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People Don't Talk in Institutional Statements: A Methodological Case Study of the Institutional Analysis and Development Framework

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In this paper, we describe our application of Ostrom et al.'s ADICO syntax, a grammatical tool based in the Institutional Analysis and Development framework, to a study of ecological restoration decision making in the Chicago Wilderness region. As this method has only been used to look at written policy and/or extractive natural resource management systems, our application is novel in context (a value-adding environmental management action), data type (in-depth, qualitative interviews, and participant observation), and extent of institutional statement extraction (we extract rules, as well as norms and strategies). Through detailed description, visual aids, and case-specific qualitative examples, we show the usefulness of the ADICO syntax in detailing the full set of institutional statements-in-use: rules, norms, and strategies. One of the most interesting findings is that we found norms (and not just rules) to be prevalent and particularly meaningful guides for people's actions. This reinforces the need to address norms and strategies, not only rules, when developing effective policy.

KEY WORDS: ADICO syntax, institutional analysis and development, norms, ecological restoration, qualitative data

Introduction

Creating effective policy is rooted in understanding what guides human behavior, often behavior as a part of collective action. Without such understanding, a policy may not work as policymakers wished. Emphasis is often placed on rules as guides for behavior, and therefore as the aim of policy. But, there are other forces that guide behavior, including norms and strategies. What roles do these play and how can they be more fully understood to help create more effective policy? In the context of complex social-ecological systems, an in-depth look at the strategies, norms, and rules-in-use may help understand both the social processes in effect, as well as the interplay between the social and the ecological processes that can lead to resilience and sustainability—or not.

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The Institutional Analysis and Development (IAD) framework, developed by Ostrom and colleagues (Ostrom, 1995), has most commonly been used to explore what leads to sustainable and resilient use of common-pool resources in social-ecological systems (e.g., Fleischman et al., 2010; Imperial, 1999; Mincey et al., 2013; Poteete & Welch, 2004). The IAD framework aims to understand what drives collective action, at the core of which are institutions. In contrast to the common use of the word "institution" to refer to a building housing a bureaucratic organization like a school or a hospital, in IAD "institutions" are rules, norms, and strategies, or collectively shared prescriptions that guide behavior in any given situation (Ostrom, 1995).

As in policy, rules are often the focus of investigation in IAD research. However, the importance of norms is well established, even foundational, in various social science fields. From sociology (Durkheim, [1885] 1982) to anthropology (Douglas, 1966), in law (Posner, 2002), and in political science (Axelrod, 1986), norms are understood as strong motivational and guiding forces of human behavior. Norms are well integrated into IAD, too. Ostrom and colleagues include them in game theory experiments that underpin IAD (Ostrom, 1995, 2009) and Ostrom details their importance in natural resource management, even indicating that "collective action may fail when social norms are crowded out" (Ostrom, 2014, p. 26). While it may be easier to change rules, norms are not static; they can and do change over time, and can in fact be critical to creating effective policy (Blommaert, 2013; Perrucci & Perrucci, 2014).

In 1995, Crawford and Ostrom developed a syntactical tool (the ADICO syntax) to assist in explicating the institutions of a social-ecological system, or more accurately, the *institutional statements* of a social-ecological system. An institutional statement is defined as a "shared linguistic constraint or opportunity that prescribes, permits, or advises actions or outcomes for actors … [they] are spoken, written, or tacitly understood in a form intelligible to actors in an empirical setting" (Crawford & Ostrom, 1995, p. 583). Extracted as unique units of analysis, statements can be analyzed in a systemized way, both qualitatively and quantitatively (Basurto, Kingsley, McQueen, Smith, & Weible, 2010).

Although institutions and institutional statements have been recognized and studied through the IAD framework for decades, detailed applications of ADICO are few. Basurto et al. (2010) provide the first application of ADICO to two legislated policies in the United States. They provide a guide, giving a thorough explanation of each syntax component. Norms constituted the bulk of the institutional statements in the policies they explored, because they coded tangible sanctions required in rules only when they were explicitly stated. Siddiki, Weible, Basurto, and Calanni (2011) added a syntax component to ADICO—oBject. The "oBject" allows analysts to further distinguish between who conducts the institutional statement and who the statement affects, easing application of the IAD in some circumstances. Schlüter and Theesfeld (2010) proposed a continuum of sanctions to define rules, norms, and strategies. Mincey et al. (2013) argued that inconsistency in definitions of IAD elements was one reason for the lack of empirical research on the importance of institutions in urban social-ecological systems. They provide a systematic institutional analysis of urban tree management, in which they present case-specific descriptions of each of the statement classifications and illustrate how there can be similar rules at multiple

Table 1. The Components of the ADICO Syntax and How They Define Rules, Norms, and Strategies

Component	Definition
A	Attribute (the "who"—who does this statement refer to?)
D	Deontic (may, must, must not, should, should not)
I	aIm (the "what"—what is the statement about?)
C	Condition (under what conditions must the aIm occur?) *Default can be "in all times and in all places" (Ostrom, 1995, p. 149)
O	Or Else (sanction for not following a rule, norm, or strategy) *The term "Or Else" is only used for rules *Can be gradual-initial or accidental violations may not incur tangible sanctions, but repeated violations lead to them (Ostrom, 1995, p. 152; 2012)
ADICO = Rule, ***ADIC*** = Norm, and ***AIC*** = Strategy	
RULE[a]: All villagers [**A**ttribute] must not [**D**eontic] let their animals trample [a**I**m] the irrigation channels [**C**ondition, note that the animals *may* trample elsewhere and not trigger this rule] or else the villager who owns the livestock will have to pay a fine [**O**r Else].	
NORM: If you [**A**ttribute] use the microwave [**C**ondition], you must [**D**eontic] clean up your own mess [a**I**m]!	
STRATEGY: The person who places a phone call [**A**ttribute] calls back [a**I**m] when the call gets disconnected [**C**ondition].	

[a]Rule, norm, and strategy examples are from Ostrom (1995, p. 139).

levels. However, they focus only on rules and do not provide examples of norms and strategies.

We build on these earlier works by illustrating how we used the ADICO syntax in several novel ways to extract institutional statements from qualitative data, and how we categorized those institutional statements by other IAD constructs (level, type, classification). We pay particular attention to the classification of statements as rules, strategies, or norms. Content analysis complemented our use of the IAD constructs, by informing our understanding of the meaning and strength of the rules, norms, and strategies we extracted. These methods allowed us to test the usefulness of ADICO for understanding this particular nonextractive social-ecological system, and to help inform policies developed within this and other social-ecological systems.

IAD and Institutional Statement Coding Constructs

Institutional statements are composed of specific grammatical components, expressed as the ADICO syntax: A (attribute), D (deontic), I (aIm), C (conditions), and O (Or Else) (Table 1; Figure 1). Understanding whether a component is present is critical to determining the statement type: a rule contains all five components (ADICO), a norm contains all but an Or Else (ADIC), and a strategy contains all but a deontic and an Or Else (AIC). Or, as Ostrom puts it, rules are a mere "grammatical step away from norms and two steps away from strategies" (Ostrom, 1995, p. 138). Ostrom provides examples, which we parse into the ADICO syntax in Table 1. We discuss *how* to determine which components are present later in this paper.

A second characteristic of a given institutional statement is the level at which the statement operates: operational, collective-choice, or constitutional (Table 2; Figure 2). The operational level of analysis is where individuals make decisions about day-to-day activities, which can directly affect on-the-ground conditions. The collective-

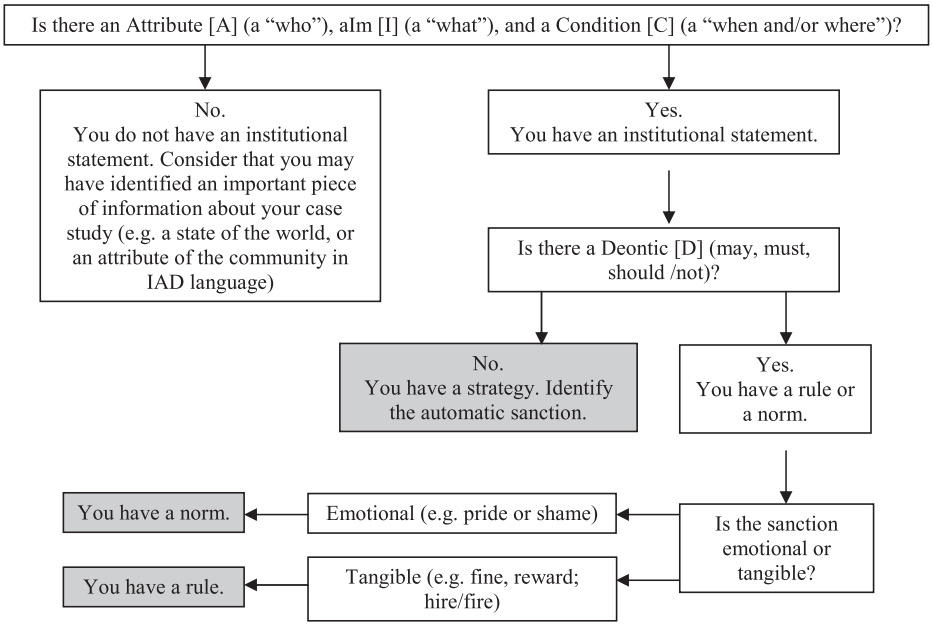

Figure 1. Decision Tree for Determining Whether You Have an Institutional Statement.

choice level of analysis focuses on policy decisions about the choice of institutional statements that govern operational activities. The constitutional level of analysis is concerned with the authorized actors for collective-choice decisions and the institutional statements governing those decisions (Ostrom, 1995).

A third characteristic of an institutional statement is its classification, which describes what the statement is about; Ostrom identifies seven types (Ostrom, 1995) (Figure 3). *Position* statements are about creating positions (e.g., volunteer, executive director), the number of positions, and how many people can be in a position. *Boundary* statements concern a person's eligibility to enter into and exit from a position (e.g., educational requirements). As such, every boundary statement has an associated position statement. *Information* statements are about information types, sources, and flows. *Payoff* statements assign costs paid and benefits received to actions or outcomes. Typically, these are monetary or legal. *Aggregation* statements concern joint control over a particular action. As such, every aggregation statement has an associated choice statement.

Ostrom calls *choice* and *scope* classifications "all other" categories, since they are more general and capture anything that does not fall into the other classifications above (Ostrom, 1995, p. 209). Choice statements focus on actions while scope statements focus on outcomes. Because monitoring is key to an institutional statement being a rule or norm, therefore, when monitoring *outcomes* is easier than monitoring *actions*, scope statements may be more appropriate than choice statements (Ostrom, 1995, p. 209).

We drew heavily on Schlüter and Theesfeld's (2010) distinctions between strategies, norms, and rules. First, they use "sanctions" to mean both negative and

Table 2. Examples of Levels of Analysis

Level	Definition	Example
Constitutional	Prescribing, invoking, monitoring, applying, enforcing (e.g., an organizational policy that forbids discrimination)	A state-level policymaker, or an organization board member, establishes regulations and guidelines for natural resource management decision processes, and decides who can be involved in those processes
Collective-choice	Prescribing, invoking, monitoring, applying, enforcing (e.g., a group of employees conducting an interview or hiring a person)	Staff of an organization are allowed to determine which management techniques should be used, or criteria (who, where, how) for their use
Operational	Provision, production, distribution, appropriation, assignment, consumption (e.g., an employee conducting his/her assignment)	Staff or volunteers of an organization are allowed to implement particular management techniques on the ground

positive consequences of not following or following an institutional statement. Second, they situate the types of sanctions associated with rules, norms, and strategies along a continuum (Figure 4). Schülter and Theesfeld follow Ostrom's definition regarding what constitutes a rule: an Or Else that is the result of collective action; the threat of the tangible sanction is backed by another rule or norm that changes a deontic in a related institutional statement; and there is a prescription regarding monitoring violations (Ostrom, 1995, p. 150).

Norms, in Schlüter and Theesfeld's continuum, carry emotional sanctions that result from one's own, or another person's, response to an action or outcome. For example, one may feel pride upon facilitating conversation between two fractious

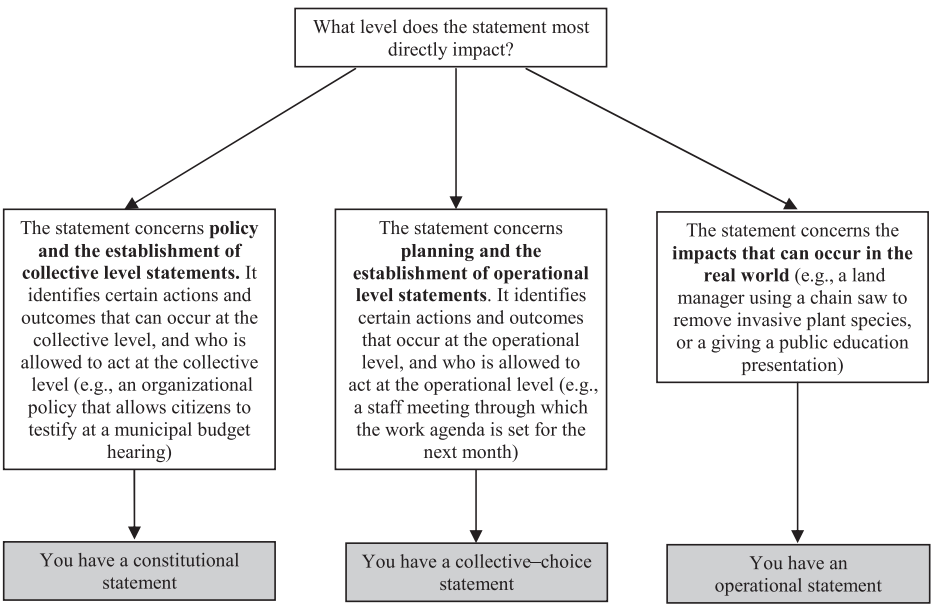

Figure 2. Decision Tree to Determine the Level of the Statement.

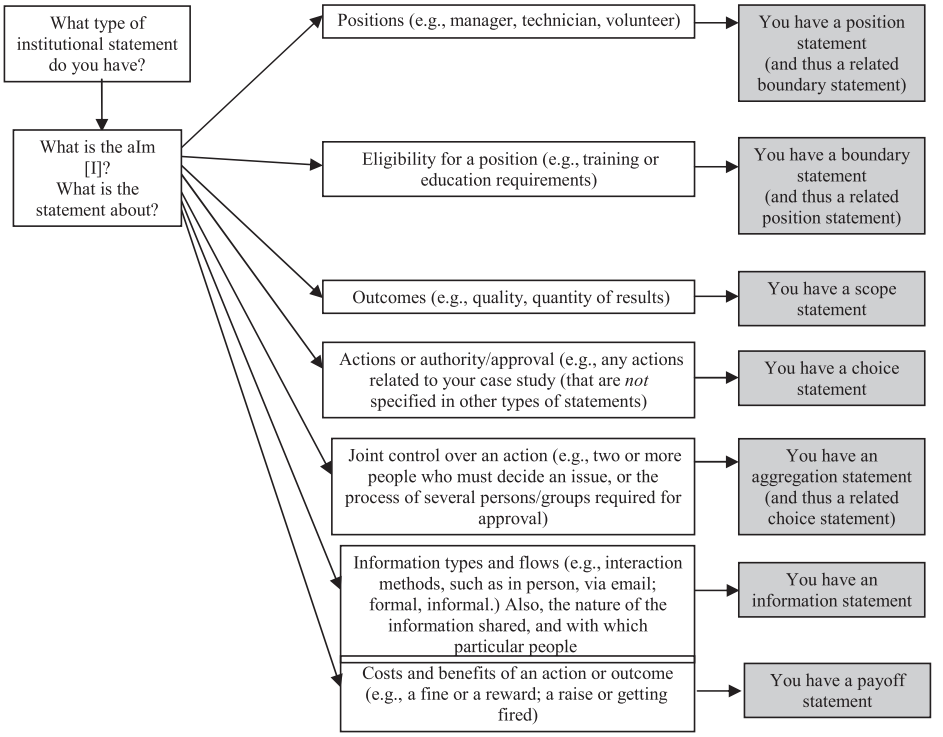

Figure 3. Decision Tree for Determining the Statement Classification.

colleagues. Conversely, one may feel guilt or shame for not participating in a conversation with a colleague. Such emotional sanctions have been operationalized in the lab by Ostrom as delta parameters, which represent the intrinsic benefits or costs of obeying an institutional statement (Ostrom, 1995, p. 121). Emotional sanctions may, at times, meet the definition of an Or Else (see above), and therefore may be a sanction for a rule rather than a norm. Consider the Or Else of shunning in some religious communities, as an example.

Schlüter and Theesfeld (2010) suggest that strategies are defined by automatic sanctions. Unlike Or Elses, automatic sanctions are not imposed by another person

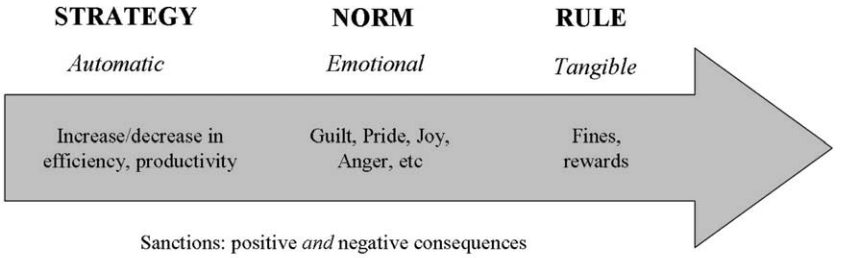

Figure 4. Strategies, Norms, Rules, and Their Associated Sanctions. Based on Schlüter and Theesfeld's (2010) Diagram.

but are the automatic outcome of an action. This well-worn joke provides a good example of an automatic sanction; a guy goes to see his doctor:

> Guy: "Hey doc, every time I drink my coffee, I get a sharp pain in my eye."
> Doctor: "What do you take in your coffee?"
> Guy: "Cream and sugar."
> Doctor: "Have you tried removing the spoon?"

The strategy and its automatic sanction are "remove your spoon from your coffee cup or you'll get a painful poke in the eye from your spoon when you drink your coffee."

A more real-world example of a strategy is that of driving. If you drive on the wrong side of the road, you may get into a serious accident; that is, drive on the correct side of the road (the strategy) or risk death (automatic sanction). An important component to this example is that there are also applicable rules and norms regarding the side of the road on which one should drive, that is, the presence of a strategy does not preclude the presence of a norm or rule, or both. In fact, in Schlüter and Theesfeld's framing, while strategies only have automatic sanctions, norms may have both automatic and emotional sanctions, and rules may have automatic, emotional, and tangible sanctions.

This is not the divergence from Ostrom that it may at first seem. Ostrom also recognizes that there are *consequences* (sanctions) to *all* actions:

> We are, of course, aware that all actions have consequences as pointed out to us by many students... The difference that the OR ELSE makes is that the consequence specified by the rule would NOT have occurred without the rule being in place and being enforced. (Ostrom, 1995, p. 298; emphasis in the original)

Schlüter and Theesfeld, then, are operationalizing this point as they conceptualize the sanctions associated with rules, as well as norms and strategies, as moving from consequences with no human imposition (automatic), to human-induced emotional consequences (norms), to human-induced tangible consequences (rules) (Figure 4).

Context: The RESTORE Project

Funded by NSF's Dynamics of Coupled Natural Human Systems program, RESTORE explored the links between ecological restoration decision making and implementation processes and biodiversity outcomes in oak woodlands in the Chicago Wilderness region, essentially asking, "Does social process affect biodiversity outcomes?" The Chicago Wilderness area spans 38 counties around the Chicago metropolitan area and its members include large county departments, public gardens, small land trusts, universities, and volunteer groups (chicagowilderness.org). We

focused on 10 groups in Chicago Wilderness that conduct restoration of oak ecosystems, purposefully selecting them across three management categories: manager-led (the land owner is dominant in decision making), co-management (high degree of volunteer autonomy), and research-led (scientific exploration is central). The RESTORE project sought to describe, compare, and contrast the various decision-making styles of Chicago Wilderness restoration practitioners using a variety of analytic approaches. Using the IAD framework and ADICO syntax to identify institutional statements used in these decision-making processes was one method we used to make comparisons between organizations and decision-making processes. Data on vegetation, soil properties, invertebrates, and other ecological data were also collected for each restoration site.

We conducted 80 semi-structured confidential interviews with 76 individuals, and observed over 50 organization meetings and ecological restoration workdays across the 10 case study organizations. Those interviewed were restoration decision makers holding different positions and with varying authority. The interviews were extensive and covered the respondent's background and job responsibilities, their assessment of the natural area in question, the ways in which decisions about ecological restoration were made, and the importance and inclusion of the public and resources such as money and labor in decision making. Because components of the IAD framework were not the only issue of interest, the interviews asked about a wide range of issues, though some questions and probes were designed specifically to elicit information about rules, strategies, and norms.

Interviews and fieldnotes were analyzed by themes and systematically coded for further analysis using NVivo (Miles & Huberman, 1994) (QSR International Pty Ltd., Version 9, 2012). The codes captured broad themes, such as "management actions," "perceptions of landscape," "decision information," "emotion," and "actors." Coding for emotion included categories such as anger, disgust, happy/joy, and awe/wonder. The emotion analysis, in particular, aided in our assessment of institutional statement type (rule, norm, strategy). Details on RESTORE can be found in Westphal et al. (2014).

Developing the Institutional Statement Extraction Process

Following procedures similar to those used by Basurto et al. (2010) and Siddiki et al. (2011), we attempted to use NVivo to code for institutional statements within a broad code "decision information." Using NVivo and similar software that supports qualitative analysis is a standard approach to analyzing qualitative data using any number of theoretical approaches, but it did not enable us to extract institutional statements. We could not select a sentence, or even a paragraph, and effectively code it to IAD and ADICO elements. Wherein rules are concisely stated in written policy, our respondents did not list the rules, norms, and strategies used in ecological restoration. Rather, they described and summarized, in anecdotes and personal assessments, "how things get done" and how they felt about it. Furthermore, institutional statements, or components of a statement, could be talked about in multiple sections of an interview, or within several different interviews or other fieldnotes.

Since the traditional thematic coding method failed, we took a different approach: manual interpretation and extraction of institutional statements. We selected a subset of our data to develop our approach, ensuring that we included a diverse representation of organizations, positions, and levels of authority. Using a spreadsheet template, we collectively extracted statements for several transcripts, and then completed the remaining interviews in the subset individually. We carefully re-read each interview, looking for how respondents described typical decision making within their organization (we provide examples of this evaluation process later in the paper). The spreadsheet template included columns to record the case, respondent code, the institutional statement in "plain English," each ADICO component (Attribute, Deontic, aIm, Conditions, Or Else), level, classification, type, and notes (Table 3). With this method, we effectively deconstructed the more functional definition of institutional statements—that is, "how things get done"—into the conceptual definition of an institutional statement. Notes could include key phrases, excerpts, or analytical "nuggets" drawn from the statement. They allowed us to return to the fieldnotes themselves and assess contextual information around the statement to better gauge its strength and value.

An interrater reliability check on this initial subset resulted in 80 percent agreement, which is regarded as a very strong score (Everitt, 1996). We discussed the remaining 20 percent of statements that one of us extracted that the other did not, and we agreed with the institutional statements found by the other. This provides evidence for the need to have multiple researchers analyzing the data. Next, we extracted institutional statements from all of the remaining interview transcripts and fieldnotes. We discussed and combined our individual lists of institutional statements. Statements were considered "duplicates" when the same statement was extracted from multiple respondents. Multiple expressions of a given statement indicated that they were "shared" and were often a sign of a strongly followed institutional statement (we discuss the idea of shared understanding further below). To make it easier to find duplicates, we arranged statements into groups of similar topics, based on the thematic codes of import (e.g., Land use planning; Restoration planning; Communication; Implementation).

We continued to review and discuss our lists, refining the type, level, and classification of institutional statement where needed. We repeated this review process until we were no longer changing rules to norms, scope to choice, and so forth. Next, we uploaded the complete set of statements into NVivo where we could analyze them in the context of the full dataset of interview transcripts and observational fieldnotes. At this stage, we included additional members of our social science team in discussion of the statements to ensure that our institutional statements made sense to those knowledgeable about the cases and data but not immersed in IAD and ADICO.

Finally, we verified that the differences in the number of statements in a case were not an artifact of the amount of data we had per case. That is, if we were to use the *number* of rules, norms, or strategies from a single case in an analysis, we needed to be sure that the larger number of them was not due to having talked with more people in that case and therefore having more text from which we extracted institutional statements. This was done by checking the number (and type) of field notes

Table 3. Data Template for Documenting Institutional Statements, Where: Case = Organization, Who = the Person from Whom the Excerpt is Taken; Statement = the Full Institutional Statement; A,D, I, C, O = Each ADICO Syntax Component; Level = Operational (O), Collective-Choice (C), or Constitutional (Co); Class = Choice (C), Scope (S), Position (P), Boundary (B), Aggregation (A), Information (I), or Payoff (Po); Type = Strategy (S), Norm (N), or Rule (R); and Notes = Additional Comments or Excerpts Deemed Helpful by Researcher

Case	Who	Statement (rule, norm, and strategy)	Attribute	Deontic	I aim	Conditions	Or Else	Level	Class	Type	Notes
R2	WX	Manager may collect seed locally (CW area, own site, fp's, and even up to WI and Iowa)	Organization restorationists		Collect seed	Locally (own site, forest preserves, up to 200+ mi)		O	C	S	Considers this "restricted," farther places are rare; collect mostly from own site
R2	WX	Must make sure that management program fits everybody's needs as best as possible-org divisions/foci	Organization	Should	Balance all aspects of org depts, goals, etc.	Always		C	C	N	"I think that's part of, I might say cultural upbringing within this institution"-implied emotionality: risk weakened joint understanding and group cohesion

for each case against the number of statements we extracted. We found that cases with fewer notes or interviews did not necessarily have fewer institutional statements, and those with more notes did not have more statements (Westphal et al., 2014). This laid the groundwork for future comparative analysis of the kinds of institutional statements across groups.

Overcoming Challenges in Extracting Institutional Statements

In the following sections, we describe in more detail how we evaluated our data and extracted each of the ADICO syntax components, to determine the level, classification, and institutional statement type. We present qualitative data excerpts (and in some cases several excerpts that lead to a single statement), a description of how we evaluated those data, and examples of institutional statements that were extracted from those data (research participant names are pseudonyms). We begin with the ADICO syntax, and then discuss each attribute of an institutional statement in turn: the level (e.g., operational), the classification (e.g., choice or scope), the type (e.g., rule, norm, or strategy). We also discuss the process to determine whether a proposed institutional statement is shared.

Identifying Each of the ADICO Syntax Components

As described above, we extracted each of the ADICO syntax components (Table 1; Figure 1) for each institutional statement we identified. Some of these were relatively easy, others took more consideration. We followed Siddiki et al.'s (2011) suggestion that "when applicable, imply components when they are not explicitly provided" (p. 89). This was important, because people do not speak "institutional statement"; instead, ideas are often left partially stated, even in the most structured of interviews. We did, however, require evidence in the data to support our inferences; often, our task was to weave together data bits from multiple sources to form support for the various components of an institutional statement. We describe our process below.

Identify the aIm (I) (and the Attribute and Condition). The aIm is the "what" in an action, such as "remove invasive species." All institutional statements have an attribute (A), an aIm (I), and conditions (C), but since the attribute (the "who") was generally obvious in our study, and since conditions in our data tended to be the default "at all times and in all places" (Crawford & Ostrom, 1995, p. 149), we found it most important to first establish the aIm (the action or outcome; the "what"). In our data, examples of aIms included "seek out public opinion," "defer to wildlife biologists," and "purchase land." Identifying the aIm is also useful because the aIm is used to determine the classification of the statement (position, choice, etc.) (Figure 3).

Identify the Deontic (D) and the Sanction (O, for Or Else). The deontic identifies the extent to which the institutional statement is prescriptive, or how strongly the statement is (supposed to be) enforced. Deontics that oblige a person to act include "should" and "must," while deontics that forbid a person to act include "should not" and "must

not." In both scenarios, "must" indicates a stronger obligation and is likely to be associated with a rule, while "should" could be associated with a rule or a norm.

Recall that the sanction can be automatic (for strategies), emotional (for norms), or tangible (for rules), and that a single institutional statement may have more than one sanction (e.g., shame and a fine) (Figures 1 and 4). Also, recall that the sanctions can be graduated, in that first- or second-time violations may not result in the strongest sanction, but repeated offenses ultimately lead to a sanction being applied. An obvious example is sanctions in most U.S. states for driving under the influence of alcohol or drugs. These sanctions start with fines but can be much stronger, like permanent loss of driving privileges, with repeated, or grievous, offenses. We coded rules, norms, and strategies by the evidence we had for the strongest possible sanction, from automatic, to emotional, to tangible.

Identifying the Level (Constitutional, Collective-Choice, or Operational) of the Institutional Statement

Determining the level—constitutional, collective-choice, or operational—at which the institutional statement operates can be a tricky because, "all rules are nested in another set of rules that define how the first set of rules can be changed" (Ostrom, 1995, p. 58; Table 2). While we could infer institutional statements that were not mentioned directly (e.g., mention of elected officials alludes to all of the rules surrounding voting and elections), we mostly limited ourselves to those for which we directly had data. This is also what Basurto et al. (2010) did, arguing that each statement was its own unit of analysis.

Occasionally, however, we had evidence for institutional statements that were nested at multiple levels. For example, consider the following statement: "*Volunteers give testimony at budget hearings*." This is an *information* strategy because the volunteers are conveying information that increases awareness of, and, they hope, subsequent financial support for, restoration conducted by volunteers. It is *operational* because it is "on-the-ground" and is not about making guidelines for on-the-ground actions, and it is a strategy because there are no Or Elses if a volunteer does not testify, nor did we have evidence of norms that they should testify. However, this strategy is possible because it is nested within this collective-choice information rule: "*Volunteers may give testimony at budget hearings*." Further, this collective-choice rule is nested in the constitutional rule that *citizens may present their interests to their elected officials*; the rule specifies who can participate in policy-making (Ostrom, 1995). No one directly cited these higher-level rules, but they referred to how the volunteers could do this and staff could not. Here, there is an enforceable condition that the volunteers are citizens of the county; they can testify in their county, but not in other counties (Figure 2).

Identifying the Institutional Classification (Scope, Choice, etc.)

Several of the institutional statement classifications are straightforward to identify (Figure 3). Position, boundary, even information statements were relatively

obvious in our qualitative data. In fact, Ostrom even concedes that position and boundary rules are often not all that interesting (Ostrom, 1995, p. 193). In contrast, deciphering choice, scope, and aggregation classifications is not so simple, and payoff rules proved to be more nuanced in our data for several reasons we discuss below.

Is This a Choice or Scope Institutional Statement? A recurring struggle we had concerned deciding whether an institutional statement was about an outcome (and therefore a scope statement) or an action (and therefore a choice statement). Recall that Ostrom (1995) describes these two classifications as catch-alls for institutional statements not captured by information, aggregation, position, boundary, or payoff classifications. For example, the importance of "follow-up" in ecological restoration (e.g., applying herbicide to remaining buckthorn stems after cutting) was evident in all of the organizations. However, it was often difficult to determine whether follow-up is a condition (C) of an action, and thus a choice statement, or a description of an outcome, and thus a scope statement (Ostrom, 1995, p. 208). Although the process of parsing scope from choice got easier over time, actions beget outcomes and specified outcomes imply necessary actions; the two can be hard to tease apart in day-to-day conversation. Consider the following interview excerpts:

> 1. *Bob mentions that Sue has sometimes pleaded with him to not give her another piece of land to maintain—Bob seemed to be cognizant of the limitations that Sue and her staff have, and does not want to approach management as a triage (e.g., suddenly taking out a big chunk of buckthorn, or some other management action that shakes up the system drastically) if the follow up—the stewardship and nurturing—can't happen afterwards.* (Bob, department director—interviewer notes from unrecorded interview)
>
> 2. *If we haven't met some of the goals yet, it's probably just time constraints, manpower [sic], that sort of thing. I think we're moving in the right direction toward them, but they're not things we can do sometimes all in one shot. And even with some of our clearing, we've learned that it's best to do it somewhat slowly so that we can keep up with it and do the follow-up work. Rather than opening up huge areas and then having resprouts and other things. Can we then effectively manage the follow-up work to the clearing? Do we have the manpower [sic] to do that? Do we have the time?* (Evelyn, ecologist)

From these data, we derived the following institutional statements[1]:

1. *The Director **[A]** gives new management projects to the crew **[I]** only when follow-up is possible **[C]**.*
2. *Restorationists **[A]** conduct clearing projects slowly enough **[I]** so that they can keep up with it and conduct follow-up work **[C]**.*

We considered the first statement a choice statement because the likelihood of follow-up was a condition of the department director's action (choice and authority)

to add additional projects to the crews' responsibilities. In contrast, the second statement is a scope statement, in which the outcome of working slowly is defined as the aIm; the outcome is the *ability* to not outpace staff ability to maintain the work, thereby increasing the likelihood of restoration success.

Another example of the challenge in distinguishing between choice and scope statements includes statements that concern balancing and prioritizing goals. Consider the following interview excerpts about deciding whether to take action and what actions to take:

> 1. *Primarily, [my job is] overseeing the implementation of restoration management. So we have prescribed fire, we have deer management, we have vegetation management, we have invasive species, we have restoration projects that come in and come out the door. Many of those are tied to grant funds. Now they're being tied to [increased public funding]. You know, we passed this successful [bill], and so we have [X amount of dollars] to spend… And those are all projects that we identified after we had a successful [bill]. Monies are coming and going and a lot of that is what sort of dictates what we do.* (Allen, manager)

> 2. *Kim: Two years ago we had 6 acres of turf grass management dumped in our laps. Which is a lot.*
> *Interviewer: And you're still in charge of it now?*
> *Kim: Yeah. And that is almost the number one priority because they are so high profile, and there's a legal ordinance in town for your grass.*
> *Sam: For example, the [neighbors], would complain about the dandelions growing in the parkway-our parkway here, across from their street. So, we have to take more of our time to control dandelions on our parkways.*
> *Kim: It's tough too, it's like the same thing, it's when the flowers, when the weeds go to seed, the grass you gotta' mow it, it's too long for our equipment… it's in our equipment for weeks.*
> *Sam: So it's a total different management. Landscaping.* (Kim and Sam, restoration technicians)

From these data, we derived the following institutional statements:

1. *Manager **[A]** prioritizes sites **[I]** when funded **[C]**.*
2. *Managers **[A]** balance restoration and landscaping/maintenance (trash, grass mowing) on all sites **[I]** always and everywhere **[default C]**.*

In the first statement, sites with funding are chosen over those without; we consider choosing an action, and thus this statement is a choice statement. In the second statement, although there is a town ordinance (a rule) that landscaping must happen, this statement refers to the fact that crews are not making a choice of one task or another, but rather allotting their time and effort in the field in ways that achieve a particular outcome—that is, undertaking both restoration and landscaping. Thus, this example is a scope statement.

Is This a Choice or an Aggregation Institutional Statement? Another challenge we encountered was parsing out authority (captured in choice statements) from joint control (captured in aggregation statements). Both of these actions are central to decision making processes, in any situation. Consider the following interview excerpts:

> 1. . . . *But it [the site] was languishing under the buckthorn. We're thinking, "great, this guy is wonderful. He's gonna come in, we're gonna have a great workday, we're gonna save this place turn it around." Turns out, he like leaves the area and James approves some other crazy guy to become the steward for the site just because, you know, "I think he's a good guy." He has a workday out there. There were 50 kids. After a rain. They walked back and forth and back and forth and back and forth.* (Zoe, ecologist)
>
> 2a. *Sarah said that the "higher ups" occasionally throw out projects for immediate consideration. I asked if they occurred at least once a year, and she said yes.* (Sarah, technician—notes from unrecorded interview)
>
> 2b. *Erika also talks about communications received from "the higher ups"—she's not sure who, exactly—that go through Val to the staff to tackle aesthetic issues such as: clearing piles of brush; clearing brush on the sides of the road. . .; and clearing dead herbicided plants near the road. . .* (Erika, technician—notes from unrecorded interview)
>
> 3. *Well, we have our. . . our office of natural resources. And then you may have input from other departments, like maybe our planning department, for instance, or operations. Ultimately, it's probably going to be some of the directors in some of those departments. Like in ours, Jill is the director of the office of natural resources, and Phil is directly below Jill. So it's going to be probably people like that. They're going to ask for input from us on things, but ultimately, especially if it's controversial or you have things going on like that, it would probably be individuals like that would be making the final decision. And they may say we're basing this off of recommendations by staff and such.* (John, ecologist)

From these data, we derived the following institutional statements:

1. *Volunteer manager* ***[A]*** *must* ***[D]*** *approve stewards for a site* ***[I]*** *always and everywhere* ***[default C]****, or else volunteer manager risks reprimand (or more) and volunteers risk losing privileges* ***[O].***
2. *Natural resources manager and her staff* ***[A]*** *must* ***[D]*** *conduct actions dictated by "Higher-ups"* ***[I]*** *always and everywhere* ***[default C]****, or else risk losing job* ***[O].***
3. *Directors* ***[A]*** *must* ***[D]*** *make decisions* ***[I]*** *when action is controversial, not agreed upon by staff* ***[C]****, or else risk losing job* ***[O].***

In the first statement, approval is the action, and James has the authority to grant it. This authority is evidenced by the inability of Zoe to do anything about the new volunteer who she perceives to be damaging the site by holding workdays after a rainy day (the damage is soil compaction from people walking in the area).

Therefore, this is a choice statement that identifies James as the only person who can approve new stewards. The second statement (extracted from 2a and 2b) describes actions being dictated to staff, with no discussion or joint control; therefore, it is also a collective-choice statement. In the third statement, there is intervention by the higher-up staff only after the group has discussed and is unable to arrive at an answer because the decision is controversial or complicated by the needs of other departments. The higher-up then makes a decision with the insight of the group—this is a central part of the day-to-day job as the manager. Therefore, this is an aggregation statement.

Payoff Institutional Statements. Recall that payoff statements are prescriptions for which the aIm involves paying or receiving something of value. For example, consider the following excerpts:

> 1a. *Interviewer: . . . this may not apply to you as [volunteers]. But are there ways that finances, that money actually limits what you can do*?
> *Ed: No.*
> *Tim: [The organization] is very good about setting aside enough money for tools and herbicide.* (Ed and Tim, volunteers)

> 1b. *But [organization A]—that was the source of the [project] money. And that money went to contract work to close up a ditch . . . in order to restore the original hydrology. And there's money there for contract burns. So, that was a source of outside money that allowed us to do something that we had wanted to do for a long time. But couldn't do ourselves.* (Ed, volunteer)

From these data, we derived the following institutional statement:

1. *Organization X* ***[A]*** *gives funds to volunteer groups* ***[I]*** *for some projects* ***[C].***

The statement is a payoff because it involves an organization giving volunteers funds.

Other of our data suggested payoffs of a different sort; those that are neither monetary nor legal sanctions. For example, consider the following interview excerpts:

> 1. *Interviewer: What do you think is the best part about your job?*
> *Agnes: [Pause]. Relationships with the people, ya know, with the volunteers and regulars.* (Agnes, volunteer)

> 2. *There's a lot of good things. I think it's truly, I guess having an actual impact in, restoration is the word, but I don't know that necessarily restoring versus enhancing or recreating. . . But truly having a hand in the permanent restoration of the landscape. Because the [organization's] land is secure, basically forever. . . And truly have an impact in that type of work is the best thing.* (Phil, ecologist)

> 3. *Getting out in the field and actually doing the work. I don't have any ambition to move beyond this position. I certainly would like to move on and up. But at the*

> *same time, you do that, then you distance yourself from what I truly enjoy doing . . . being out in the field and doing that work.* (David, ecologist)

From these data, we derived the following institutional statements:

1. *Volunteers* ***[A]*** *may* ***[D]*** *receive rewarding social relationships* ***[I]*** *with enough time spent volunteering* ***[C].***
2. *Restorationists* ***[A]*** *may* ***[D]*** *receive enjoyment and pride from seeing physical changes in the natural area* ***[I]*** *always and everywhere* ***[default C].***
3. *Restorationists* ***[A]*** *may* ***[D]*** *receive enjoyment from working outside* ***[I]*** *always and everywhere* ***[default C].***

These statements have clear payoffs in that the restorationists receive something of great value, even though that value is not monetary. In these statements, the aIm is receiving positive emotions from conducting restoration work. The emotional response is not instigated by another person, but rather from the land and the restoration work itself.

Identifying the Type—Rules, Norms, and Strategies

In this section, we focus on the issue of parsing rules from norms from strategies (Table 4). To determine the type of statement, the deontic and the sanction must be identified. Unlike Basurto et al.'s (2010) coding of rules (in which an institutional statement was determined to be a rule only if a tangible sanction was explicitly stated), we were able to imply tangible sanctions from the interview data, and through an understanding of graduated sanctions operating in the case (Siddiki, Basurto, & Weible, 2012).

As we were coding for norms, we relied on Schlüter and Theesfeld's (2010) recognition of both positive and negative emotional sanctions (Figure 4). We coded statements as norms *only* when emotions were explicitly evoked by respondents as a response to (consequence of) an institutional statement (i.e., when there were clear delta parameters) and there was no tangible Or Else. Thus, despite an abundance of emotion in our interviews, we coded the majority of our institutional statements as strategies—institutional statements with no Or Else and no deontic.

Consider the following qualitative data excerpts and the corresponding institutional statements. The type of statement is different for each one because the sanctions are automatic (example 1), emotional (example 2), and tangible (example 3).

> 1. *If it's kind of business as usual, and we're burning these sections as normal, then—go ahead, I can make those calls. But if we're gonna vary that significantly and they want to, if I want input and "Hey, we're gonna do something new for burning." Then I would seek advice. . . Research has a real good understanding where thistles are burning, but now, if I was to burn any section that has not burned before, I would make that point to the research staff members. I'd say, "I'd like to do this. Here's why." And then we'd have the conversation.* (Val, manager)

Table 4. Using ADICO and the Type of Sanction as Criteria for Establishing Whether Institutional Statements are Rules, Norms, or Strategies

Type	ADICO Components	Sanctions	Additional Characteristics
Strategy	AIC	- Automatic consequences of not following (or following) a statement - Not established and carried out by another person - As such, there is no normative expression of obligation or permission (no deontic) - Not represented in the syntax (that is, no O for Or Else)	- Amenable to change without collective action
Norm	ADIC	- Delta parameters, or emotional consequences of not following (or following) a statement - May be just as strong as (or stronger than) rules in influencing behavior - May be graduated - Not represented in the syntax (i.e., no O for Or Else) - May also have automatic sanctions	- Can change over time
Rule	ADICO	- Tangible consequence associated with not following (or following) statement - May be graduated - Represented by Or Else (O) in the syntax - May also have emotional and automatic sanctions	- *Requires* previous collective action process to establish rule - Rules required to establish a monitor

2a. *We're pretty fortunate with our staff. Sue's been here twenty-five years. John, the plant ecologist has been here for twenty… So we're pretty fortunate.* (Phil, ecologist)

2b. *If I had a problem, I'd tell Sue. Or if I felt we weren't doing something—especially if we're burning. She'd always ask, "Do you guys feel comfortable with this burn, or do you have any concerns or anything like that?" And she always gave us… Any one of us could say, "No, I don't feel… The winds feel too strong." So, we could always have that option to call off a burn or anything like that.* (Kevin, ecologist)

2c. *Because, you know, but I'll take responsibility for it if there's a problem. And I think they know that.* (Sue, operations manager)

3a. *Interviewer: A little light bulb went on. Volunteers can go talk to board members.*
Manny: Exactly, I can't. I'm actually in violation of the law if I go talk to an elected official. Let's put it this way: If I go talk to an elected official to complain, the way I understand it, I'm breaking the law. On the other hand if I get a phone call from the boss and he says take board member so-and-so and give him a tour of such-and-such and explain to him what's going, that's okay. But for me to call up

and sit there and go, "you know, this is horrible, we shouldn't be doing this"—the volunteers can do whatever they want. If they don't like my decision they can go to our [boss] and say, "I don't like Manny's decision. I want this changed." Whereas, I can't go to [our boss] and say, "you know what? Heather made the dumbest. . ." I can't do that! That's insubordination. But yet, they do that to us all the time. (Manny, operations manager)

3b. *Interviewer: Can you offer feedback to the board about who you would like to appoint?*
James: No. We're not supposed to. We're not supposed to talk to politicians. Unless I get permission, I'm not supposed to talk to board members. (James, volunteer manager)

From these data, we derived these institutional statements:

1. *Manager* ***[A]*** *may go to research staff with management questions* ***[I]****, particularly about burning* ***[C]****.*
2. *Ecologists* ***[A]*** *should* ***[D]*** *go to Sue with restoration questions because she is experienced* ***[I]*** *always and everywhere* ***[default C].***
3. *Staff* ***[A]*** *must not* ***[D]*** *talk to board members* ***[I]*** *ever, unless given permission* ***[C]****, or else risk losing job* ***[O].***

We coded the first statement as a strategy because there is no evidence of an emotional or tangible sanction for communicating with research staff; in fact, when pressed, the respondent suggested the urgency to solve a conflict, or avoid one altogether, was being inflated. To Val, that interaction is an established action designed to ensure that all of the organization's goals are accomplished. In the second statement, while there is no tangible sanction (Or Else), there is an emotional sanction, making this statement a norm. As shown in the quotes (2a and 2b) from Phil and Kevin, the positive consequence is esteem and respect for a colleague (Sue), and, perhaps, pride for the colleague herself (2c). Almost everyone interviewed from this case alluded to this collegial esteem, built over years. More broadly, this organization talked about having "mutual support for each other," and they pride themselves on not having a written management plan and instead opting to regularly discuss plans together. In the third statement, it is clear that communication with the Board is not allowed, and that insubordination is an absolutely forbidden action. We can imply that committing insubordination may lead to dismissal from one's job. Therefore, with such a tangible sanction, this is a rule.

Applying the concept of emotional sanctions, or internal deltas, to extracting institutional statements bears another example. Consider the following interview excerpts, about communicating with colleagues and providing input on restoration decisions:

1a. *So you have to follow up on these sites. That's why. . . literally, I might go tour it and I might say to Jerry, "Hey there's an outbreak of these, and you know, we need to put it on our list."*
Interviewer: So you might go out there on your own, and take a walk?

Jeremy: Yeah, sure. Some of us will do that, often . . . often, actually. (Jeremy, volunteer)

1b. *So Jerry, I would definitely say, sets the agenda. But Jerry is also, you know, he's a good listener and he'll listen to other people. But I would say Jerry is definitely the most decisive and the one who has established the goals and established the strategy. And I've certainly talked to him, you know, given him my input, etc. Given him ideas. Given him suggestions and many other people have too. But it's very informal. Jerry's the director of restoration and other people kind of get their ideas in and, you know, we kind of act. . . We reach a consensus pretty. . . It's not formal. It's very informal how we reach consensus. You kind of talk about stuff and Jerry kind of drives it.* (Maria, volunteer)

2. . . . *We don't have good lines of communication, and we're not forced to. So, [staff] can do stuff and not really have to tell us . . . until something happens there that he doesn't like. Or, it can be my telling [another organizational subgroup] something, that I gave my approval. We just haven't really developed a team approach to things.*
Interviewer: You're saying that there are some in the [Organization] who are like "let us take care of that, we don't need to discuss it with you?"

James: Or, "We're going to do this whole. . . project and we're not going to tell the [volunteer] steward about it. Or the Volunteer Manager." That happens a lot of places, where we do things and we should be including the stewards. Or, Tom has asked for the thinning of certain tree species and our lead ecologist has agreed with that in principle, but when push comes to shove to do it . . . I don't know if that's a control issue, or . . . so, it's that kind of battle. (James, manager)

From these data, we derived the following institutional statements:

1. *Volunteers **[A]** may **[D]** give input on site goals, make observations, and give suggestions **[I]**, when possible **[default C].***
2. *Staff and volunteers **[A]** must **[D]** communicate **[I]**, when possible **[default C].***

Both statements are norms, the first with a positive emotional valiance and the second with a negative emotional valiance. For the first statement, interview data (1a and 1b) suggests that providing input is both desired and encouraged, and the positive sanction is group inclusion. In contrast, the second statement is associated with the negative consequence of conflict arising from the lack of communication, in which the negative sanction is, quite overtly, a "battle."

Ascertaining if a Statement Is Shared

Recall the definition of an institutional statement: "a *shared* linguistic constraint or opportunity that prescribes, permits, or advises actions or outcomes for actors" (Crawford & Ostrom, 1995, p. 583, emphasis added). Therefore, a final step in determining if something is, indeed, an institutional statement, is determining if it is shared among people in the given decision making situation, or used only by

someone acting independently. One way that we approached this was to look for related statements from respondents in a given case, and then across cases. For example, the following strategies conflict on details: "remove two-thirds of a seed population" and "remove three-fourths of a seed population." However, there is a larger shared meaning behind these operational statements: restorationists should leave some percentage of the base seed source intact.

Looking for statements said by more than one person is an obvious way to look for shared statements, but not the only way. We turned to our other data—related statements, observations, and interviews—to check for evidence of their shared nature. We looked for contradictory evidence as well. In all but one case, we did not have institutional statements that substantially contradicted each other, and so in most instances we accepted an institutional statement as shared if there was no evidence to the contrary. In the one case with contradictory evidence, we required direct evidence of shared use. We felt this was sufficient for assessing ecological restoration, a relatively low-risk endeavor. If we had been using institutional statements to study decision making in a trauma center, for example, we would have used tighter standard of what constituted a "shared" rule, norm, or strategy (Miles & Huberman, 1994).

Results and Discussion

In this paper, we illustrated the process we developed to extract institutional statements from interview data with people active in oak woodland restoration in the Chicago Wilderness region. Well over half of the 1,700+ institutional statements we extracted were strategies, the rest roughly split between norms and rules, although there were more rules than norms. We discuss below the ways in which this work informed our research questions, and some of the issues we faced with the extraction process.

By looking at the full complement of institutional statements, we found seven shared principles across all of the restoration groups, including attention to *qualifying* outcomes and outputs, such as invasives removal or seed gathering, rather than relying on the *quantitative* measures more common in extractive natural resource situations (e.g., allowable catch). Several of these principles are rooted in shared norms (rather than rules), such as "listen to the land," which captures the extent to which restoration practitioners turn to the land itself for guidance regarding appropriate actions to take (Watkins et al., 2015). At the same time, we were also able to differentiate between groups at a fine scale. Quantifying the numbers and types of institutional statements-in-use proved to be very useful, even critical, to integrating our word-based social science data with the numbers-based ecological field data collected by our colleagues. This process allowed us to use the appropriate research techniques to get the in-depth information about the restoration decision making process while also being able to effectively integrate these data with the ecological data collected on biodiversity at each of the sites (Westphal et al., 2014). This is not an easy divide to bridge, and was an effective use of the ADICO grammar.

Two aspects of the framework were either difficult or less useful in our project. The level of statement was not useful in our data. It could be that in other research or practice contexts the operational/collective-choice/constitutional differentiations would provide insight, but in our on-the-ground research context, it did not. We were challenged to differentiate between scope and choice categories in our data. We believe this is because ours was interview data about restoration activities, in which a simple change of phrase can shift the focus from an outcome to a choice and vice versa.

Other institutional statement types were of more use in our analysis. Aggregation statements indicated where there was more (or less) shared decision making. Information statements were helpful in identifying the pathways for communication, and combined with position and boundary statements, helped identify ways that groups had effectively solved problems (or not) within their restoration groups. We were able to use the aggregation and information statements, and the patterns they highlighted, in our agent-based models. With these models, we were able to test how inserting an institutional statement (or suite of related statements) into a different system might affect the decision-making process in this other group (Watkins, Massey, Brooks, Ross, & Zellner, 2013; Zellner et al., 2014).

Incorporating Schlüter and Theesfeld's (2010) work on sanctions as a defining mechanism for what is a strategy, norm, or rule helped overcome some of the challenges inherent in trying to extract institutional statements from interview data. Focusing on the types of sanctions that accompany an action helped us to classify them. While norms were fewest among our institutional statements, there were a significant number of them, and analyzed in the context of the full dataset, it was clear that norms were very important in guiding restoration decisions. Curiously, we found that manager-led cases had the most norms. That is, a larger percentage of the institutional statements in the more bureaucratic organizations were norms, as compared to the other management types (research-led and co-managed were roughly equal in the number of norms). This is somewhat counterintuitive—one might expect norms to be more influential in a volunteer group than in a paid job in a bureaucratic organization, but for organizations in our study, this was not the case. The importance of norms in guiding restorationists' behavior suggests that we need to know more about how norms, and not just rules, work in various social-ecological systems.

We found that occasionally the institutional statements our respondents discussed was not in use, but one they *wished* was in use. We documented these "desired statements" as a reflection of actions and outcomes restorationists wished were in effect, but were not. Such statement are not in the formal syntax, but desired statement could play a key role in any longitudinal analysis of an organization or decision-making process, providing insight into whether and how statements-in-use change over time.

We also found insight in the one case where we had real discrepancy and contradictions in the institutional statements, and a high number of "desired statements." These indicated the dysfunction present in this group. The dysfunction was something that some of the members in this case were aware of, but the extent and depth of the dysfunction was made very clear by the large number of contradictory and

desired institutional statements. This was useful from an analytic perspective, and also for potentially providing suggestions to improve the functionality of the decision making within this group.

Concluding Remarks

Our application of IAD and ADICO were novel in at least three ways: our data were qualitative interviews rather than policy documents, ours was a nonextractive natural resource situation, and we used the institutional statements as data in subsequent modeling and analysis integrated with ecological data to answer questions about a social-ecological system. The statement extraction process was difficult, but also produced meaningful outcomes and lessons learned. And while rules were prevalent for the restorationists we studied, we also found that norms played a very meaningful role in guiding decisions. Our work raises several important issues that can inform future research projects.

Our assessment of the institutional statements was useful in refining agent-based models of reaching consensus (Watkins et al., 2013; Zellner et al., 2014), and this points to a next step for application of the IAD and ADICO: apply it to addressing problems in real time. Pre/post interventional studies based on an in-depth understanding of institutional statements-in-use in a given social-ecological system could go a long way to help understand both the usefulness the ADICO grammar, and also provide solutions for problems faced in the real world. For example, would suggesting some process changes based on institutional statements for the one case discussed above that was rife with discord be useful in achieving smoother functioning in that organization?

With additional application, the role of norms will become more clearly understood. With that understanding, applying the grammar could help develop a clearer sense of when the focus of policy interventions should be rules, when the focus should be on norms, or when both need to be addressed. We expect that norms will be prevalent in extractive situations, too, but this has yet to be established. Desired statements are also worth further investigation, as they lent depth to the understanding of the decision-making process. Such statements would also be useful in a longitudinal assessment of an organization. How often and under what circumstances do desired statements become statements-in-use, and when do they not? This type of analysis could provide insight into the evolution of organizations and the institutional statements that guide them.

ADICO has yet to be widely applied, particularly to qualitative data, perhaps because, as compared to policy documents, people don't talk in institutional statements. We hope that the way in which we have described the challenges inherent in analyzing qualitative data to uncover institutional statements, and steps we took to handle these challenges, will help others use the syntax more explicitly—in more social-ecological systems and with a variety of data types. It is only through such applications that we can determine the usefulness of the syntax in understanding not only what institutional statements are used, but which ones contribute to successful natural resource management. With further study, scholars may develop a

procedure by which researchers or practitioners could identify when conducting a detailed extraction of institutional statements would be beneficial, when looking at norms may be more effective at reaching policy ends than only addressing rules, or when attention is needed across all three—strategies, norms, *and* rules. By gaining such understanding, we will have one more useful tool to help create sustainable social-ecological systems.

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Note

1. The data we present may also be a source for other Institutional Statements than those we highlight in each section. We want to stay focused on specific points, and indicating all of the Institutional Statements each data example supports would reduce the clarity we aim for.

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