

Draft: August 20, 2001  
Cite at your own risk

**The Decentralizing State:  
Nature and Origins of Changing Environmental Policies in Africa and Latin  
America, 1980-2000**

By

Arun Agrawal  
Yale University  
Department of Political Science  
Post Box 208301  
New Haven CT 06520  
email: [arun.agrawal@yale.edu](mailto:arun.agrawal@yale.edu)

Paper prepared for the 97<sup>th</sup> Annual Meeting of the American Political Science  
Association, San Francisco, August 30 to September 2, 2001

## Abstract:

This paper examines the origins and extent of processes of environmental decentralization that almost all developing countries claim to be pursuing since the mid 1990s. To study the nature and origins of decentralization, the paper proposes a framework that is especially attentive to actors, their incentives, and their coalitions. Using data from 55 cases in 30 African and Latin American countries, the paper answers three questions: What has been the extent of environmental decentralization in the 1980s and 1990s? Who are the actors and coalitions that pursue decentralization? And, how does the membership of a coalition favoring decentralization relate to the extent of decentralization?

I find that central governments tend to grant local actors the capacity to use resources, but only limited powers to manage and even more limited rights of ownership. In answering the second question, I find that local actors by themselves are typically unable to get governments to launch decentralization reforms, and that most decentralization initiatives require the collaboration of multiple actors. Taken together with this finding, the answer to the third question is somewhat counter-intuitive. The involvement of local actors in decentralization has a much greater additional impact on the extent of decentralization than the involvement of any other group of actors. The use of cases from multiple regions and across resource types allows generalizations regarding regional and sectoral patterns that would not be possible from the examination of single cases, or even multiple cases from a single country or a single type of environmental resource.

Keywords: Decentralization, Federalism, Environment, Forests, Wildlife, Africa, Latin America.

**The Decentralizing State:  
Nature and Origins of Changing Environmental Policies in Africa and Latin  
America**

Arun Agrawal

A spate of decentralization initiatives has deluged national governments in almost all developing countries.<sup>i</sup> The sheer ubiquity of new decentralization policies suggests significant forces at play. And yet, the current flurry of governmental activity is not novel. One can identify three and even four cycles of decentralization upheavals in various parts of the world since the 1900s, all aimed at involving some form of a local government in societal regulation.<sup>ii</sup> Rather than claim that contemporary efforts to decentralize are tragic or farcical, this paper attempts to answer three questions about them: 1) What is the extent of environmental decentralization being effected in such a large number of countries? 2) Who are the actors and coalitions that pursue decentralization? And 3) When governments attempt to decentralize, what accounts for the differences in the levels of decentralization they accomplish? The questions are related. I study their connection by exploring how the origins of decentralization are linked to its realization.<sup>iii</sup>

The paper investigates a specific sector of regulatory activity: environmental management.<sup>iv</sup> More directly, I examine the decentralization of wildlife and forest policies.<sup>v</sup> Decentralization of valuable environmental goods such as forests and wildlife should be less likely than the decentralization of services such as education and health. Political aspects therefore assume even greater importance in environmental decentralization. In addition, as an important arena of livelihoods

and political activity, the environment constitutes a significant domain of comparative political analysis.

The argument in the paper is based on research reported in existing studies: 55 cases, drawn from 30 countries in Africa and Latin America constitute the basis of the ensuing discussion.<sup>vi</sup> The next part of the paper outlines a working definition of decentralization. I then discuss the actors involved in decentralization reforms and the different types of powers such reforms reallocate. Although many governments claim to be decentralizing, they often “perform acts of decentralization as theater pieces,” aimed at satisfying international donors and non-government organizations.<sup>vii</sup> The third section of the paper empirically examines the reallocation of institutional and decision-making powers, focusing on the extent to which governments actually decentralize. The final section considers the three major political actors whose coalitions produce different levels of decentralization. I describe the formation of these coalitions, but focus especially on the advantages coalition members bring to their partnerships and how these advantages translate into various levels of decentralization.

By investigating the origins of decentralization, the coalitions of different actors that produce decentralization, and the relationship between such coalitions and decentralization levels, this paper moves the debate on decentralization forward in two ways. Much existing research on the subject analyzes and defends decentralization in terms of higher efficiency, greater equity, increased responsiveness of governments to citizen demands, and sometimes as a good in itself. It is worth pointing out however that these understandings of decentralization hinge upon the implicit assumption that decentralized decision-making is superior because of better access to information and lower organization

costs, competition among jurisdictions, or greater political participation.<sup>viii</sup> Such attributes, even if a fact, are unlikely to be a reason for states and central governments to decentralize powers.<sup>ix</sup> States are better known for their pursuit of *greater and more centralized* control over power, revenues, and territories.<sup>x</sup> Since this paper focuses on the conditions under which specific actors, not states, pursue decentralization, it shifts attention toward more appropriate units of analysis when decentralization is the explanandum. Second, by investigating a large number of cases cross-nationally, cross-regionally, and across resource types, the paper investigates patterns that are difficult to identify when looking at single cases or even multiple cases within a single nation, region, or resource type.

### What is decentralization?

Decentralization is a process in which governments or other political coalitions redistribute power away from the center in a territorial-administrative hierarchy.<sup>xi</sup> This working definition is at least useful in a negative sense: It helps narrow the range of cases to be considered. Instances where there are no central governments to redistribute power, or where central governments are so weak that their very weakness encourages regional actors to struggle for greater power, do not constitute cases of decentralization in my analysis. Nor does this paper treat privatization of state resources as a decentralizing process.<sup>xii</sup>

The definition also works positively. It directs attention toward the central desired goal of any real decentralization – changes in political relationships between central government actors and their more local partners. Further, it prompts the question as to why governments decentralize, and suggests that it is the intentional act of some coalition of agents. Political relationships resulting from decentralization hinge upon the withdrawal of central state actors from, and the

involvement of local actors<sup>xiii</sup> in some domain of decision making. The two elements of decentralized political relationships that the definition thus highlights as constituting all decentralization initiatives are a) the actors involved in these relationships, and b) their powers and the limits on their powers. A focus on various combinations of actors, the policies they favor, and the powers they gain is crucial to understand decentralization. The powers of local actors, and the nature of limits on their powers characterize different levels of decentralization.

In conceptualizing decentralization by specifying and focusing on its constituent dimensions, this paper moves away from definitions of decentralization that are exercises in nomination.<sup>xiv</sup> Terms such as delegation, deconcentration, dispersion, devolution, denationalization, and privatization depend on arbitrarily treating some element(s) of a decentralization program as the most critical: among others, area of coverage, functional focus, types of powers, identity of beneficiaries, or mechanisms of decentralization. But in the process, one eschews a common underlying analytical framework in favor of a taxonomy.<sup>xv</sup> Other analyses of decentralization view it as a combination of governmental activities in different spheres. Manor argues, “If it is to have significant promise, decentralization must entail a mixture of all three types: democratic, fiscal, and administrative.” Binswanger, in almost exactly the same terms, asserts, “The three main elements of decentralization—political, fiscal, and administrative—should be implemented together.”<sup>xvi</sup> In both these cases, however, decentralization itself remains an aggregate phenomenon.<sup>xvii</sup>

### Actors and Types of Decision-Making Powers

Decentralization seems a paradoxical phenomenon. Why should a more powerful political actor – states, central governments, and central ministries and

departments – decentralize decision-making powers to a less powerful one – lower-level governments, civil servants, or community level actors? Posing the question about the origins of decentralization in this manner assumes that the relevant cleavages in the power structure of a state are those between higher- and lower-level actors; and that the process of decentralization is influenced only by state actors.

Political explanations of decentralization instead examine the nature of alliances that central actors craft across levels of government hierarchies. They account for the apparent pursuit of decentralization by focusing typically on the electoral gains it confers on political parties and other state actors. Examining decentralization reforms in Latin America, for example, some scholars have argued that the structure of political parties and the calculation of electoral advantage by politicians at different levels of the government drives decentralization policies.<sup>xviii</sup> Although this argument has much to recommend itself, it is less relevant for environmental decentralization. For one, it is not just public office-holding politicians who are interested in environmental change. Two, national or local politicians rarely use the environment as a crucial element in their electoral platform. Further, the electoral process is either compromised or absent in many of the countries that are witnessing environmental decentralization.<sup>xix</sup> We can infer that although actors, their preferences, and their incentives are critical in explaining decentralization, one must look beyond electoral competition and beyond the state.

The three sets of actors most commonly forming coalitions for environmental decentralization are central government politicians and bureaucrats, international donors, and local elite. If governments are best viewed as congeries of actors who have different and perhaps conflicting objectives, we can make a simple

statement about their likely political incentives and actions. Decentralization is likely to be initiated when central actors compete for power among themselves and find in decentralization a mechanism to enhance their access to resources and power in relation to other political actors. When a central political actor or a coalition of such actors finds that decentralization makes it possible to reduce costs (and/or improve revenues), deflect blame, or extend state reach further into social processes, decentralization becomes likely. Actors from outside the central government can create pressures for change, but as long as a central state is present, at least the acquiescence and usually the support of a political faction, ministry, or department is necessary to initiate decentralization reforms. In this sense, policy choices about decentralization are no different from policy choices in other domains.

The interests of central government actors who favor decentralization can overlap with those of international donors and local elite. International donors often provide funds, access to which becomes the incentive to launch decentralization. Some donors may have decentralization as their goal, but most view it as a means to accomplish other outcomes and leverage the funds they disburse more efficiently. The involvement of local actors is often crucial because their long-term interests are typically sidelined in the design of decentralization initiatives. Effective lobbying groups that local interests create through networking or mobilization affects the nature of decentralization as well. Local actors may be less interested in the ultimate objectives that decentralized policies are supposed to achieve: protection of forests, wildlife, or other resources. But they are more invested in greater access to resources and decision-making powers that decentralization policies promise to make available. Their search for new sources

of revenues and greater control over resources makes them a third important actor in environmental decentralization.

Different coalitions of central government factions, local elite, and international donors, and different levels of support by these coalition members produce varying levels of decentralization reforms. To analyze the nature of reforms, I draw from property rights theory.<sup>xx</sup> Local actors can gain control and decision-making powers in three arenas as a result of decentralization: use, management, and ownership.<sup>xxi</sup> Centralized control over resources is typically characterized by strict regulations prohibiting use of protected wildlife and forests. Such government policies, dating back in some cases to the colonial era, permit local actors little discretion over how resources should be protected or managed. And to an even greater degree, when environmental resources are under a centralized regime local populations and their representatives have scant or no ownership rights. Decentralization initiatives promise to relax central government control in each of these three spheres of activities.

One can disaggregate these three spheres of activities further. Consider use. Relaxation of controls over use can allow local actors greater play in three ways: greater access to a resource, higher levels of use and consumption, and more powers to monitor whether others are consuming the resource illegally.<sup>xxii</sup> Note that greater freedom to access, use, and monitor is quite different from the power to make decisions about *how* goods and resources should be accessed, used, or monitored; in other words, how resources should be managed. Governments often find it convenient to set more liberal policies over use but retain control over management. In such forms of decentralization, greater freedom to access and

consume a resource is the advantage local actors gain in exchange for higher expected efforts to monitor and protect.

Greater managerial discretion to shape how a resource should be used, and protected, and how disputes over rules should be resolved, can also be gained in three significant ways. Local actors can gain the powers to decide how resources should be protected and used, how compliance with decisions about protecting and using resources should be monitored and rule-breakers sanctioned, and over the adjudication of disputes. Possession of these three specific managerial powers is indicative of substantial autonomy, and decentralization reforms creating such autonomy go a long way toward meaningful decentralization of powers to local actors.

Effective ownership confers on its holder the ability to allocate benefits from and transfer control over a resource. Central governments assert ownership over environmental resources because they resemble public goods in that they are imperfectly excludable and subtractable. Market failures are rife where public goods are concerned, and government intervention has often been presumed necessary. In the case of goods such as wildlife and forests, governments also assert claims over these resources owing to their commercial value.

Decentralization of ownership implies the greatest relinquishing of control. With ownership decentralization, lower-level decision makers can dispose of resources by selling use rights or the resource itself in potentially irreversible ways. For this reason, one might expect decentralization of ownership to be the rarest.

#### Levels of Environmental Decentralization across Africa and Latin America

The 55 cases from 30 countries that are the basis of the analysis in this paper are distributed as shown in table one.<sup>xxiii</sup>

[Table 1 here]

These countries represent a variety of forms of decentralization. The selected cases also exhibit significant differences in the identity of local actors who gain powers: an important element in shaping decentralization outcomes. If key local decision-makers cannot be held responsible for their actions, even thoroughgoing decentralization of powers is unlikely to yield desired results.<sup>xxiv</sup> Table 2 indicates the distribution of cases according to who the local actors are.

[Table 2 here]

“Local communities” refers to village or multi-village level decision makers. “Chiefs” (or customary authorities) derive their social power through hereditary mechanisms. Several decentralization reforms transfer new decision-making authority to them as well. NGOs are formal associations constituted under national or local laws. They work for environmental conservation as non-profit organizations and typically do not rely on local sources of funding. Lower-level officials in a civil service and elected district officials are self-explanatory terms.

Community level actors gain new powers of management and control most frequently: in nearly 60 percent of the cases. Decision-makers at the community level gain their positions of authority through selection processes that range from direct appointment to competitive electoral systems. The nature of powers that these local actors gain can be investigated along the three dimensions discussed in the previous section: user activities (access, use, and monitoring), managerial control through rule making and enforcement (to determine access and use patterns, monitoring and sanctioning, and adjudication), and ownership (allocation of benefit streams and transfer of the resource itself). Table 3 reports on four different levels of decentralization along these dimensions.

[Table 3 here]

Interpret table three as follows. The rows list the dimensions along which environmental decentralization can occur. The columns stand for different levels of decentralization. The figures in each cell indicate the number of initiatives corresponding to the specific level of decentralization for a given dimension. Thus, “29” in the first cell indicates that of the 55 cases under consideration, local actors gained significant or full access rights to wildlife/forest resources in 29 instances. The total for each row sums to 55. Each cell in the table can be interpreted in the same manner.

At this aggregate level, the data confirm what one might suspect about decentralization in general. Governments are loath to relinquish control over natural resources such as wildlife and forests when it comes to ownership. If the ability to allocate benefits from a resource and transfer the resource itself are hallmarks of ownership, local actors gained such rights in less than 20 percent of the cases in any significant measure. In nearly 50 out of the 55 cases, central governments did not grant local actors any ability to transfer the resource.

In general, the table suggests that the listed dimensions form an ordered set of increasingly meaningful decision-making powers over resources. As one proceeds down the list of specific rights and powers in table 3 – from the ability to access and use a resource to the power to transfer it to others – it becomes less likely that local actors will gain the ability to make decisions. First consider as a whole the three categories – “user activities,” “managerial control,” and “ownership.” The table reveals that local actors gain middling to significant levels of use rights in a majority of the cases. For ownership, the pattern is reversed. When it comes to managerial control, central governments decentralize some

aspects of this median category but not others. In many cases, local actors can determine how resources are to be accessed and used, but the limits of reforms are visible when it comes to the adjudication of disputes.

We can infer that the current round of decentralization of environmental resources has mainly provided to local actors significant capacities to use and access resources. In several important cases, local actors have also gained the powers to decide and enforce how resources should be used, accessed, and monitored. There are some cases in which local actors have gained even more comprehensive decision-making powers. But overall it is fair to state that central government factions against decentralization have been relatively successful in preventing reforms in a majority of the selected cases.

The pattern of progressive limits on the extent of decentralized powers, as one moves down the listed dimensions in table 3, is also evident within the three categories of use, management, and ownership. Local actors often gain legal powers to access and monitor in accordance with central government crafted rules. Their ability to use, or decide how resources should be used and managed is especially limited in the case of wildlife. On the other hand, local actors gain a greater share in commercial benefits from wildlife in comparison to forests. Tables 4 and 5 present disaggregated data for these two types of resources to illustrate the above points.

[Tables 4 and 5 here]

Decentralization of wildlife policies only infrequently allows local actors powers to access and use the resource. In the selected cases, protected areas and national parks are the locations that have witnessed the decentralization of wildlife protection. Permitting villagers and local residents to cull and eat park animals is

often infeasible in such cases. In contrast, the cutting of trees and their domestic use attracts far less attention. It should not be surprising then that institutionalized powers of local actors to use and manage wildlife are highly constrained in comparison to forests.

What decentralization of wildlife resources does often create are mechanisms for revenue sharing. Local actors gain commercial benefits from ecotourism, and sometimes hunting. Note that they do not gain control over how to allocate revenues from commercial uses of wildlife. But the revenues that they gain are often used to fund locally sponsored monitoring and protection. In comparison, local actors gain greater control over how to access, use and monitor the use of forest resources, and also greater powers of rule making. But they have less control over commercial revenues (see table 6).

[Table 6 here]

These differences in decentralization of wildlife and forest management are at least in part attributable to the nature of the good in question. Because wildlife resources are mobile, local hunting and harvesting are difficult to monitor. Forests are different. If communities come to control a forest and its timber, they can be held responsible for its protection. Such assignment of responsibilities can be impossible in the case of mobile wild animals. In addition, the value of some wildlife resources can be extremely high in relation to their volume. If they are harvested as control becomes more lax, decentralization of management and ownership of wildlife can prove to be an irreversible act. Further, there are powerful private actors who have a strong interest in commercial hunting who might also act to prevent decentralization. Local actors managing forests, however, can be monitored more easily.<sup>xxv</sup>

## Variations in Coalitions Favoring Decentralization

The aggregate and resource-specific data on environmental decentralization suggest that although governments claim to be sharing powers with local partners, the actual experience of decentralization is bounded. At the same time, there are significant variations in the powers that governments decentralize. These variations exist across cases and between the two types of resources being considered. To understand the factors that account for these variations, it is useful to undertake a rough count of the coalitions and coalition members who support decentralization.

The three political players who influence environmental decentralization initiatives most frequently are local rural residents and elite, central government officials and politicians, and international NGOs and donors.<sup>xxvi</sup> Together these three players can produce seven different coalitions if one ignores the sequence in which they enter a coalition.<sup>xxvii</sup> The possible coalitions and the frequency with which they occur in the selected cases are listed in table 7. An actor is classified as being part of a coalition depending on the strength of its support for decentralization. Using the case materials, which contained information about the level of support each of the three actors demonstrated for decentralization, I classified each actor on a five point scale. The values on the scale ranged from 1, standing for “no support,” to 5, standing for “significant support and no opposition.”<sup>xxviii</sup> If the case materials suggested that the support of an actor could be classified at level 3 (some support and no opposition) or higher, I deemed it as part of the coalition favoring decentralization. There were only a few cases in which central government or local actors lent significant support and no one opposed decentralization. In most cases there was some support and no opposition (level 3), or significant support and some amount of opposition (level 4). Actors

did not have to coordinate their strategies or support for them to belong to the coalition.

[Table 7 here]

The data in table 7 present one striking piece of evidence. By themselves, local actors never quite accomplish the initiation of decentralization. Each of the other coalitions is represented in table 7. It would be safe to state that although decentralization is supposed to transfer powers to local actors, it leads to such an outcome only when they work in concert with a partner. We can also argue that other players involved in decentralization do not perform very well when by themselves. Only in about a quarter of the cases do we find an actor producing some form of decentralization on its own. Whereas international donors and local actors do not have enough clout to launch formal decentralization policies, central government actors may not have much incentive. Because of the lack of overlap between incentives and capacities of any single actor, fully 75 percent of the cases are those where the coalition favoring decentralization contains more than one actor. In addition, some central government support seems critical to launch a decentralization reform. Of the 55 cases of varying levels of decentralization, 43 (nearly 80 percent) witnessed some support by central government officials and/or politicians.

Table 7 also contains information that underlines the difference between wildlife and forests. More than half the cases of decentralization of wildlife occur when international NGOs/donors and central government officials/politicians combine to initiate a decentralization reform. This piece of evidence demonstrates the existing international concern about protecting wildlife, and the role of international actors in attempts to involve local populations in wildlife

management. One might object that there is also strong international interest in protecting forests, but at least for the selected cases such interest combines with similar interest among local actors more often in the case of forests than for wildlife.

### Coalition Membership and the Extent of Decentralization

We have already seen that there are some significant differences in the level of decentralization across the cases. Table 8 provides an initial glimpse into how coalition membership relates to the extent of observed decentralization of use, management, and ownership. The numbers in table 8 are simple arithmetic average values on a five-point scale where “one” signifies no decentralization of powers for a given dimension, and “five” signifies full decentralization.<sup>xxix</sup> To compute the average for the category of use, management, and ownership, each of the constituent dimensions for that category was weighted equally.<sup>xxx</sup> As one would expect from the figures in tables 3 to 5, decentralization of management and ownership powers is far more limited in comparison to decentralization of user rights. Also, governments seem to be willing to decentralize control over forests to a somewhat greater extent than control over wildlife.

Perhaps the most interesting inference to be drawn from table 8, a finding in counterpoint to the data in table 7, is that local actors play a critical role in ensuring that decentralization programs are meaningful once such programs have been launched. Recall that table 7 showed how local actors by themselves are never able to accomplish decentralization of resource policies. But that is not the end of the role of local actors. Their involvement seems to relate positively with higher levels of decentralization of powers of use, management, and ownership in comparison to situations when they are not concerned with decentralization.

[Table 8 here]

Whether central government actors and international donors act unilaterally or in concert, the results of decentralization initiatives are weak in terms of powers that get transferred to local levels. This is evident both for forestry and wildlife policies. In the case of forestry, when local actors are part of a coalition with international donors or central actors (coalitions 4 and 5), the decentralization of use, management, and ownership is consistently higher than in cases where they are outside the coalition. Wildlife policies show a similar pattern. Local actors are unable to carry through the decentralization of wildlife management on their own steam. But in cases where local actors are part of a coalition supporting decentralization, the powers that central governments transfer are more comprehensive. The data for wildlife do not contain any cases of coalitions containing local actors and international donors. But the level of decentralization is higher when central government actors are in a coalition with local actors than when they are with international donors.<sup>xxxii</sup>

The fact that local actors are unable to bring about decentralization on their own is easily explained by their weakness in bending central government actors to their will, and their limited access to international donors. But their greater additional impact on the extent of decentralization in comparison to that of central government actors and international donors is less intuitively obvious. One possible explanation is that as long as central government actors are uninterested in pursuing decentralization, the actions of local elite have little impact. But once some central government actors are willing to initiate a decentralization reform, likely for their own reasons, the involvement of local actors ensures better representation of their interests. Donors and international NGOs have little

capacity to monitor and track whether actual changes conform to professed policy. Their involvement is therefore mainly important for the initiation of decentralization rather than in ensuring comprehensive reforms.

### Conclusion

This paper examines environmental decentralization policies that a large number of developing nations currently claim to be pursuing. In contrast to centralized management and control over resources such as wildlife and forests, current policies seek to create institutional mechanisms for involving local partners in environmental protection. To analyze such efforts at decentralization, the paper asks and answers three questions. 1) What is the nature and extent of decentralization reforms in the field of wildlife conservation and forest protection; 2) What are the types of coalitions that favor decentralization of environmental management; and 3) what is the relationship between the membership of coalitions and the extent of decentralization.

The analysis of a sample of 55 cases drawn from 30 different countries in Africa and Latin America suggests that decentralization reforms often only transfer powers to use resources, not their ownership, nor control over their management. But this generalization conceals important variations. Decentralization occurs in a more thoroughgoing fashion for forestry resources than for wildlife. In a majority of cases, local communities are the actors that gain decentralized powers. For these actors, whom central government policies had hitherto fixed in the role of silent spectators or resisters, even some managerial discretion and rule-making authority constitute significant levels of decentralization.

The empirical evidence from the 55 cases suggests that coalitions favoring decentralization can comprise three important sets of actors: local elite and

residents, central government officials and politicians, and international donors and non-government organizations. The seven coalitions that these three actors can create are variously represented in the cases. There are no cases where local actors have by themselves successfully forced the creation of a decentralization reform. Central actors and international donors are more successful when acting unilaterally; however, not by much. When concerted action takes place, the involvement of local elite and residents seems to have a greater additional impact on the level of decentralization than the support of either central actors or international donors. Local actors, although not very powerful, are able to ensure greater representation of their interests once central governments signal their willingness to initiate decentralization reforms.

My investigation is circumscribed in three important respects. I do not include evidence from null cases: that is, cases where no decentralization reforms were launched. I use published case materials, not original data I myself collected or numerical data published by governments and international agencies. And I focus on decentralization of forestry and wildlife management.

The absence of null cases means that the arguments in the paper about the relationship between coalition membership and extent of decentralization do not apply to the initiation of decentralization. The paper does not address the question of when it is that central governments launch decentralization initiatives.<sup>xxxiii</sup> Rather it examines the factors that affect different levels of decentralization given that a decentralization policy will be launched.

The focus on published case materials rather than numerical data has both positive and negative consequences. It allows the analysis of a large number of cases, a focus on institutional and decision-making aspects of decentralization, and

the identification of patterns across regions and resource types. By asking the case materials a consistent set of questions, I have tried to reduce the variations inherent in case studies conducted by different authors, for different reasons, in different places.<sup>xxxiii</sup> By locating information for a case on the internet and contacting authors when information was missing, I have tried to base my analysis on reliable data. Numerical data sets, even if their accuracy and reliability is conceded for economic and budgetary variables, seldom contain reliable information on national institutional variables, let alone subnational units of government. Given the objective of the research – to analyze the extent to which governments actually pursue decentralization of environment-related decision making, and to examine the relationship between the membership of coalitions favoring decentralization and the extent of decentralization – published statistical information is inadequate.

Finally, the clear differences between forestry and wildlife policies imply that decentralization policies may also produce variable outcomes in relation to resources such as irrigation and fisheries. The extent of decentralization is dependent in part on the nature of the resource. Because wildlife resources are more mobile, more valuable, and easier to harvest in comparison to forests, governments seem less willing to decentralize management and ownership to the local level. However, the relationship between coalition membership and the extent of decentralization, especially the role of local actors, is consistent across forests and wildlife. This suggests that the links between coalition membership and decentralization upon which this paper reports may be robust for other types of resources as well.

Acknowledgments:

The research for this paper was made possible by three small faculty grants from the Yale Center for International and Area Studies, The Leitner Political Economy Program, and the Social Science Research Fund at Yale University. I would like to acknowledge the labor of Jessica Stites and Shumita Sharma, who worked hard to identify case studies of environmental decentralization and who coded many of the first cases we found. Jee-Yeon Kim, Yael Zeira, David Corson-Knowles, Aya Hirata, Ehito Kimura, Sylvia Mitraud, and Allan Roth helped in coding cases through much of Spring 2000. I am very grateful to them. Comments from Clark Gibson, Victoria Murillo, Amy Poteets, Jesse Ribot, and earlier conversations with Elinor Ostrom have shaped this paper in important ways.

Table 1

Distribution of Cases by Region and Resource Type (n=55)

		Region		Total
		Latin America	Africa	
Resource Type	Forests	12 (22%)	16 (29%)	28 (51%)
	Wildlife	5 (9%)	22 (40%)	27 (49%)
Total		17 (31%)	38 (69%)	55

Table 2

Identity of Local Actors in the Selected Cases of Environmental Decentralization  
(n=55)

	Type of Actor				
	Local Communities	Chiefs	NGOs	Lower civil service officials	district elected authorities
Number of Cases	31 (56%)	9 (16%)	7 (13%)	7 (13%)	1 (2%)

Table 3

Levels of Environmental Decentralization: Use, Management, and Ownership  
(n=55)

Dimension of Decentralization	Significant or full control devolved to local actors	Middling levels of decentralization	Some control gained by local actors	No noticeable change in the rights and powers of local actors
<u>User activities</u>				
– Access resource	29 (53%)	14 (25%)	10 (18%)	2 (4%)
– Use resource	16 (29%)	15 (27%)	16 (29%)	8 (15%)
– Monitor resource use	28 (51%)	15 (27%)	7 (13%)	5 (9%)
<u>Managerial control</u>				
– Determine how resource will be accessed/used	14 (25%)	23 (42%)	14 (25%)	4 (7%)
– Determine how to monitor use, and sanction rule-breakers	9 (16%)	13 (24%)	15 (27%)	18 (33%)
– Adjudicate disputes	1 (2%)	4 (4%)	12 (22%)	38 (69%)
<u>Ownership</u>				
– Allocate benefit stream from resource	2 (4%)	7 (13%)	15 (27%)	31 (56%)
– Sell, transfer, alienate resource	0	1 (2%)	5 (9%)	49 (89%)

Table 4

Levels of Environmental Decentralization: Forests (n=28)

Dimension of Decentralization	Significant or full control devolved to local actors	Middling levels of decentralization	Some control gained by local actors	No noticeable change in the rights and powers of local actors
<u>User activities</u>				
– Access resource	21 (75%)	6 (21%)	1 (4%)	0
– Use resource	12 (42%)	10 (36%)	5 (18%)	1 (4%)
– Monitor resource use	13 (46%)	6 (21%)	5 (18%)	4 (14%)
<u>Managerial control</u>				
– Determine how resource will be accessed/used	11 (29%)	11 (29%)	4 (14%)	2 (7%)
– Determine how to monitor use, and sanction rule-breakers	7 (25%)	7 (25%)	8 (29%)	6 (21%)
– Adjudicate disputes	1 (4%)	4 (14%)	6 (21%)	17 (61%)
<u>Ownership</u>				
– Allocate benefit stream from resource	2 (7%)	6 (21%)	7 (25%)	13 (46%)
– Sell, transfer, alienate resource	0	1 (4%)	4 (14%)	23 (82%)

Table 5

Levels of Environmental Decentralization: Wildlife (n=27)

Dimension of Decentralization	Significant or full control devolved to local actors	Middling levels of decentralization	Some control gained by local actors	No noticeable change in the rights and powers of local actors
<u>User activities</u>				
– Access resource	8 (30%)	8 (30%)	9 (33%)	2 (7%)
– Use resource	4 (15%)	5 (19%)	11 (41%)	7 (26%)
– Monitor resource use	15 (56%)	7 (26%)	2 (7%)	3 (11%)
<u>Managerial control</u>				
– Determine how resource will be accessed/used	3 (11%)	12 (44%)	10 (37%)	2 (7%)
– Determine how to monitor use, and sanction rule-breakers	2 (7%)	6 (22%)	7 (26%)	12 (44%)
– Adjudicate disputes	0	1 (4%)	5 (19%)	21 (78%)
<u>Ownership</u>				
– Allocate benefit stream from resource	0	1 (4%)	8 (30%)	18 (67%)
– Sell, transfer, alienate resource	0	0	1 (4%)	26 (96%)

Table 6

Comparing Commercial Benefits to Local Actors from Decentralization of Forest and Wildlife Policies (n=55)

Commercial Benefits to Local Actors	Resource Type	
	Forests (n=28)	Wildlife (n=27)
Significant or full share (more than two thirds)	7 (25%)	8 (30%)
Middling share (one third to two thirds)	7 (25%)	10 (37%)
Limited share (upto one third)	9(32%)	8 (30%)
No share	5 (18%)	1 (4%)

Table 7

## Actors and Coalitions in Support of Environmental Decentralization

Coalitions	Resource Type		Total (n=55)
	Forests (n=28)	Wildlife (n=27)	
Local Elite {LE}	0	0	0
Central Government Officials {CG}	6 (21%)	2 (7%)	8 (15%)
International Donors {ID}	3 (11%)	3 (11%)	6 (11%)
Local Actors, Central Government Officials/Politicians {LA, CG}	8 (29%)	4 (15%)	12 (22%)
Local Actors, International Donors {LA, ID}	6 (21%)	0	6 (11%)
Central Government officials/Politicians, International Donors {CG, ID}	5 (18%)	14 (52%)	19 (35%)
Local Actors, Central Government Officials/Politicians, International Donors {LA, CG, ID}	0	4 (15%)	4 (7%)

Table 8

Coalitions and their Relationship with Levels of Decentralization

Coalition	Forests (n=28)			Wildlife (n=27)		
	Use	Management	Ownership	Use	Management	Ownership
2{CG}	2.9	1.7	1	2.7	1.8	1.2
3{ID}	2.7	1.4	1	1.9	1.2	1
4{LA, CG}	4	3.3	2	2.9	2.1	1.4
5{LA, ID}	4	2.9	1.9	No Cases		
6{CG, ID}	3.7	2.1	1.4	2.7	1.9	1.1
7{LA, CG, ID}	No Cases			3.9	2.4	1.6

## Appendix 1: Identifying Data on Case Studies (Africa)

No	Country	Case Name	Resource Type	Extent of Coverage	Year of Initiation	Source(s)
1	Benin	Bassila	Forests	10 villages	1988	Sodeik
2	Benin	Parakou	Forests	28 villages	1993	Sodeik
3	Botswana	Okwa	Wildlife	125 villages	1995	Twyman; Hitchcock
4	Burkina Faso	Nazinga	Wildlife	50 villages	1979	Lungren
5	Central African Republic	Dzanga-Sangha	Wildlife	2 villages	1987	Doungoube
6	Democratic Republic Congo	Kahuzi-Biega	Wildlife	9000 people	1985	CADIC
7	Ethiopia	Gondar	Forests	27 villages	1987	UNDP(a)
8	Ghana	DEMCs	Wildlife	3 districts	1988	Porter and Young
9	Ghana	Coastal Wetlands	Wildlife	12 villages	1985	Ntiamoa-baidu
10	Ghana	Adwaanase	Forests	2 villages	1995	Addo et al.; Decher; Poffenberger.
11	Ghana	Wenchi	Forests	1 district	1994	Afikorah-Danquash
12	Kenya	Amboseli	Wildlife	4 villages	1977	Lindsay; Western
13	Kenya	Maasai Mara	Wildlife	12 villages	1977	Talbot and Olindo; Knowles and Collett
14	Kenya	Tsavo	Wildlife	3 villages	1987	Snelson and Lembuya
15	Madagascar	Beza Mahafaly	Forests	2 villages	1987	O'Conner
16	Madagascar	Andohahela	Wildlife	9 village	1987	O'Conner; Durbin and Ralambo
17	Madagascar	Ranomafana	Wildlife	160	1993	Peters
18	Mali	Alamodiou	Forests	200 villages	1991	Thomson and Coulibaly
19	Mali	National Program	Forests	Country	1992	Agrawal and Ribot; Benjaminsen,
20	Mozambique	Bawa	Wildlife	1 village	1994	Wilson

21	Namibia	Himba	Wildlife	12 villages	1983	Jones
22	Niger	Twares	Wildlife	5000 people	1988	Newby; Newby and Grettenberger
23	Nigeria	Kainji	Wildlife	21 villages	1980	Onyeausi et al.
24	Rwanda	Virungas	Wildlife	20,000 people	1980	Vedder and Weber
25	Senegal	Louga	Forests	40,000 people	1993	Gueye et al.
26	Senegal	Fouta	Forests	1 village	1980	Diouf
27	Sudan	North Sudan	Forests	North Sudan	1988	UNDP(b)
28	Sudan	Kordofan	Forests	21 villages	1981	UNDP(c)
29	Sudan	El Odaya	Forests	30 villages	1982	UNDP(d)
30	Tanzania	CCS	Wildlife	Nationwide	1991	Bergin; Neumann
31	Tanzania	Duru-Haitemba	Forests	3 villages	1990	Wily; Wily and Haule
32	Uganda	Budongo	Forests	75 villages	1993	Langoya and Long
33	Uganda	Mgahinga	Wildlife	1 village	1991	Infield and Adams; Butynski and Kalina
34	Zambia	ADMADE	Wildlife	300 villages	1983	Gibson and Marks; Gibson
35	Zambia	Kafue-Bangweulu	Wildlife	14 villages	1986	Jeffrey
36	Zambia	Luangwa	Wildlife	6 chiefdoms	1985	Lewis and Phiri, Lewis et al., Abel and Blaikie
37	Zimbabwe	CAMPFIRE	Wildlife	Nationwide	1989	Hill; Derman; Pye-Smith and Feyerabend; Metcalfe
38	Zimbabwe	SAFIRE-MITI	Forests	Eastern Zimbabwe	1995	Grundy and Breton

## Appendix 2: Identifying Data on Case Studies (Latin America)

No.	Country	Case Name	Resource Type	Extent of Coverage	Year of Initiation	Source(s)
1	Belize	Toledo	Forest	14 villages	1990	Internet documents
2	Belize	Gales Point	Wildlife	1 village	1992	Belsky
3	Bolivia	Chimane	Wildlife	10 villages	1988	Dudley
4	Bolivia	Gran Chaco	Wildlife	7500 people	1995	Taber et al.
5	Brazil	West Rondonia	Forests	W. Rondonia	1991	Brown and Rosendo
6	Brazil	Pedras Negras	Forests	1 village	1997	Interviews
7	Brazil	Silva Jardim	Wildlife	2 villages	1984	Interviews
8	Brazil	Alto Paraiso	Forests	1200 people	1996	Interviews
9	Costa Rica	BOSCOSA	Forests	12 villages	1987	Donovan
10	Ecuador	Mindo	Forests	1 village	1988	Perreault
11	Haiti	Maissade	Forests	1 village	1986	White and Runge
12	Honduras	Rio Platano	Forests	2500 people	1980	Foehlich and Scherwin
13	Honduras	FEHCAFOR	Forests	3000 people	1974	Stanley
14	Mexico	Manantlán	Forests	7 villages	1988	Gerritsen
15	Mexico	San Martin Ocotlan	Forests	1village	1980	Klooster
16	Peru	Tahuayo-Blanco	Wildlife	30 villages	1990	Bodmer; Bodmer et al.
17	Peru	Yanesha	Forests	12 villages	1984	Richards; Hartshorn

## Endnotes:

---

i. By now it has become almost de rigeur in research on decentralization to point to its spread and reach. Consider a non-random sample from four recent works. “Decentralization generally has assumed a central role in the developing world over the past decade in both reality and international donor thinking” in Harry Blair, “Participation and Accountability at the Periphery: Democratic Local Governance in Six Countries,” *World Development* 28(Summer 1999): 21; “In both developed and developing countries, recent decades have shown a tendency towards decentralization,” in Michiel S. De Vries, “The Rise and Fall of Decentralization: A Comparative Analysis of Arguments and Practices in European Countries,” *European Journal of Political Research* 38(2000): 193; “A significant development in Latin American politics in the last ten years has been the decentralization of government,” in Eliza Willis, Christopher da C. B. Garman, and Stephen Haggard, “Decentralization in Government: Latin America,” *Latin American Research Review* Vol. 34, No. 1 (1999): 7; and “The recent years have witnessed strong movements toward decentralization and secession,” in Ugo Panizza, “On the Dimensions of Fiscal Decentralization: Theory and Evidence,” *Journal of Public Economics* Vol. 74, No. 1 (1999): 97. Larry Diamond, *Developing Democracy: Toward Consolidation*. (Baltimore and London: The Johns Hopkins University Press, 1999), p. 121 has argued that a number of different kinds of pressures have led to “a wave of political decentralization throughout the world since the 1970s”

ii. For a historical account of decentralization in forestry in Africa, see Jesse C. Ribot, “Decentralization, Participation, and Accountability in Sahelian Forestry: Legal Instruments of Political-Administrative Control,” *Africa* 69(August 1999): 51. See Arun Agrawal and Jesse C. Ribot, “Accountability in Decentralization: A Framework with South Asian and West African Cases,” *The Journal of Developing Areas* 33(Summer 1999): 495 for a more general statement about waves of decentralization in Africa and South Asia.

iii. For an earlier discussion of these themes, see Arun Agrawal and Elinor Ostrom, “Collective Action, Property Rights, and Decentralization in Forest Policies in India and Nepal,” *Politics and Society* (Forthcoming, 2001).

iv. According to a survey of national forest departments by the Food and

---

Agriculture Organization, more than 50 countries claim to be moving toward involving user communities in some form in the management of forest resources. See Food and Agriculture Organization, "Status and Progress in the Implementation of National Forest Programmes: Outcomes of an FAO Worldwide Survey," mimeo (Rome, Italy: FAO, 1999).

v. Identifying information on the cases is presented in appendices 1 and 2. I have omitted the list of actual citations (about 6 pages long) to limit the size of the paper. Interested readers can email me for the list of full citations.

vi. The research is part of an ongoing, two-year old project on environmental decentralization. Ultimately, I aim to collect comparable data on at least one wildlife and one forestry case from all the countries in Africa, Latin America, and Asia that have decentralized environmental policies. With 30 countries represented in our sample at the moment, we have cases from approximately 40 percent of the countries in Africa and Latin America.

vii. Agrawal and Ribot, "Accountability in Decentralization," p. 474.

viii. The work of A. Breton, *Competitive Governments*. Cambridge, UK: Cambridge University Press, 1996) and C. Tiebout, "A Pure Theory of Local Expenditures," *Journal of Political Economy* 64: 416-24 on interjurisdictional competition; W. Oates, *Fiscal Federalism* (New York, Harcourt Brace Jovanovich, 1972) on the importance of information and organizational costs.

ix. See for example de Vries, "The Rise and Fall of Decentralization," p. 195, who argues that the same advantages of increased efficiency, democratization of the policy process, and effectiveness have been claimed "in favor of decentralization and centralization" (emphasis in original).

x. For some careful statements on this theme, see Robert H. Bates, *Markets and States in Tropical Africa: The Political Basis of Agricultural Policies*. (Berkeley: University of California Press, 1981), Margaret Levi, *Of Rule and Revenue*. (Berkeley: University of California Press, 1988), and Charles Tilly, *Coercion, Capital, and European States, 990-1992 AD*. (Cambridge: Blackwell, 1992).

xi. A number of scholars have proposed similar definitions. Philip Mawhood, *Local Government in the Third World* (Chichester, UK: John Wiley, 1983) and Brian C. Smith, *Decentralization: The Territorial Dimension of the State* (London, George

---

Allen, 1985) define decentralization as any act in which a central government formally cedes powers to actors and institutions at lower levels in a political administrative and territorial hierarchy.

xii. In contrast to this somewhat narrow definition, some scholars have seen secessionist movements and privatization as belonging to the same broad class of phenomenon as decentralization. See Dennis Rondinelli and John Nellis, *Assessing Decentralization Policies in Developing Countries: A Political-Economy Approach*, *Development Policy Review* Vol. 4, No. 1 (1986): 3-23.

xiii. In using the term local to describe some actors, I do not mean to suggest that external forces do not have an impact on what they do, or that all their activities are circumscribed within a particular, bounded space. The local is inevitably and inextricably connected to its outside, and the aim of decentralization policies is to improve the articulation between that which is considered local and the actions of central governments. For an insightful elaboration of the idea of local, see Arjun Appadurai, *Modernity at Large: Cultural Dimensions of Globalization*. (Minneapolis: University of Minnesota Press, 1996), pp. 178-200.

xiv. See Agrawal and Ribot, "Accountability in Decentralization," pp. 475-76 for a critique of such classificatory schemes. Perhaps the most widely used classificatory, nominalist scheme is that advanced by Rondinelli and his colleagues. See D. Rondinelli, J. Nellis, and G. Cheema, "Decentralization in developing countries: A Review of Recent Experience," World Bank Staff Working Papers No. 581, (Washington DC: The World Bank, 1984); Rondinelli and Nellis, *Assessing Decentralization Policies*, 3-6; and D. Rondinelli, J. McCullough, and R. Johnson, *Analyzing Decentralization Policies in Developing Countries: A Political-Economy Framework*, *Development and Change* Vol. 20, No. 1 (1989): 57-87. For applications of their scheme, see articles in journals such as *Development Policy Review*, and working papers published by donor organizations such as the World Bank and the United States Agency for International Development (USAID).

xv. Paul D. Hutchcroft, "Centralization and Decentralization in Administration and Politics: Assessing Territorial Dimensions of Authority and Power," *Governance: An International Journal of Policy and Administration* Vol. 14, No. 1 (January 2001): 226-28 shows a similar discomfort with existing analyses of decentralization in his attempt to analyze administrative and political aspects of

---

decentralization through a common framework. See also Elinor Ostrom, Larry Schroeder, and Susan Wynne, *Institutional Incentives and Sustainable Development: Infrastructure Policies in Perspective* (Boulder, CO: Westview, 1993), p. 163-210 for an example that creatively focuses on multiple agencies and the types of decision-making rights they exercise in the context of decentralization.

xvi. James Manor, *The Political Economy of Democratic Decentralization* (The World Bank: Washington DC, 1999) and Hans Binswanger, "Technical Consultation on the Decentralization of Rural Development" Proceedings Development Conference, Rome, 16-18 December 1997 (Rome: FAO, 1999). Manor goes on to argue that decentralization likely occurs in this tripartite mixture whenever it offers promise. He also suggests, against *World Development Report 1997*, that such tripartite mixtures are reasonable common. See also Willis et al., "The Politics of Decentralization..." p. 8-9 similarly talk of political and functional decentralization as the two aspects of decentralization, referring chiefly to fiscal measures in their discussion of functional decentralization.

xvii. The framework I use is drawn from Agrawal and Ribot, "Accountability in Decentralization," p. 485-76. They make a similar point about the need to consider the underlying institutional and analytical dimensions of decentralization reforms.

xviii. The argument for Argentina, Brazil, Colombia, Mexico, and Venezuela is made in Willis et al., "The Politics of Decentralization..." 9, 16-18. See Sung Han Kim, "The Political Process of Decentralization in Peru, 1985-1990," *Public Administration and Development* 12 (1992): 249-65) for a similar argument related to Peru.

xix. In making this judgment about the countries listed in appendices 1 and 2, I rely on Diamond, *Developing Democracy*, pp. 279-80. Only about a quarter of the countries listed in the two appendices would fall in Diamond's category of liberal democracy. The rest would be classified as non-liberal democracies, pseudo-democracies, and authoritarian regimes. He in turn draws partly on Freedom House scores on political rights and civil liberties. See Freedom House, *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties, 1997-1998* (New York: Freedom House, 1998), 605-9.

xx. See especially Armen Alchian and Harold Demsetz, "The Property Rights Paradigm," *Journal of Economic History* 33, 1 (March 1973): 16-27; Carl J.

---

Dahlman, *The Open Field System and Beyond: A Property Rights Analysis of an Economic Institution*. (Cambridge: Cambridge University Press, 1980); and Edella Schlager and Elinor Ostrom, "Property Rights Regimes and Natural Resources: A Conceptual Analysis," *Land Economics* (August 1992).

xxi. In choosing the dimensions of use, management, and ownership as the relevant ones, I follow as closely as possible the actual set of decision-making powers that local actors gained in the studied cases. Agrawal and Ribot, "Accountability in Decentralization," 476-77 discuss powers to create rules, make decisions about use of resources, enforce, and adjudicate and draw parallels between their scheme and the familiar categories of legislative, executive, and judiciary powers.

xxii. Schlager and Ostrom, "Property-Rights Regimes and Natural Resources..." refer to access and consumption activities of users as operational rights. They classify monitoring as part of management, and refer to rights related to management, exclusion, and ownership as collective choice activities. I distinguish between monitoring as an operational activity and as an arena of decision making based on whether local actors monitor in accordance with rules laid down by a central government or make decisions about how monitoring should be carried out. Based on fisheries, Schlager and Ostrom suggest that if actors hold higher-level rights, they usually hold lower-level rights as well. Thus, possession of exclusion rights goes along with access, use, and management rights as well; management goes along with access and use, and so forth. The data used in this paper suggest that decentralizing states do not always transfer bundles of rights and powers. They may permit local actors management rights without giving use rights; or grant ownership rights without granting all management rights.

xxiii. These 55 cases are a subset of more than 200 cases that we examined as potentially suitable for coding for the research reported in this paper. A team of four research assistants helped me identify cases, give them an initial reading to check if they actually contained information on most of the variables of interest, and code the information in the cases. Fortnightly meetings with my research assistants ensured we had a common understanding of how to code the information. A coding instrument with 45 questions (available upon request) is the basis for classifying the information in the cases. For many cases, we located additional materials on the internet, and for some we contacted the authors. Where our combined efforts did not permit us to answer at least 40 of the 45 questions in

---

the instrument, we discarded the case.

xxiv. See Agrawal and Ribot, “Accountability in Decentralization,” pp. 478-79.

xxv. I thank Clark Gibson in his help to clarify these differences between wildlife and forests.

xxvi. This empirical observation is based on the sample of cases being analyzed in this paper rather than a priori expectations about the reasons specific actors support decentralization.

xxvii. I use the term “coalition” in a minimalist sense, drawing from cooperative game theory. As long as an actor supports a particular objective, it is considered part of a coalition. Coordination of strategies by coalition members is not necessary. Given this minimal definition, three actors can form seven coalitions: three one-member coalitions, three two-member coalitions, and one three member coalition. I do not consider the null set where none of the relevant actors pursue decentralization.

xxviii. Since each of the three “actors,” – local elite, central government officials and politicians, and international donors and NGOs – are in reality a group of actors, there is always the possibility of conflicts in the support each of these actors lends to a decentralization reform. Thus some central government officials might oppose decentralization while others support it. The five-point scale had the following categories: 1) no support; 2) some support and some level of opposition; 3) some support and no opposition; 4) significant support and some level of opposition; and 5) significant support and no opposition.

xxix. The five-point scale corresponds to the following five categories: 1) no decentralization, 2) decentralization of some powers; 3) middling levels of decentralization; 4) significant decentralization; and 5) full decentralization. In tables 3, 4, and 5, the categories of significant and full decentralization were combined into one.

xxx. Since decentralization of ownership is more consequential than decentralization of use, an argument can be made for weighing it more heavily in calculating the average. Similarly, it can be argued that within a category, say

---

management, the power to adjudicate disputes should be weighted more heavily than the power to influence access and use. There are three reasons why I chose to report simple averages after calculating both. One, it is unclear what such a weighting scheme should be. How much more important is the ability to adjudicate in comparison to the ability to use? Although the dimensions I consider are ordered, the relationship across the categories is not numerical. Two, weighted averages substantially change the relationship across columns, which makes it more difficult to interpret the numbers. Currently, it is possible to say (with some significant simplification) that the average figure of 4 in a cell corresponds to significant decentralization. But a weighted figure of 7 will be difficult to interpret at all. Finally, the weighted averages do not change the relationship across rows: how a coalition's membership relates to the level of decentralization – the phenomenon of real interest for table 8.

xxxii. We should naturally expect higher levels of decentralization to occur when all the three actors support decentralization, even if their support is qualified or if there is some opposition.

xxxiii. The reason null cases are not included in the analysis is obvious: few observers find it worthwhile to write about decentralization when there has been none!

xxxiiii. Several instances of social-scientific research that relies on published secondary materials are well known. See, for example, Ian Hacking, *The Social Construction of What?* (Cambridge, MA: Harvard University Press, 1999) and Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*. (New York: Cambridge University Press, 1990). This paper examines a larger number of cases than do Hacking and Ostrom, but does not differ in its basic strategy.