government personnel, contractors, civil society interest groups, private sector participants, Sida staff, and Swedish government representatives. It falls upon the shoulders of the desk officers to ensure that no single interest or actor completely controls the decision making at any stage. This facilitation and monitoring responsibility also involves making sure that the identified stakeholders have an opportunity to participate in the co-production of knowledge—making sure that there is ample room and time for participants to discuss, reflect over, and analyze the performance of supported activities at the appropriate stages of the iterative

⁴ After concluding all interviews in 2002, Sida has seen dramatic changes in the resources-to-staff ratio—a 56 percent budget increase but only a 9 percent increase in permanent staff. It seems reasonable to expect the incentives for Sida staff to “move the money” to continue to thrive within Sida today (Sida 2007).

cycle. This can be a complicated and time-consuming task, especially if the desk officer is trying to accomplish this from a distance.

There is no doubt that the desk officers play a central role when it comes to facilitating the creation of participatory learning activities in Sida-supported activities. The problem is that with rising pressures to move the money, desk officers will have an incentive to prioritize volume over quality, especially if their attention to social learning is not actively monitored by their superiors. Under such circumstances, even the most committed desk officers will be extremely hard-pressed to allow the time necessary for the organization of participatory processes to evolve and mature in its own natural rhythm. Some might be tempted to cut corners in this time-consuming endeavor, especially at the end of the year when their managers remind them of budget targets.

Assessment of staff performance

Given the importance of social learning for the continuous adaptation of new ideas and strategies in Sida-supported actions and the key role played by Sida staff in facilitating this process, it is important that Sida as an organization finds a way of rewarding staff who do a particularly good job as social learning facilitators. As our examination of Sida's performance monitoring practices reveal, however, this is not always the case.

We actually find that the ways in which Sida measures and rewards staff often have little to do with the quality of staff performance in learning about sustainability. Our interviews with all of Sida's 14 department directors found that most of these believed it would be unwise to even attempt to attribute project-level outcomes to the performance of individual staff members, because there are so many exogenous factors beyond the control of Sida staff that also influence these outcomes. There may be some Sida staff members who perform very well but because of unfavorable circumstances in the context in which they function, the outcomes might be considered failures. In fear of unfairly punishing good performers and possibly rewarding poor performers, managers preferred not assessing the quality of individual performance based on project outcomes.

Our interviews with Sida desk officers confirmed this lack of performance-based personnel assessments. Sixty percent of desk officers felt that promotion decisions by Sida management were "not at all related to past project performance." One of the tragic consequences of this unwillingness to introduce results-oriented performance assessments of staff is that the indicators that actually end up being monitored actively—the quantitative measures related to disbursement rates, the number of workshops conducted, and number of people trained—have little to do with the goals of creating a propitious environment for social learning and adaptive decision making. Even though managers may not have had the intention to signal to their desk officers that these quantitative indicators are more important than the quality of their work, these are exactly the signals that are sent.

Since our study was concluded (first published by Sida as Ostrom et al. 2002), Sida has undertaken several efforts to introduce individual, results-oriented personnel assessments that seek to monitor the quality indicators that are more closely associated with sustainability, and to reward personnel who perform well on these measures (Sida, 2007). It may be too soon to tell if these efforts have improved the motivation of staff, contractors, and their partners in recipient countries to prioritize the social learning components of their job descriptions, but a second wave of interviews at Sida could provide some useful insights.

Contractor control

Contractors occupy a central position in the development cooperation cycle. Sida relies on contractors for a wide variety of services, including project design and planning, project implementation, project evaluations, ongoing monitoring, and follow-up of field activities, as well as for expert advice on

particular topics. Furthermore, the contractor's role is particularly important given that they, rather than Sida staff, often have the closest and most regular contact with recipient organizations.

Our analysis finds that there are inherent contradictions between the incentives consultants face in *promoting ownership* and engaging stakeholders in co-management of activities on the one hand, and on the other hand the incentives they face in *retaining control* of the project. These contradictions present a dilemma for contractors. While control over project decisions might increase the likelihood of good short-term project results that may please Sida, it can well compromise the prospects for engaging local stakeholders in both social learning as well as adaptive decision making. Without such participation, the efforts to iterative social learning in the development cooperation cycle will fail to incorporate local knowledge, one of the most crucial components for adaptive management of complex problems.

Our interviews with twelve of Sida's most important contractors taught us that these contractors' motivation to engage in social learning and adaptive decision making may be strengthened considerably. One way Sida could encourage contractors to adopt a more participatory management style would be to agree on a set of performance indicators that Sida would monitor throughout the development cooperation cycle. These performance indicators could seek to measure how well contractors did when it comes to conducting participatory management planning, creating opportunities for social learning, and incorporating local stakeholders in on-going studies, reviews and evaluations.

High personnel turnover

Based on our interviews, we calculated that the duration of assignments for Sida staff ranged from five months to 18 years, with an average of just under four years (Ostrom et al. 2002). This high turnover rate means that few staff remain in positions long enough to participate in all stages of the activity cycle so that their knowledge may be taken into account in the adaptation of decision and actions. On the contrary, within a given support cycle staff will move in and out of positions, without any mechanisms or rewards for making sure that knowledge is transferred from outgoing to incoming staff. There is no systematic effort to make sure that the in-coming person overlaps with the out-going one at the concerned duty stations. It comes as little surprise then to find that over eighty percent of the staff reported that they had had very little or no contact at all with colleagues from past assignments. Consistent with that finding is data on the perceived impact of the high-turnover rates: 75 percent of staff members indicated that they thought the turnover rates at Sida are so high that they negatively affect activity performance.

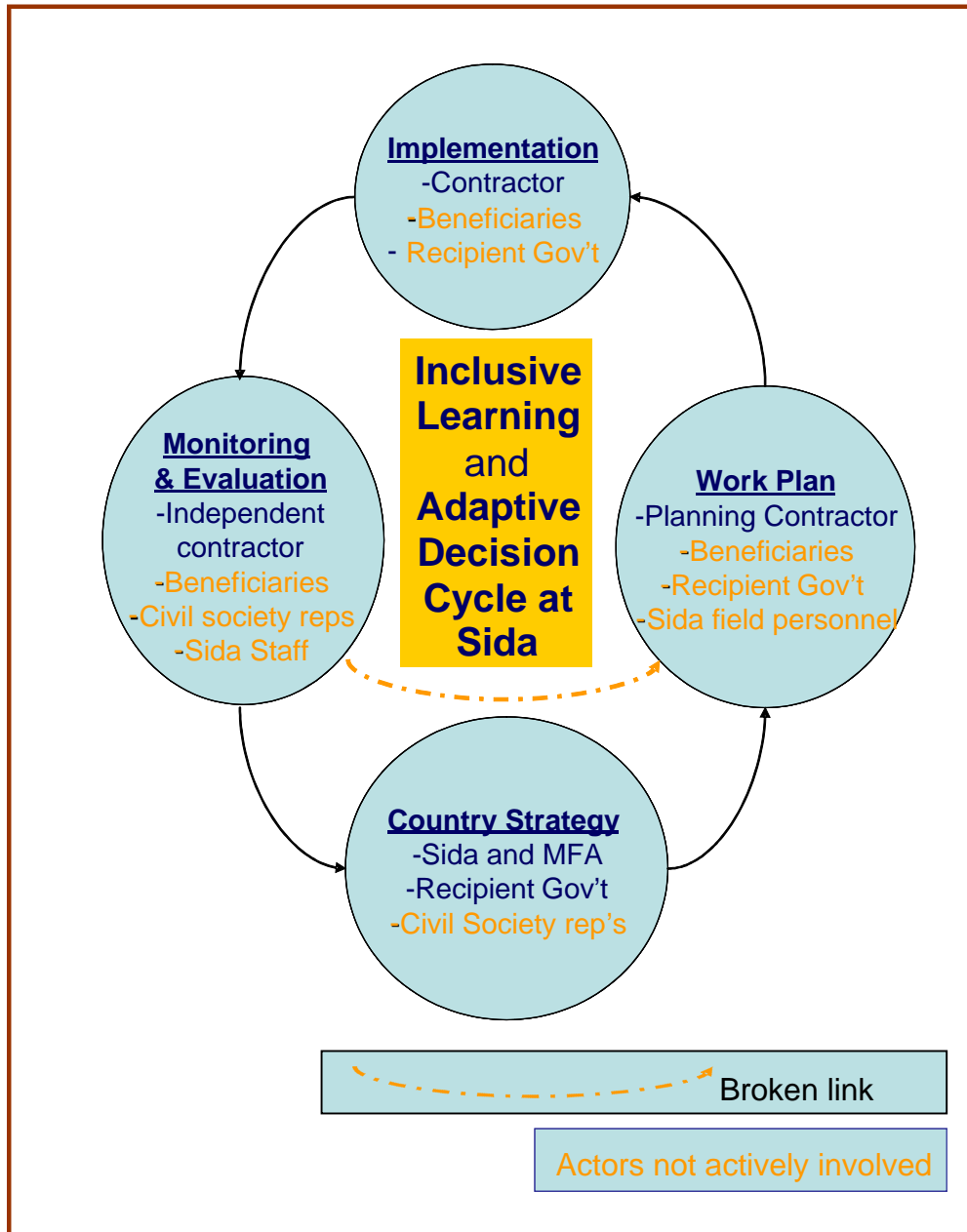
Why do staff members move around so much at Sida? Are they not happy with their jobs? On the contrary, it is precisely the opportunity to move around on different positions—some in the field and some at headquarters in Stockholm—which is one of the reasons people enjoy working at Sida. Having such opportunities makes for an exciting and personally enriching work environment, and this is something that the human resources department at Sida actively strives to create for staff. But what is good for individuals' personal growth and professional careers may not be good for the prospects of creating effective spaces for participatory learning and decision making. Failing to invest in opportunities to communicate and exchange lessons learned to new staff who is about to take over one's position hampers learning about sustainability.

But there is a more subtle problem associated with social learning and high turnover rates. The lack of continuity among personnel is likely to affect the motivation of Sida's many partners to engage in the social learning activities at the different stages of the development support cycle. Productive social learning processes often require substantial time to mature and develop before they bear fruit. The results of these processes will depend a great deal on the extent to which participants develop functional working relationships and eventual trust. If Sida staff members—who represent one of the key facilitators of this process—change frequently and local participants perceive this change to be disruptive to the learning and adaptation process, they are very likely to lose interest in actively contributing to the public-good nature of the social learning process.

Discussion

The evidence on learning at Sida shows that it is important to distinguish between organizations' *formal* emphasis on learning and the *actual practices*. Figure 4, which characterizes the actual practices related to inclusive learning and adaptive decision making on the ground in Sida-supported activities, stands in sharp contrast to the *de jure* policy presented earlier. I find that this difference is largely explained by the motivation problems plaguing staff, which in turn are related to supply-drive allocations, weak personnel performance assessments, excessive contractor control, and high personnel turnover rates.

Figure 4: Sida's *de facto* practices in inclusive learning and adaptive decision making



Source: Author's elaboration based on Sida (2005).

Despite Sida's official policy as well as their extremely competent and highly motivated staff, we fail to find any strong evidence that the learning processes within Sida are principally geared towards the co-production of knowledge about *the factors that contribute to sustainability*. The high morale and general management support for individual growth have been insufficient to create positive incentives within Sida to encourage stakeholders to engage in social learning about how development programs can be made more effective.

What does this case study of social learning at Sida teach us about efforts to create transdisciplinary forums for environmental problem solving? I identify three main lessons. First, the existence of institutional barriers to social learning identified within Sida imply that these barriers are likely to be even more prominent when individuals do not share an organizational structure that formally supports social learning and provides funding for such activities, or where the participants do not share a strong commitment to achieving sustainable development. Actors who are neither *supposed to* nor *supported to* engage in social learning activities seem very unlikely to do so. This finding would suggest that the formalization of learning forums may solve some motivation and information problems, but the creation of a formal organization is likely to produce its own set of problems, much like the ones we observed within Sida.

Second, the observation that social learning about sustainability is not something that occurs to a sufficient extent within the organization, despite formal rules and policies that say this *should* occur point to the importance to distinguish between rules-in-form and rule-in-use regarding the creation of participatory social learning forums. Even if stakeholder participation is made the official goal of social learning forums, such efforts are likely to meet resistance. Not only are there serious motivation problems to be expected for many of the participants, but there are also some actors who may actively resist the creation of such forums because of their perceived loss of power and influence. Even if a participatory process is formally established, the implementation of this process may or may not go as planned, depending on how the organization of such efforts address the many motivation and information problems associated with policy implementation.

Finally, the case study of Sida suggests that it is questionable whether an official mandate and even monetary resources are sufficient to motivate individuals to engage in meaningful learning, especially if the information generated in the structured learning activities—such as formal evaluations—is not perceived as useful for the participants. A more open-ended participatory learning program, like the one Sida recently decided to implement in selected departments within the organization, may be needed to produce meaningful learning about sustainability. Organizers of social learning forums, both inside and across organizations, would be wise to pay attention to the contextual factors highlighted in this paper as likely influence on the motivation to engage in social learning. With a clearer understanding of the motivation problems that often get in the way, organizers of social learning forums may be able to design reward systems that strike an appealing balance of material and non-material incentives to boost the motivation of potential participants to engage in social learning about sustainability.

CONCLUSIONS

Recent studies of global environmental assessments have shown that social learning contributed to the creation of more effective societal responses to both ozone depletion and acid rain (Clark and Dickson 2001; Parson 2003; Benedick 1998). The problem in most societies, however, is that when it comes to many other complex environmental problems, the organized processes for social learning about sustainability are either weak or completely missing. This paper hypothesized that this apparent undersupply of organized social learning processes is systematically linked to four motivational problems: None of the potential participants actors have a clear mandate to take it upon themselves to organize the social learning forum; it is often not clear who would be invited and who should be excluded from the social learning activity; potential participants in such a process are often busy people with different goals, interests, economic wealth, and political power that dampen their motivation to engage in such a process,

and even if they do agree to participate, they may be less motivated to engage in learning as supposed to use the meetings as an opportunity to further their self-interested goals. In this paper, I used the IAD framework to analyze the factors that may help actors to overcome these barriers to engage in social learning about sustainability.

Framing this challenge as a collective action problem has the potential to provide several useful insights about the underlying institutional conditions that may make the creation of a productive learning environment more likely. This framing broadens the scope of analysis to consider, not only the content of the meetings between actors and what makes some social learning experiences more effective than others, but the underlying institutional conditions that contribute to the creation of any transdisciplinary learning activity in the first place.

Implicit in many of the existing studies about social learning is the assumption that most scientists are benevolent servants of the public interest who are patiently waiting for opportunities to engage in public policy decision processes. The institutional analysis questions this assumption, identifying a series of likely motivation problems for both scientists and policy makers, two linchpin actors in social learning processes. The analysis presented identified underlying contextual characteristics that may influence the motivation of both policy decision makers as well as scientists to engage in the process of collaborative knowledge integration.

One of the contributions of the IAD framework to the analysis of social learning about sustainability is its focus on the underlying incentive structures that make such forums more likely to form and flourish. Many of the existing studies of social learning tend to limit their analysis of existing social learning experiences that are already in place and are functioning, and while the comparative analyses of existing experiences have provided extremely important findings about what variables seem associated with successful processes, such comparisons do not consider processes that failed to form. This omission means that we are not able to discern with much confidence which variables made the *creation* of the social learning experience possible. The IAD provides the means to look at the processes that allowed the experiences to form in the first place.

Finally, the appropriateness of any framework depends on the problem at hand. For problems that are related to collective action dilemmas in human interactions, the IAD framework represents a strong alternative. Because of its unique emphasis on the importance of underlying contextual attributes for human interactions, the IAD approach has the potential to highlight issues that other frameworks overlook or do not emphasize as much. As institutional analysts seeking to contribute to transdisciplinary research as envisioned by Max Neef (2005), methodological plurality is a good thing. We are likely to learn more about the creation of effective spaces for social learning about sustainability if multiple scholars from different intellectual traditions; using multiple frameworks for analysis, under different assumptions about the real world; analyze this problem and communicate their findings with each other. Unfortunately, it has often proven to be more difficult to get policy analysts of different theoretical traditions to debate their findings among themselves than to get policy makers to interact with the policy analysts individually. It may be this inter-personal friction between many policy researchers that represents one of the most significant barriers to better and more reliable knowledge about social learning and sustainability.

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