EVALUATING THE PRODUCTIVITY OF COLLABORATIVE GOVERNANCE REGIMES: A PERFORMANCE MATRIX

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ABSTRACT: Experiments in collaborative governance over the last several decades have transformed the way the public’s business is getting done. Despite growing interest, empirical research on the performance of cross-boundary collaboration continues to be limited by conceptual and methodological challenges. This article extends previous research to develop a performance matrix for assessing the productivity of collaborative governance regimes (CGRs). Three performance levels (actions, outcomes, and adaptation) are addressed at three units of analysis (participant organizations, the CGR itself, and target goals), creating a performance matrix of nine critical dimensions of CGR productivity. This performance matrix is illustrated with a case study of a CGR operating on the U.S.-Mexico border.

KEYWORDS: evaluation, collaborative governance, collaborative governance regimes, evaluation, performance, productivity.

For over two decades, emerging systems of collaborative governance have attracted the attention of scholars and practitioners in multiple disciplines, including political science (e.g., Ansell & Gash, 2008; Dryzek, 1990, 2010), public administration (e.g., Bingham & O’Leary, 2008; Emerson, Nabatchi, & Balogh, 2012), public management (e.g., Agranoff & McGuire, 2003), planning (e.g., Forester, 1999; Innes & Booher, 2003; Margerum, 2011), conflict resolution (e.g., Costantino & Merchant, 1996; Susskind, McKearney, & Thomas-Larmer, 1999), and environmental studies (e.g., Koontz et al., 2004; Scholz & Stiftel, 2005; Susskind, Camacho, & Schenk, 2010). Collaboration across boundaries—whether among public agencies, across governmental levels, or...
with the private and civic sectors or the general public—is increasingly called on to handle the complex, multijurisdictional challenges we face in the twenty-first century (Frederickson, 1999; Kettl, 2006). Experiments in collaborative public management, multipartner governance, public service networks, hybrid sectoral arrangements, co-management regimes, participatory governance, and civic engagement have evolved, and in some cases, have transformed the way the public’s business is being done.

The growth of innovative collaborative governance systems has outpaced scholarship—researchers, practitioners, and students are working hard to understand how such systems emerge, what makes them work, and whether they are producing their intended effects (Andrews & Entwistle, 2010). The literature on cross-boundary collaboration has identified several potential benefits, including improved coordination of activities, better leveraging and pooling of resources, increased social capital, enhanced conflict management (prevention, reduction, and resolution), better knowledge management (including generation, translation, and diffusion), increased risk-sharing in policy experimentation, and increased policy compliance (Agranoff, 2008; Agranoff & McGuire, 2003; Leach & Sabatier, 2005; Provan & Milward, 1995). However, empirical research on the production of these benefits and other collaborative achievements faces conceptual and methodological challenges. For example, we lack clear, standardized definitions of terms such as “network,” “governance,” and “collaboration,” which in turn has stymied efforts at operationalization and measurement. Moreover, collaborative governance usually happens among several autonomous actors and over time, which means that outcomes must be measured at multiple levels and stages. These and other challenges have created real obstacles to the robust examination of collaborative performance.

In this article, we construct a multidimensional framework to evaluate the productivity of collaborative governance regimes (CGRs), that is, the extent to which CGRs produce results. Specifically, we use the integrative framework for collaborative governance (Emerson et al., 2012) to develop the logic model approach to performance evaluation advocated by Thomas and Koontz (2011). We focus on three connected levels of collaborative performance—actions, outcomes, and adaptation (see also Cooksy, Gill, & Kelly, 2001; Millar, Simeone, & Carnavale, 2001). Next, drawing on Provan and Milward (2001), we identify three units of analysis at which to assess productivity—participant organization, the CGR itself, and target goals. Together, these levels and units of analysis combine into a matrix that specifies nine critical productivity dimensions for CGR performance. We conclude by illustrating the performance matrix with a case study of a CGR located in the Coronado National Forest along the U.S.-Mexico border. Before developing and presenting our matrix, we briefly review
the performance measurement literature and present the integrative framework for collaborative governance.

**Performance Measurement and Collaborative Governance**

Accountability for performance has become (and will likely continue to be) an important feature of public management in nations around the world (Yang, 2011; for a comparative discussion of performance systems, see Bianchi & Rivenbark, 2012). In the United States, performance measurement and management within public agencies has been a standard, yet evolving, practice since the early 1990s with the publication of Osborne and Gaebler’s (1992) best-selling book, *Reinventing Government*. On its heels, in 1993, President Clinton created the National Performance Review and Congress passed the Government Performance and Results Act (GPRA). Starting in 2002, President Bush’s administration continued to advance the implementation of GPRA with its Program Assessment Rating Tool (PART). Although President Obama discontinued use of PART, he too has focused on performance management with the creation of performance.gov and the signing into law of the GPRA Modernization Act in 2010.

Over time, the government “performance rhetoric” has led to a number of approaches for assessing the outcomes of intergovernmental cooperation (Radin, 2000); however, measuring the performance results of cross-boundary collaboration remains difficult and complex (Agranoff & McGuire, 2001; Chen, 2008; Kettl, 2005; Provan & Milward, 2001; Radin 2006). Little agreement exists on what actually constitutes effective performance (e.g., Koliba, 2011; Provan & Milward, 2001), and traditional approaches to performance assessment do not capture well the generative and dynamic nature of these complex governance systems (Kim, Johnston, & Kang 2011). Moreover, the normative appeal of collaborating across boundaries to solve complex public problems or deliver public goods and services may have slowed the needed scrutiny of these rapidly proliferating forms of governance (Kettl, 2006; Koontz & Thomas, 2012). Regardless, measuring the productivity of cross-boundary, interorganizational, multistakeholder collaboration is now recognized as a critical public management task in this age of networked governance (Frederickson & Frederickson, 2006; Goldsmith & Eggers, 2004; Koliba, 2011; Koliba, Meek, & Zia, 2010; Moynihan, 2008; Turrini, Cristofoli, Frosini, & Nasi, 2010). This is particularly true for researchers in the fields of natural resource management and environmental conflict resolution (e.g., Emerson, Orr, Keyes, & McKnight, 2009; Forrer, Kee, & Newcomer, 2010; Koontz & Thomas, 2006, 2012), as well as in the field of public participation and democratic deliberation (e.g., Beierle 2002; Nabatchi, 2012).

Despite its importance, the evaluation of collaborative performance is hampered because researchers sometimes conflate *process* performance (i.e.,
the results of the collaborative process) with productivity performance (i.e., the resulting outcomes of collaborative actions). This is not surprising, given that “processes and [productivity] outcomes cannot be neatly separated in consensus building [and CGRs] because the process matters in and of itself, and because the process and outcome are likely to be tied together” (Innes & Booher, 1999, p. 415). However, we assert that advancing the study of collaborative performance requires the separation, and better articulation and specification, of the process and productivity sides of the performance equation.

Scholars have already given considerable attention to the assessment of process-related performance characteristics and benefits, such as social learning, trust, and other forms of social capital. Again, this makes sense, because relational matters are a distinctive feature of these emerging forms of governance. Processes are also more proximal and may be easier to capture and attribute to collaboration performance than the more distal results produced by collaborative activities. Formative evaluation, which examines performance during the operating cycle of a program, is likely to be of value for assessing process performance.

In this article, we focus on productivity performance, which we define as encompassing the actions, outcomes, and adaptation resulting from collaboration.1 Given this focus, we take a summative evaluation approach, which assesses performance at the end of an operating cycle (although we readily recognize that CGRs function and evolve over time). It is essential to assess both process variables and productivity variables (and their interaction) for a full understanding of the overall performance of collaboration. In other efforts, we integrate both parts of the performance equation—process and productivity (Emerson & Nabatchi, 2015). As a first step, however, we develop and specify collaborative productivity.

To do this, we employ the integrative framework for collaborative governance (Emerson et al., 2012; Emerson & Nabatchi, 2015), which allows for the separation of process and productivity performance. We also build on two significant contributions to the performance literature. First, in their work on cross-sector public service networks, Provan and Milward (2001) suggest the need to measure performance at three different units of analysis: the community, the network itself, and the participating organizations. Second, Koontz and Thomas (2012) encourage and explain the use of logic models for assessing cross-sector collaboration. In particular, they underscore the importance of distinguishing outputs from outcomes when measuring the performance of new institutional arrangements such as cross-boundary collaboratives, including CGRs.

Building on these contributions, we marry the idea of measuring performance at different units of analysis with the distinctions between outputs and outcomes, and use a logic model approach in general, to develop a $3 \times 3$ matrix of productivity performance dimensions for collaborative governance regimes. Before
presenting our performance matrix, it is useful briefly to review the integrative framework for collaborative governance, which provides our conceptual context.

**Integrative Framework for Collaborative Governance**

The integrative framework defines collaborative governance broadly as “the processes and structures of public policy decision making and management that engage people… across the boundaries of public agencies, levels of government, and/or the public, private, and civic spheres to carry out a public purpose that could not otherwise be accomplished” (Emerson et al., 2012, p. 3; see also Emerson & Nabatchi, 2015). This definition parallels other definitions of collaborative governance, but captures a wider range of emergent forms of cross-boundary collaboration, extending beyond the conventional focus on the public manager or the formal public sector, and also including some of the more traditional forms, such as interagency cooperation (e.g., Ansell & Gash, 2008; Bingham & O’Leary, 2008).

The integrative framework also introduces the concept of a collaborative governance regime (CGR), defined as “the particular mode of, or system for, public decision making in which cross-boundary collaboration represents the prevailing pattern of behavior and activity” (Emerson et al., 2012, p. 6; see also Emerson & Nabatchi, 2015). Although CGRs approximate public goal-directed networks (Provan & Kenis, 2007), they are distinguishable from these and other collaborative activities in many ways. First, CGRs have broad public policy or public service orientations (as opposed to narrower private or organizational orientations). Second, they are cross-organizational systems involving a range of autonomous organizations representing different interests and/or jurisdictions (as opposed to like-minded coalitions). Third, CGRs enable repeated interactions among their participants through structured processes over time (distinguishing them from one-off participatory workshops or short-term collaborative forums). Finally, CGRs develop intentional institutional and procedural norms and rules that foster collaboration (as opposed to simple ground rules for guiding behavior in a short-term endeavor). CGRs are further explained in the context of the integrative framework, which is discussed below.

The integrative framework for collaborative governance is depicted in Figure 1 as a series of interrelated and nested dimensions representing the surrounding system context, the CGR, and collaboration dynamics and actions (for more discussion of the framework, see Emerson et al., 2012; Emerson & Nabatchi, 2015). The general system context, depicted as the outermost box, represents the myriad political, legal, socioeconomic, environmental, and other influences that affect and are affected by the CGR. This system context creates opportunities and constraints that shape the dynamics and process performance of collaboration at the outset and over time. From this system context emerge several drivers (e.g., uncertainty, interdependence,
consequential incentives, and initiating leadership) that generate the energy and impetus to begin collaboration and set the early direction for the CGR.

The CGR itself is depicted by the middle box with the dashed lines. The CGR may take on a variety of forms and functions and may include a variety of participants. The CGR encompasses the iterative cycling of collaboration dynamics, as well as the collaborative actions generated through those dynamics. The collaboration dynamics of the CGR, represented by the innermost box with dotted lines, consist of three interactive components, each with its own set of elements. First, principled engagement, or the basic process component of collaboration dynamics, encompasses the interaction of discovery, definition, deliberation, and determinations. During principled engagement, the participants in a CGR develop a shared theory of change, which is, in essence, a strategy for accomplishing the collective purpose and target goals of the CGR. Second, shared motivation, or the relational component of collaboration dynamics, consists of trust, mutual understanding, internal legitimacy, and shared commitment. Finally, capacity for joint action, or the functional component of collaboration dynamics, consists of procedural and institutional arrangements, leadership, knowledge, and resources. The elements within each component work together to generate and sustain that component, and the components themselves work interactively and iteratively to reinforce one another and propel collaborative actions. As noted above, the proximal outcomes of collaboration dynamics have been a primary focus of CGR process

Figure 1. Collaborative Governance Regime (Emerson, Nabatchi, & Balogh, 2012).
performance, as scholars assess changes in capacities, communications, conflict management, trust, and other aspects of social capital.

The productivity of CGR performance can be specified at the different levels of collaborative actions (represented by the dotted rectangle), as well as the outcomes generated by the actions and the subsequent adaptation to outcomes (represented by the arrows extending from the rectangle).² The production chain of actions/outputs, outcomes, and adaptation in the integrative framework are generally consistent with a logic model approach to evaluating performance results. For example, collaborative actions, or the steps taken to implement the shared purpose of the CGR, are the direct outputs of collaboration dynamics. These collaborative actions lead to intermediate or end outcomes, which can be thought of as “results on the ground” in relation to target goals. In turn, these outcomes generate adaptation, or adaptive responses to the outcomes of collaborative action. This chain of collaborative actions/outputs, outcomes, and adaptation represents three critical productivity performance levels for CGRs that we attempt to better specify and operationalize in our matrix.

A Matrix for Assessing the Performance of Collaborative Governance Regimes

In this section, we describe the matrix for assessing the performance of collaborative governance regimes. First, we explain the three performance levels included in the matrix—actions, outcomes, and adaptation. Next, we explain the three units of analysis—the participant organization, the CGR, and the target goals. Finally, we combine these performance levels and units of analysis into a matrix that identifies nine specific performance dimensions of productivity. The performance matrix is presented in Table 1.

CGR PERFORMANCE LEVELS: ACTIONS, OUTCOMES, AND ADAPTATION

As suggested above, CGRs generate outputs (or collaborative actions) that are intended to produce outcomes that in turn may lead to adaptation. Fully assessing

<table>
<thead>
<tr>
<th>Performance Level</th>
<th>Unit of Analysis/Participant Organization</th>
<th>Collaborative Governance Regime</th>
<th>Target Goals</th>
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<td>Level One: Actions/Outputs</td>
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<td>Efficacy</td>
<td>Equity</td>
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the productivity performance of CGRs includes assessing each of these three levels. While the focus of one’s research or the priorities of one’s funders might be on only one level, attention to all three performance levels will contribute to a fuller and deeper understanding of CGR productivity.

**Performance Level One: Collaborative Actions (Outputs)**

People and organizations collaborate across boundaries to get something done. Thus, collaborative governance is intended to be instrumental, propelling actions or outputs that “could not have been attained by any of the organizations acting alone” (Huxham, 2003, p. 403). While collaboration often has symbolic and associational aims, these too result in direct or indirect instrumental actions.

For the purposes of assessing productivity performance, and consistent with the terminology of logic models, it is useful to view collaborative actions as “intermediate” or “end outputs” (cf. Thomas & Koontz, 2011). Depending on the context, the breadth of the CGR’s aims, and its relationship to formal decision-makers, collaborative actions might include, for example, securing endorsements, educating constituents or the public, enacting policy measures (new laws or regulations), marshaling external resources, deploying staff, siting and permitting facilities, building or cleaning up, carrying out new management practices, monitoring implementation, or enforcing compliance.

**Performance Level Two: Outcomes**

Collaborative actions or outputs are taken in the hopes of producing desired outcomes, or “results on the ground.” These intermediate and end outcomes (cf. Thomas & Koontz, 2011) are essentially alterations in an existing or projected condition that is viewed as undesirable or in need of change. (Often, this undesirable condition serves as the rationale for collaboration in the first place). Intended outcomes are of the greatest interest to evaluators, but unintended consequences should also be considered.

Outcomes will vary considerably according to the context, aims, and actions of CGRs. They may include the added value of an improved public good, more efficient delivery of a needed public service, or an innovative response to a new opportunity, among others. They can be physical, environmental, social, economic, and/or political. They can be short-lived or long-term, very specific or quite broad in their reach, and/or discrete or cumulative in nature. The less proximate outcomes are to the collaborative action or the more dependent they are on other contributing or intervening factors, the more difficult it is to attribute the specific outcomes directly to collaborative efforts.

**Performance Level Three: Adaptation**

Collaborative governance is frequently advocated because of its potential to transform the context of a complex situation or issue. Indeed, one of the “most
important consequences [of collaborative governance] may be to change
the direction of a complex, uncertain, evolving situation, and to help move
a community toward higher levels of social and environmental importance”
(Innes & Booher, 1999, p. 413). This potential for transformative change
is the foundation for the concept of adaptation, which can be understood
as adaptive responses to the outcomes of collaborative actions.

Adaptation is a feature in performance measurement, particularly in light of
policy implementation, where iterative or incremental policy change is common
(e.g., Lindblom, 1959, 1979; Pressman & Wildavsky, 1973). Adaptation is also
a central concept in the adaptive resource management literature, which calls for
the reduction of uncertainty over time through system monitoring and the improve-
ment of long-term outcomes through learning (Adger, 2003; Folke, Hahn, Olsson, &
Norberg, 2005; Holling, 1978). This is consonant with the intention of performance
management generally (Poister, 2003), as well as with performance management
systems for network governance (Kolina, Campbell, & Zia, 2011; Moynihan 2008).

Adaptation may occur on a small or large scale, and within the system context,
the target condition, the CGR itself, or participant organizations. For example,
adaptation might occur within the system context or in the target condition
if actions solve problems (or do not), if new research findings confirm selected
management practices (or do not), and/or if new or different sets of challenges or
opportunities arise (or do not). It might occur within the CGR itself either
indirectly as a result of changes in the system context (e.g., changing the drivers
to or incentives for collaboration) or directly in response to the perceived
effectiveness of actions and outcomes (e.g., leading to a new charge or mandate,
the addition of new stakeholders, a new round of knowledge generation or
resource leverage, or the decision to disband the collaboration). Adaptation
may also occur within participating organizations (e.g., the decision to change
funding priorities or to share resources).

UNITS OF ANALYSIS: PARTICIPANT ORGANIZATIONS, CGR,
AND TARGET GOALS

Assessing the performance of CGRs is more complicated than assessing the
effectiveness of a single organization. Like networks, which “must contend with
the joint-production problem of multiple agencies producing one or more pieces
of a single service” (Provan & Milward, 2001, pp. 415–416), CGRs involve
multiple autonomous organizations working across boundaries to jointly address
a public problem. This cross-boundary work inherently involves tensions, such
as “reduced autonomy, shared resources, and increased dependence” (Provan
& Milward, 2001, p. 415), which are exacerbated because each of the CGR
participant organizations has its own set of constituencies to which it must be
responsive. Thus, as is the case with public networks, CGR performance needs to be assessed using multiple units of analysis. Building on Provan and Milward’s (2001) work, we specify three units of analysis for assessing CGR productivity performance: the participant organizations, the CGR itself, and the target goals.

**Unit of Analysis: Participant Organizations**

Individual organizations participate in CGRs. Organizations rarely join a CGR for purely altruistic reasons; rather, they are motivated by the prospect of some future gain, added value, or protection from harm or risk. For example, organizations may be motivated to participate in a CGR by the desire to adhere to a legal or administrative command (as in mandated collaboration), or by an interest in reputational benefits, or by a stake in resolving a costly conflict or producing a collective good. These underlying organizational self-interests must be satisfied to some degree or threshold to warrant continued participation in the CGR. Thus, assessing the extent to which the CGR benefits or adds value to its participating organizations is a critical unit of analysis for measuring productivity performance.

**Unit of Analysis: The CGR**

Another important unit of analysis is the CGR itself. The CGR unit of analysis refers to the performance of the collaborative system as a dynamic entity that creates the arena for structured interactions among its participants. Such interactions evolve over time through collaboration dynamics that influence and guide the CGR’s collective productivity. This system-based performance approach is central to the study of public management networks (Agranoff, 2007; Milward & Provan, 2006) and governance networks (Koliba et al., 2010; Sorensen & Torfing, 2005), as well as within particular policy domains (Agranoff & McGuire, 2003; Comfort, 2007; Meier, O’Toole, & Lu, 2006; Milward & Provan, 1998). To survive and accomplish its shared purpose, a CGR must become a viable interorganizational system that effectively attracts and retains members, and develops “implicit and explicit principles, rules, norms, and decision-making procedures around which actors’ expectations converge in a given area” (Krasner, 1983, p. 2).

**Unit of Analysis: Target Goals**

A third unit of analysis consists of the target goals that the CGR is trying to accomplish with respect to the public problem, condition, service, or resource being addressed. This is, of course, a standard unit of analysis for evaluating performance results within organizations. The target goals of CGRs vary widely depending on their collective purpose. For example, some CGRs focus on public
resource conditions, such as the state of depletion, pollution, or extraction potential of environmental and natural resources. Others focus on human-made resource conditions, such as the inadequacy, deterioration, or risk to public health or safety of a physical infrastructure like potable water supplies, transportation systems, or public housing. Still others focus on public service conditions, including the quality, extent, and distribution of public health and human services, public education, welfare assistance, public regulation of financial services, and so forth. Within each of these focal areas, CGRs might aim to improve, expand, or limit these resources and services through collaborative actions (e.g., Ostrom, 1990; Provan, Fish, & Sydow, 2007). Any assessment of CGR performance would be incomplete without examining this unit of analysis.

In assessing the productivity performance of CGRs, one could evaluate any of the three performance levels (actions, outcomes, and adaptation) at any of the three units of analysis (participant organizations, CGR, and target goals). However, when the three levels and units are combined, a much fuller picture of the productivity of collaborative performance can be painted. Specifically, the integration of the three levels using all three units of analysis provides the analytical space in which to assess nine specific performance dimensions of collaborative productivity. We discuss each of these dimensions below.

**PERFORMANCE DIMENSIONS**

As we developed the matrix for assessing collaborative productivity, we looked to previous research to identify appropriate performance dimensions. In Table 1, we present the most salient or primary performance dimension for each level and unit of analysis, understanding that there may well be other dimensions of particular interest in specific contexts or for specific research needs. In the following sections, we discuss each performance dimension and offer general indicators.

*Productivity at the Participant Organization Unit of Analysis*

The participant organization unit of analysis refers to the perspectives of the individual organizations that have come together to collaborate. Here, participant organizations assess performance through typical organizational standards, including the efficiency of actions (outputs), the effectiveness or quality of outcomes, and the equilibrium in adaptation.

*Efficiency of actions/outputs.* For participant organizations, the performance of CGR actions may be assessed by the efficiencies they create for individual organizational operations. Participation in a CGR is often voluntary to some degree, but rarely, if ever, cost-free. Thus, participant organizations must ask whether they are receiving net benefits in the form of efficiencies for their own operations relative to their investment in the production of CGR actions. These efficiencies may result
from CGR actions that replace or improve on individual organizational actions, thereby enabling resources to be reallocated or expanded. Improved coordination through the CGR may reduce the information costs for organizations and enable more efficient operations with fewer redundancies among members. CGR actions may also reduce barriers or provide opportunities at reduced cost to the participants.

Researchers could seek direct evidence of such efficiencies through organizational records that provide information on budgeting, finances, and resource sharing. Additional evidence could be sought from the testimony of the participating organizations themselves, though the drawbacks of self-reported data should be acknowledged. The nature and value of these efficiencies will vary by organization, and are unlikely to be evenly distributed. Moreover, the distribution of efficiencies will vary over time, from start-up to ongoing operations. Fewer efficiencies may be expected at the outset, while more net gains may be expected later. One general indicator for efficiency of actions for participant organizations is the extent to which members measure and/or perceive net organizational benefits attributable to the CGR (e.g., cost-savings, additional resources, information gains).

**Effectiveness of outcomes.** CGR actions will generate intermediate and end outcomes. The effectiveness or quality of those outcomes can add value to participants beyond increased efficiencies. Specifically, the outcomes of actions—if effective—can enhance participating organizations by strengthening their internal capacity through access to additional knowledge, skills, and resources. They may also assist participants in achieving their organizational missions, or in generating reputational benefits through collaborating with others.

Measures of participant satisfaction are often used as an indirect measure of collaborative effectiveness, on the assumption that were participants not achieving their own self-interests, they would not attribute any gains to the CGR. Although important, such measures may be insufficient, given the potential that reported satisfaction may be biased, unrepresentative of the entire organization, and quite variable within the organization. A combination of subjective assessments and qualitative and quantitative descriptions, counts, and ratings of significance for specific capacities and performance improvements, along with stated attributions to the actions and outcomes of the CGR, would be more helpful. We suggest two general indicators for assessing the effectiveness or quality of outcomes at the participant organization unit of analysis: (1) direct evidence of specific internal organizational improvements or benefits attributable to the CGR, and (2) participant perceptions of increased organizational capacity and performance attributable to the CGR.

**Equilibrium of adaptation.** CGRs are created in response to some condition or demand in the external system context that individual organizations cannot respond to adequately on their own. CGRs are themselves an institutional
adaptation, intended to enable maintenance of the participating organizations’ own individual equilibrium in the face of changing conditions, demands, or opportunities. How well participating organizations manage to adapt, and at the same time remain sufficiently stable to perform their missions, is a central challenge in collaborative governance.

As a performance dimension of adaptation, equilibrium is context-specific and changes over time; therefore, it is difficult to standardize and particularly difficult to attribute to the CGR. Evidence of equilibrium in this unit of analysis may be obtained from the surveyed judgments of participant organizations, as well as the examination of records that reveal both continuity and change in the organizations’ structures and size, operating and performance levels, and missions and strategies. Two general indicators of equilibrium could be: (1) credit given to the CGR by participants for their organization’s stability and evolution, and (2) tracing the development of the internal characteristics of participant organizations (e.g., size, structure, staffing, strategies) over time.

**Productivity at the CGR Unit of Analysis**

In discussing the CGR unit of analysis, we are referring to the collaborative system as a whole. Within this unit of analysis, performance can be assessed by the efficacy of actions/outputs, the externally perceived legitimacy of outcomes, and the viability of adaptation.

**Efficacy of actions/outputs.** Efficacy is the most salient performance dimension of actions or outputs at the CGR unit of analysis. Of course, the CGR as a whole and/or participant organizations in the CGR must carry out actions as part of their collaborative work; however, it is essential that these outputs align with the intentions of the CGR and its articulated shared theory of change. Thus, efficacy refers to the capacity of the actions to produce effects that are consistent and aligned with the shared expectations, prior agreements, and strategy for accomplishing the CGR’s purpose. Meeting minutes, working principles, prioritized tasks, and more formal work plans can provide evidence of the efficacy of CGR actions. The primary indicator for efficacy of actions in the CGR unit of analysis is the extent to which implemented actions are consistent with the recorded intentions of the CGR and its shared theory of change.

**Legitimacy of outcomes.** Legitimacy and legitimacy-building are long-studied concepts within organizational development and more recently within the study of interorganizational networks (Human & Provan, 2000; Kumar & Das, 2007). Here we refer specifically to the externally perceived legitimacy of the CGR, defined as “the status and acceptability conferred by others based on their perception of the organization’s/network’s goals, values, actions, structures, processes and the like” (Provan, Kenis & Human, 2008, p. 122).
Many researchers also approach legitimacy as an internal condition or process variable and delineate different forms (e.g., pragmatic, moral, or cognitive legitimacy) (e.g., Suchman, 1995) or see it as a network form, entity, or interaction (e.g., Human & Provan, 2000) that is then posited as being more or less important at certain periods in the evolution of the interorganizational network, alliance, or partnership. However, in assessing productivity performance, we consider the external perception of legitimacy as a critical outcome for CGRs to continue to produce over time. Specifically, the CGR must obtain sufficient reputational benefits from being perceived as viable by relevant external funders, leaders, or publics, and concomitantly by attracting needed external resources and support. A general indicator of external legitimacy at the CGR unit of analysis is observations by relevant leaders or publics that the CGR is a worthwhile and valuable endeavor. Evidence of such observations might be found in organizational reports, attention in media and social media, external funding decisions, and other indicators of reputational benefits.

**Viability of adaptation.** As a CGR system-level performance measure of adaptation, viability provides confirmation that the CGR has the continuing capacity to add value above and beyond individual participant efforts. The viability of the CGR is essentially its demonstrated capacity to continue contributing to the achievement of specified outcomes or shared goals, its being “capable of success or continuing effectiveness” (American Heritage Dictionary, 2000/2009). Viability, then, is the adaptive response by the CGR that continues to generate sufficient and necessarily evolving shared capacity for joint action. This may include the capacity to anticipate future needs and challenges arising from the outcomes of collective actions at the participant level as well as at the target goals level. This may require consistent and persistent capacity to produce outcomes, as well as flexibility, responsiveness, and innovation in light of the changing system context. We suggest two general indicators of viability at the CGR unit of analysis: (1) evidence of CGR capacity in use that has contributed to the achievement of targeted goals (e.g., dedicated staff, resource acquisition, resource sharing), and (2) evidence of CGR capacity available to continue to contribute to the achievement of targeted goals (e.g., fundraising strategy, strategic plan, shared theory of change).

**Productivity at the Target Goals Unit of Analysis**

The target goal unit of analysis refers to the public problem, condition, service, or resource that is the focus of the collaborative effort. The primary performance dimensions we highlight for this unit of analysis are the equity of actions/outputs with respect to their beneficiaries, the effectiveness of the outcomes, and the sustainability of adaptation.
Equity of actions/outputs. Organizations work together in situations where competition or governmental fiat has not succeeded previously or is not appropriate or possible. A CGR’s actions are carried out based on cooperative and voluntary agreements related to a shared theory of change and some equitable distribution of the benefits, costs, and risks among beneficiaries. For beneficiaries of the targeted change, fairness, as measured by equity, will be a valued principle and broadly shared expectation. The negotiation literature refers to this as distributive justice (e.g., Pruitt, 1981; Raiffa, 1982; Rubin & Brown, 1975).3

In some cases, there may be objective or monetizable measures of the distribution of the costs and benefits of CGR actions to beneficiaries. For example, one could capture measures of access to or utilization of a good or service among different groups of beneficiaries, or assess the geographic dispersion or allocation of benefits. Beneficiaries could be the target condition itself (e.g., improved ecosystem health) or the target population (e.g., rural ranching communities benefiting from improved range conditions). Equity in such cases might be measured by the relative investments in actions to improve environmental, economic, and social conditions. Regardless of these objective measures, however, it is also important to assess perceptions about equity. Thus, we suggest two general indicators of equity with respect to target goals: (1) objective measures of the distribution of net benefits from CGR actions, and (2) beneficiaries’ perceptions about the equitable distribution of the costs and benefits associated with actions.

Effectiveness of outcomes. Effectiveness is the primary performance dimension for outcomes at the target goals unit of analysis. Effectiveness is a broadly used term and often confused with overall performance; however, in the context of collaborative outcomes, it can be specified more literally as the extent to which the CGR’s actions produce their intended effect in accomplishing its target goals. Effectiveness is frequently measured subjectively from the judgments of observers or participating organizations. Tied to substantive outcomes, effectiveness measures can be identified early on by the CGR and its participating organizations in the form of more explicitly stated and more objectively measured goals and aims. For example, direct or immediate outcomes might include targeted changes in the incidence or severity of a problem or level or quality of a public service. Indirect or intermediate outcomes might be measured as changes in conditions that reduce the future incidence of problems or increase the likelihood of future improvements in public goods or services. Longer-term or end outcomes may also be measured as reduced rates of recurrence (recidivism) or consistent service delivery at a certain level of quality. Given this discussion, the primary indicator for the effectiveness of outcomes at the target goals unit of analysis
is the extent to which the desired change in the targeted public condition, good, service, or product is achieved.

Sustainability of adaptation. Sustainability is a signal performance dimension for adaptation at the target goals unit of analysis. By sustainability, we mean both the robustness and the resilience of the adaptive responses to outcomes on the targeted resource or service condition, given the uncertain and changing external context, influences, and events. Simply stated, sustainability is the ability to continue the demonstrated effects over time. For example, a CGR target goal might be to end poverty in our time or to ensure that no returning veterans remain homeless in Tucson. The actions taken in each case will differ, as will their outcomes. In both cases, however, the sustainability of the responses to the outcomes is important. To eliminate poverty or homelessness, the desired outcomes must be sufficiently systemic to cause enduring shifts in related behaviors, services, or resources and other strategic factors.

The desired level of sustainability for achieving target goals should be reflected in the CGR’s theory of change and corresponding strategies for change. Sustainable responses should be anticipated and designed for endurance over time and to support long-lasting changes in the target problem, condition, service, or resource. Sustainability, however, may not be a concern to CGRs with discrete or short-term targets, and it may be a high bar for CGRs to plan for and achieve. A primary indicator of sustainability at the target goals level of analysis is the extent to which adaptive responses to the outcomes on the target system, condition, or service are sustained over time.

In sum, a comprehensive assessment of the productivity performance of CGRs requires an examination of three performance levels (actions, outcomes, and adaptation) at three units of analysis (participant organizations, the CGR itself, and target goals). These levels and units of analysis create an analytical space for nine salient dimensions of CGR performance. Specifically, at the participant organization unit of analysis, one would assess (1) the efficiency of collaborative actions, (2) the effectiveness of the outcomes, and (3) the equilibrium of adaptation. At the CGR unit of analysis, one would assess (4) the efficacy of collaborative actions, (5) the externally perceived legitimacy of the outcomes, and (6) the viability of adaptation. At the target goals unit of analysis, one would assess (7) the equity of collaborative actions for beneficiaries, (8) the effectiveness of outcomes, and (9) the sustainability of adaptation.

In the following section, we illustrate this performance matrix in the context of ongoing research on a CGR involving the U.S. Border Patrol and the U.S. Forest Service in the Coronado National Forest along the U.S.-Mexico border.
Case Illustration: Assessing the Productivity of Collaborative Governance along the U.S.-Mexico Border

Interagency collaboration along the U.S.-Mexico border has increased substantially in the past 20–30 years as a result of growing concerns about illegal immigration, terrorism, and drug and human trafficking. Cross-border collaboration has also increased through efforts to further economic development, such as NAFTA and regional initiatives like the Arizona Strategic Partnership for Economic Development. Numerous domestic CGRs exist along the border, often comprising federal, state, and local government agencies involved in law enforcement, land management, and Indian and cultural affairs, among other issues (see Emerson, 2010). Here we examine one particular collaborative arrangement focused on the Coronado National Forest (CNF) that involves the U.S. Border Patrol and the U.S. Forest Service. Although this arrangement is a “slice” of a larger CGR, it provides an excellent case for illustrating the application of our performance matrix.

This illustration is based on data collected as part of a larger ongoing research project on collaborative governance along the U.S.-Mexico border.4 We focus on the findings from interviews conducted in 2013 with public land liaisons and field agents in the Border Patrol’s Tucson sector, a retired Border Patrol deputy chief, Forest Service CNF law enforcement officers, the CNF supervisor and district rangers, the Forest Service national border coordinator, and the Department of the Interior border coordinator. A series of questions were asked to elicit information on the productivity of the interagency partnership.

Our methodology was probative and exploratory. In the preliminary data analysis, we attempted to identify patterns and independent confirmations or contradictions among the observations of the interviewees (Gerring, 2004; Luton, 2010). We begin this illustration with a brief description of the system context for collaboration along the U.S.-Mexico border. We then discuss the efforts of the Border Patrol and the Forest Service in the Coronado National Forest, and apply our matrix to assess the productivity performance of this collaborative effort.

SYSTEM CONTEXT FOR COLLABORATION ALONG THE U.S.-MEXICO BORDER

The U.S.-Mexico border stretches across four states (California, Arizona, New Mexico, and Texas) and includes federal and state land. Several actors have jurisdiction over the border and its surrounding lands, including local and state agencies, as well as federal agencies (and their subunits), such as the Department of Homeland Security, the Department of Agriculture, and the Department of the Interior, among others.
The border region saw rapid change during the 1990s and 2000s, and quickly evolved into a complex, tangled web of political, economic, legal, environmental, social, and cultural issues. Illegal border crossings from Mexico into the United States began to increase in the mid-1990s (U.S. Department of Interior, 2002; U.S. Government Accountability Office, 2004). This crossing activity and Border Patrol interdiction efforts had serious negative effects on the landscape, natural resources, and public safety. After the terrorist attacks of 9/11, presidential administrations and Congress became intensely focused on national security and perceived the need for aggressive action to close the borders to protect the nation from international terrorists, illegal immigration, and drug and human trafficking. To address these issues, several laws were passed, including the REAL ID Act of 2005 and the Secure Fence Act of 2006. These laws not only added to the already complicated legal, policy, and regulatory frameworks consisting of federal, state, and local environmental, cultural, public health, safety, and religious freedom laws, but also led to strained relations among the agencies responsible for the border region, organized local opposition, and numerous lawsuits filed by affected communities, tribes, private land owners, and environmental organizations.

Although some collaborative arrangements were in place, such as the Southwest Strategy, there were repeated calls for the establishment of new and better lines of communication and collaboration in the border region. For example, the U.S. Government Accountability Office (2004, p. 4) reported that the Homeland Security, Interior, and Agriculture departments needed to better “coordinate their strategies and develop broad interagency approaches to combat illegal activities on federal borderlands,” better assess threats, and more efficiently use funds, personnel, and other resources.

In response to Government Accountability Office criticism and the persistent pleas of their own regional officials, the national leadership of the three departments began negotiations to establish new organizational mechanisms for collaboration and conflict resolution along the border. In 2006, they signed a memorandum of understanding regarding “Cooperative National Security and Counterterrorism Efforts on Federal Lands along the United States Borders.” This 2006 memorandum set the framework for collaboration across the agencies and made explicit the departments’ joint “commitment to preventing illegal entry into the United States, protecting Federal Lands and natural and cultural resources, and—where possible—preventing adverse impacts associated with illegal entry by CBVs [cross-border violators].” In addition to producing departmental changes intended to promote coordination at the national level, the memorandum also resulted in changes at the regional and local levels.

By 2008, the institutional framework and expectations for interagency cooperation had been put in place and were beginning to yield improved
cooperation, conflict resolution, and joint problem solving. An initial study of interagency cooperation between the Border Patrol and federal land management agencies found evidence of collaborative actions in a number of areas, including interagency communications, enhanced joint capacity, assistance to border security by land management agencies, assistance to land management agencies for mitigation and restoration, and joint efforts to protect public health and safety. It is within this broad system context that collaboration began between the Border Patrol and the Forest Service in the Coronado National Forest.

**ASSESSING CROSS-AGENCY COLLABORATION IN THE CORONADO NATIONAL FOREST**

The Coronado National Forest encompasses over 1.7 million acres of basin range topography known as “sky islands” in southeastern Arizona. Fifty-five miles of the 2,000-mile-long U.S.-Mexico border are bounded by forest lands and interspersed by four ports of entry overseen by Customs and Border Protection (an agency located within the Department of Homeland Security). The Tucson sector of the Border Patrol oversees border security between these ports in the forest. For the past several years, the Tucson sector has had the distinction of confronting the largest number of illegal border crossers, giving it the most apprehensions of all Border Patrol sectors (exceeded only recently by the Lower Rio Grande Valley). It has been estimated that 50% of all illegal border traffic (north and south) flows through the Tucson sector, of which half flows through the Coronado National Forest. The effects of this include scores of newly cut trails, damaged fence lines, human-ignited fires, litter and abandoned vehicles, and public safety concerns for recreationists and land managers in the field.

Although the Tucson sector of the Border Patrol and Forest Service officials in the Coronado National Forest had been working together in the field since the late 1990s, they enhanced their collaborative efforts after the release of the 2006 memorandum of understanding. Specifically, in 2006, the chiefs of the Border Patrol and the Forest Service signed and adopted an integrated strategic plan for law enforcement and border security in the Coronado National Forest. In essence, this collaboratively developed strategic plan outlined the Border Patrol and Forest Service’s shared theory of change for addressing border issues in the forest. The target goal of the strategic plan was to improve national security while also protecting natural resources by minimizing the effects of monitoring and interdiction activities. Since the adoption of the strategic plan, the Border Patrol and the Forest Service have undertaken a wide variety of collaborative efforts.

In the following discussion, we illustrate the application of our performance matrix by exploring evidence of the actions, outcomes, and adaptation of the Border Patrol–Forest Service collaboration at the three different units of analysis—participant organization, CGR, and target goals. Given space constraints, and our
goal, which is illustration rather than evaluation or testing of a performance model, we provide only limited discussion of this collaboration. However, for each unit of analysis, we provide tables that identify the relevant performance dimensions and describe evidence of their attainment in the collaboration. In the evidence columns of the tables, items have a check mark (√) when there is general corroboration among interviewees and/or substantiation of data from public records, and a tilde (~) when there is disagreement or contradictions in the data. Third-party verification and other data will be used in future, more in-depth evaluations of this collaboration.

**Performance at the Participant Organization Unit of Analysis**

Evidence of performance at the participant organization unit of analysis is summarized in Table 2. Interviewees from both the Border Patrol and the Forest Service reported increases in organizational efficiency attributable to the actions/outputs of the CGR. For example, the Border Patrol reported reductions in the delays and costs of installing infrastructure. Likewise, the Forest Service reported reduced effects of border crossers and Border Patrol activities on the environment and natural resources, as well as some restoration of the environment to prior conditions.

**Table 2. CGR Case Performance at Participant Organization Unit of Analysis**

<table>
<thead>
<tr>
<th>Performance Dimensions and Indicators</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency of Actions/Outputs</td>
<td></td>
</tr>
<tr>
<td>• Extent to which members perceive and/or measure organizational benefits attributable to the CGR</td>
<td>✓ Border Patrol: Reduction in delays and costs for installing infrastructure</td>
</tr>
<tr>
<td></td>
<td>✓ Forest Service: Reduced effects on environment and natural resources from crossers and Border Patrol activities; some restoration of prior conditions</td>
</tr>
<tr>
<td>Effectiveness of Outcomes</td>
<td></td>
</tr>
<tr>
<td>• Participant perceptions of increased organizational capacity and performance attributable to CGR</td>
<td>✓ Border Patrol: Better understanding of environmental laws and Forest Service mission; gains from Forest Service local knowledge of land</td>
</tr>
<tr>
<td></td>
<td>✓ Forest Service: Improved safety for public and personnel</td>
</tr>
<tr>
<td>• Evidence of specific internal organizational improvements or benefits attributable to CGR</td>
<td></td>
</tr>
<tr>
<td>Equilibrium of Adaptation</td>
<td></td>
</tr>
<tr>
<td>• Perceived stability of participants’ ongoing mission and accomplishments</td>
<td>✓ Consistent reporting by Border Patrol and Forest Service of mission progress</td>
</tr>
<tr>
<td></td>
<td>✓ Credit given to improvements in interagency partnerships 2010–2013</td>
</tr>
</tbody>
</table>
The interviewees also confirmed outcome effectiveness for each of their agencies. For example, Border Patrol officials reported having a better understanding of environmental laws and the Forest Service mission, and noted that they had seen gains within the organization because of Forest Service’s local knowledge of land. Similarly, Forest Service officials reported that collaboration had improved both public and personnel safety in the Coronado National Forest. Finally, there is evidence that equilibrium of adaptation is developing within the two agencies as they adjust to the outcomes of partnership actions (e.g., regularized channels of communication, permanent positions for liaison staff).

**Performance at the CGR Unit of Analysis**

Evidence for performance at the CGR unit of analysis is presented in Table 3. According to the interviewees, the CGR took efficacious actions (or produced outputs) that were in line with its collective purpose. For example, interviewees consistently reported that the actions taken by agency headquarters in Washington, Table 3. CGR Case Performance at the CGR Unit of Analysis

<table>
<thead>
<tr>
<th>Performance Dimensions and Indicators</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficacy of Actions/Outputs</strong></td>
<td>✓ Consistent independent reporting of alignment between intentions and actions of CGR agency headquarters in Washington and border management task force, and between Border Patrol and law enforcement officers</td>
</tr>
<tr>
<td>- Extent to which implemented actions are consistent with recorded intentions of CGR participants and their shared theory of action</td>
<td>✓ When Border Patrol agents in hot pursuit go off-road in wilderness, they report incidents to Forest Service in Coronado National Forest (per 2006 memorandum of understanding)</td>
</tr>
<tr>
<td>- Consistent independent reporting of alignment between intentions and actions of CGR agency headquarters in Washington and border management task force, and between Border Patrol and law enforcement officers</td>
<td>✓ The reporting of interdictions and other events has become routinized.</td>
</tr>
<tr>
<td><strong>External Legitimacy of Outcomes</strong></td>
<td>✓ Consistent independent reporting of alignment between intentions and actions of CGR agency headquarters in Washington and border management task force, and between Border Patrol and law enforcement officers</td>
</tr>
<tr>
<td>- Evidence of observations by relevant leaders or publics that the CGR is worthwhile</td>
<td>~ Washington headquarters aware of partnership; Congress unaware of partnership improvements</td>
</tr>
<tr>
<td><strong>Viability of Adaptation</strong></td>
<td>✓ Dedicated liaison positions filled in all departments</td>
</tr>
<tr>
<td>- Evidence of system capacity in use that has contributed to the achievement of targeted goals</td>
<td>✓ Consistent independent reporting of alignment between intentions and actions of CGR agency headquarters in Washington and border management task force, and between Border Patrol and law enforcement officers</td>
</tr>
<tr>
<td>- Evidence of system capacity available to continue to contribute to the achievement of targeted goals</td>
<td>~ Washington headquarters aware of partnership; Congress unaware of partnership improvements</td>
</tr>
<tr>
<td>- Dedicated liaison positions filled in all departments</td>
<td>✓ The reporting of interdictions and other events has become routinized.</td>
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</tbody>
</table>
D.C., the interagency Borderland Management Task Forces, Border Patrol, and Forest Service law enforcement officers were in line with the shared theory of change collaboratively developed in the interagency strategic plan. Moreover, Border Patrol and Forest Service interviewees noted that off-road pursuits of border crossers in wilderness areas are now reported to Coronado officials as per the 2006 memorandum of understanding.

Evidence for the external legitimacy of the CGR outcomes was mixed. All of the interviewees reported that the collaborative effort, which they consistently referred to as a “partnership,” had added value that was recognized at all the respective agency headquarters in Washington, D.C. However, Congress and certain sectors of the public were not aware of the outcome gains made through this interagency partnership. That said, CGR viability of adaptation was enhanced with the filling of liaison positions in all departments, and the reporting of interdictions and other events has become routinized. These are not only evidence of viability, but also may have future effects on external legitimacy.

**Performance at the Target Goals Unit of Analysis**

Evidence for performance at the target goals unit of analysis is presented in Table 4. Based on interviewee reports, evidence of the equitable distribution of benefits in terms of collaborative actions or outputs was mixed. Border agents did obtain increased access to public lands through needed infrastructure. The natural resource damage to desert landscapes began to diminish in several areas but continued to exceed the management capacity of the Forest Service and the Interior Department. Mitigation funds were necessary to partially compensate for some of the damage. These imbalances in the target goal conditions, however, were recognized by all of the interviewees, and offered less as a complaint and more as an admission of the reality of considerable disparities in resources and management capacities between the two agencies.

The effectiveness of outcomes was expressed in terms of several targeted improvements. The Coronado National Forest, the Border Patrol, and the Forest Service were trying to improve national security related to illegal border crossings and to protect natural resources from the effects of monitoring and interdiction activities. According to interviewees, the Border Patrol and the Forest Service successfully enacted the terms of the 2006 memorandum of understanding, creating interagency forums, increasing field coordination and joint operations, and constructing fences and other tactical infrastructure.

These and other actions led to several outcomes at the target goal unit of analysis. In the near term, for example, there were improvements in the interoperability of radio frequencies that facilitated joint operations. The construction of infrastructure in more environmentally sensitive ways led to intermediate
improvements or stabilization in erosion rates and riparian degradation. There were also longer-term reductions in the incidence of conflicts attributable to lack of interagency cooperation and the absence of major critical events, such as “blue on blue” (i.e., friendly fire) incidents.

Finally, interviewees reported that these outcomes had led to some sustainable adaptation at the target goals unit of analysis. For example, they attested that communication and coordination are likely to continue and benefit on-the-ground outcomes, and that partnership protocols, staff liaisons, and communication infrastructure are now embedded in agency operations.

Clearly, this analysis of the productivity in collaboration between the Border Patrol and the Forest Service in the Coronado National Forest is simplistic and deserving of more attention and research. Nevertheless, the application of our matrix to this collaborative effort reveals some interesting initial findings. Specifically, while some successful actions, outcomes, and adaptation can be

<table>
<thead>
<tr>
<th>Performance Dimensions and Indicators</th>
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<tr>
<td><strong>Equity of Actions/Outputs</strong></td>
<td></td>
</tr>
<tr>
<td>• Participants confirm distribution of shared costs and benefits as being consistent with prior CGR commitments</td>
<td>~ Border Patrol: Recognition of improvements in border security mission and reductions in public lands; acknowledgement of continued challenges for land management given staffing differentials,</td>
</tr>
<tr>
<td>• Participants perceive equitable sharing of costs and benefits from membership in CGR</td>
<td>~ Forest Service: Recognition of benefits provided by Border Patrol in public safety, use of mitigation funds, and additional benefits (e.g., fire spotting)</td>
</tr>
<tr>
<td><strong>Effectiveness of Change</strong></td>
<td></td>
</tr>
<tr>
<td>• Extent to which change in the targeted condition, public good, or service is achieved (i.e., direct or immediate outcomes)</td>
<td>✓ Improved communication through interoperability of radio frequencies</td>
</tr>
<tr>
<td>• Extent to which conditions affecting target goals are put in place and function (i.e., indirect or intermediate outcomes)</td>
<td>✓ Reductions in resource impacts with fence and tactical infrastructure</td>
</tr>
<tr>
<td>• Duration and consistency of changes over time (i.e., long-term outcomes)</td>
<td>✓ Reduction in incidence of interagency conflict attributed to lack of cooperation</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td></td>
</tr>
<tr>
<td>• Extent to which CGR strategies sustain the quality, level, and scope of change in the target condition over time</td>
<td>✓ Absence of major critical “blue on blue” incidents</td>
</tr>
<tr>
<td></td>
<td>✓ Participants attest communication and coordination likely to continue and benefit on-the-ground outcomes</td>
</tr>
<tr>
<td></td>
<td>✓ Partnership protocols and staff liaisons and communication infrastructure in place and embedded</td>
</tr>
</tbody>
</table>
observed at all three units of analysis, the CGR generally suffers from a lack of external legitimacy (e.g., Congress and the general public are unaware of its performance), and there remain inequities in the distribution of actions at the target goals unit of analysis. More important, perhaps, is the fact that the case illustration shows that by approaching CGR performance through this multidimensional matrix, one gets a much fuller picture of the robustness (and vulnerabilities) of collaborative endeavors in terms of productivity.

Conclusion

In this article, we present an integrative approach to conceptualizing the dimensions of productivity performance for collaborative governance regimes. Specifically, we drew on the program evaluation methodology of logic models (cf. Thomas & Koontz, 2011) and the multilevel perspectives recommended for assessing public service networks (cf. Provan & Milward, 2001) to create a matrix for assessing collaborative productivity. This matrix consists of three performance levels (actions, outcomes, and adaptation) and three units of analysis (participant organizations, CGR, and target goals), and identifies nine salient dimensions of collaborative performance. Specifically, at the participant organization unit of analysis, the dimensions include: (1) efficiency of actions, (2) effectiveness of outcomes, and (3) equilibrium of adaptation. At the CGR unit of analysis, the dimensions include: (4) efficacy of actions, (5) externally perceived legitimacy of outcomes, and (6) viability of adaptation. At the target goals level of analysis, the dimensions include: (7) equity for beneficiaries, (8) effectiveness of outcomes, and (9) sustainability of adaptation. Scholars and practitioners will certainly identify other relevant performance dimensions depending on their particular context or research needs; however, we believe that these nine dimensions are significant for integrated assessments of CGR productivity.

While the focus of this article is primarily conceptual, we illustrated the relevance of the productivity matrix through a preliminary study of interagency collaboration in the Coronado National Forest on the U.S.-Mexico border. It was not our intent here to fully develop and propose an accompanying research design and methodology, but that is certainly the next step. In our case illustration, we identified general indicators and sources of data for each of the nine performance dimensions. However, for this productivity matrix to be developed fully as a reliable tool for scholars and practitioners, we need to further specify and operationalize each dimension and recommend specific data collection and analysis methodologies (see Emerson & Nabatchi, 2015).

Most dimensions call for evidence from multiple data sources, so a data triangulation methodology may be necessary to validate data and strengthen interpretation and analysis. While some indicators can be measured with
archival data from reports, websites, news coverage, social media, and so forth, other indicators will require data collection from interviews, focus group surveys, and field observations. Thus, scholars should focus on developing appropriate measurement instruments and data collection procedures that can be administered to CGR participants and observers. For those studying comparisons between CGRs and other governance approaches or, for example, the counterfactual for nonparticipating organizations, more robust and less subjective indicators of the productivity dimensions will be needed. Finally, as an integrative approach to evaluating productivity, this productivity matrix could require significant resources to apply fully. Thus, scholars should make efforts to be as parsimonious and efficient as possible in representing key variables. With such tools and research methodologies in place, we hope researchers will be able to apply the matrix to other cases and test its replicability in a variety of contexts.

In addition, researchers need to better specify the dimensions of process performance in CGRs. Although some work has explicated the process-related benefits of collaboration (e.g., conflict resolution, trust, and social capital), more work is needed to disentangle process and productivity performance. By focusing specifically on productivity, this article takes an initial step in that direction. The next step, however, requires that we better articulate and specify both the process and the productivity sides of the performance equation, which we begin to address in our book, Collaborative Governance Regimes (Emerson & Nabatchi, 2015).

Although work remains to be done, we believe that this matrix significantly moves forward efforts to assess the productivity of collaborative governance regimes. The matrix employs existing collaborative governance theory and the performance logic model approach to program evaluation. Scholars and practitioners can use the matrix to assess overall productivity, or to assess one or more of the three performance levels and/or units of analysis. In turn, the information gathered can be used for understanding, evaluating, or improving collaborative activities. Moreover, if this matrix is used broadly, it provides a tool for the consistent and systematic collection of information about CGRs, which in turn may allow for cross-case comparisons and the development of propositions and hypotheses that can be empirically tested. Given the frequency of calls for and efforts to use collaboration, such research is critical.

Notes

1. We use the terms “productivity” and “productivity performance” (as opposed to the more familiar “outcome performance” and “performance results”) for two reasons. First, the term “outcome performance” could be easily confused with the more specific term of “outcomes” in performance logic models. Second, the term “performance results” generally carries an implication that process benefits themselves are not valued “results.”
2. In Emerson et al., (2012), we refer to the results of collaborative action as “impacts,” whereas in this article, we refer to those results as “outcomes.” Likewise, we previously used the term “theory of action,” but now use “theory of change.” These changes reflect a stronger adherence to the accepted terminology in the performance measurement and management literature (e.g., Heinrich, 2002; Kellogg Foundation 2005; Koontz & Thomas, 2006). Specifically, the term “impacts” has an explicit meaning in the performance literature; use of the term requires experimental methods that verify the added value of the program above and beyond what would have happened otherwise in a comparable setting. Here, we are more interested in the outcomes of collaborative actions as they relate to CGR target goals and shared theory of change, although we believe that assessment of impacts is also important.

3. The real or perceived equity of actions from the perspective of participant organizations may also be an important performance dimension to consider at that level of analysis.

4. Data were collected in 2010 and 2013 through multiple days of field observation and semistructured telephone and in-person interviews with federal agency officials involved in border issues in the CNF. Over 50 interviews were conducted in 2010 to establish baseline conditions and identify specific case studies for future follow-up. Those interviewed included (1) federal public land managers and law enforcement officers from the Forest Service, the Interior Department, the Bureau of Land Management, the Fish and Wildlife Service, and the National Park Service across the four border states; (2) Border Patrol administrators and agents; (3) senior federal executives in agency and departmental offices in Washington; (4) borderland ranchers and resource users; (5) environmental and wilderness advocates; and (6) border researchers. Interviewees were selected based on their positions and their longevity in those positions or in their agencies.

5. The REAL ID Act of 2005 (Pub.L. 109–13, 119 Stat. 302) modified existing U.S. federal law pertaining to security, authentication, and issuance procedures standards for state drivers’ licenses and identification cards, as well as various immigration issues pertaining to terrorism. The act generated a lot of controversy, particularly around a provision that granted the secretary of homeland security sole discretion to waive any and all laws “necessary to ensure expeditious construction of the barriers and roads” in the vicinity of the U.S. border. This was followed in 2006, by the Secure Fence Act (Pub.L. 109-367), which mandated the construction of 700 miles of secure border fencing by the end of 2008. These congressional mandates placed additional pressure on Homeland Security, and as a result its then secretary, Michael Chertoff, saw fit to invoke the waiver authority five times over the next two years, each time increasing the number and geographic scope of laws waived. A total of 35 federal environmental, cultural, public health, safety, and religious freedom laws, as well as all related state and local laws, were waived during the Bush administration using the REAL ID authority. While the waivers expedited construction, they came at the expense of meaningful public participation and interagency consultation.

6. The Southwest Strategy is a regional interagency initiative funded by the Border Patrol and focused on resource management and communication issues. The strategy led to several regional agreements, ten local memoranda of understanding, and the establishment of interagency statewide borderland management task forces.

7. At the federal level, a border working group was established within the office of the Interior Department’s deputy secretary, with representatives from each of Interior’s agencies with land management responsibilities in the Southwest. A national borderlands coordinator at the Senior Executive Service level was appointed at the Interior Department to serve as a single point of contact for all Border Patrol sectors. Interior also set up regional points of contact for each Border Patrol sector. Borderland management task forces continued to provide interagency coordination and information exchange in every border state. The Border Patrol also created new positions for public lands liaisons in every sector to interface with land management agencies, while simultaneously increasing its border personnel from 2,000 to 20,000 agents. At the regional and local levels, the memorandum of understanding set forth shared principles, practices, and protocols for border law-enforcement operations, the installation
of infrastructure, use of roads, protection of natural and cultural resources, and compliance with national environmental laws. It provided for more coordination, information-sharing, and strategic planning. It directed agency officials in the regional and local offices to address conflicts at the lowest operational level possible, and where a conflict was not resolvable, to set forth an elevation procedure within the departmental chains of command. It also included provisions for cooperative training of staff, joint operations, and improved communications.

References


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