Quotes Table D: Key criteria identified in the collaborative/adaptive governance literature

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| **22 Key criteria of robust natural resource governance systems identified in the literature:** | **Adaptive governance conditions (Olsson et al. 2006)** | **Critical collaborative governance variables (Ansell & Gash 2007)** | **Cheng & Sturtevant (2012) Framework for Assessing Collaborative Capacity in Community-Based Public Forest Management** |
| **1 Clearly defined rights of users to utilize resources** |  | Process Transparency (.5) |  |
| **2 Clearly defined resource boundaries** |  |  |  |
| **3 Congruence or fit of appropriation rules with local ecology and local culture (i.e. sustainable use of resources)** |  | Power and resources balance |  |
| **4 Balance between costs expended / investments made into a resource and benefits received from resources (equitable resource use)** |  | Power and resources balance; Incentives to participate;   Clear ground rules;  Process Transparency |  |
| **5 Collective choice arrangements (individuals affected by the rules can participate in making and modifying the rules)** |  | Participatory Inclusiveness; Incentives for stakeholders to participate (definition of collab. governance, includes consensus between state and non-state actors) | An essential group asset is a set of agreed upon ground rules that define the procedures by which the group decides. Ground rules are intended to create a safe space within which individuals representing different values, interests, perspectives, and knowledge can speak freely, be heard, and deliberate options. |
| **6 Monitoring resource conditions and appropriator behavior** | Monitor and assess outcomes of past interventions and encourage reflection and learning from those |  | Monitoring and evaluation (via ability to sustain organizational structure, time, and space for these mechanisms) (Table 2)  Expert knowledge and/or experience in monitoring ecological and socio-economic conditions (Table 2) |
| **7 Monitoring the monitors** | Monitor and assess outcomes of past interventions and encourage reflection and learning from those | Process transparency (.5) |  |
| **8 Graduated sanctions** |  |  |  |
| **9 Conflict resolution mechanisms** | Manage conflict--providing conflict resolution mechanisms where dissent and disagreement can be expressed | History of conflict or cooperation; Incentives for stakeholders to participate; Face-to-face dialog | Conflict management competencies (Table 2)... Professional coordinator to... mediate between conflicting viewpoints... and manage conflicts appropriately. |
| **10 Minimal recognition of rights to organize** |  | Participatory inclusiveness; Forum exclusiveness; Incentives to participate |  |
| **11 Nested enterprises: governance activities are organized in multiple layers of nested enterprises** | Linkages across scales: vertical and horizontal (Also: "Adaptive governance relies on polycentric institutional arrangements") | Collaborative governance defined as (p. 544):  1. Forum is initiated by public agencies or institutions  2. Participants in the forum include non-state actors  3. Participants engage directly in decision making   4. The forum is formally organized and meets collectively  5. The forum aims to make decisions by consensus   6. The focus of collaboration is on public policy or public management. | We found that fostering horizontal and vertical linkages were essential legitimizing capacities across our cases. |
| **12 Institutional adaptability/ variety/ flexibility** | Institutional flexibility (entire article is about adaptation) |  |  |
| **13 Social learning** | Social learning and capacity building |  | One of the defining attributes of public forest collaboration is an emphasis on learning so that all stakeholders have shared understandings of the situation and potential improvements (Daniels and Walker 2001; Folke and others  2005; Wondolleck and Yaffee 2000). |
| **14 Long-term commitment and shared understanding** | Shared Vision; Mobilizing broad support for change; Gaining and maintaining momentum | Development of commitment and shared understanding | One of the defining attributes of public forest collaboration is an emphasis on learning so that all stakeholders have **shared understandings** of the situation and potential improvements |
| **15 Leadership** | Leadership | Leadership | Leadership committed to group success; agency leadership (Table 2) |
| **16 Capacity building (e.g., training, resources)** | Social networks that support capacity building for ecosystem management; Social learning and capacity building | A virtuous cycle of collaboration develops when collaborative forums focus on "small wins" | Human, financial, and technical resources to conduct monitoring... develop and disseminate communication materials (Table 2)... |
| **17 Knowledge building (e.g., learning, information sharing )** | Building knowledge; Sense-making Monitor and assess outcomes of past interventions and encourage reflection and learning from those | Strategic Plans; Joint fact-finding | Across the cases, we found that participants needed to possess the willingness to shift their points of view to better align with new information and shared learning. |
| **18 Prior Networks** | Networking [shadow networks]; Partnerships | Prior history of conflict or cooperation (.5) |  |
| **19 Trust and Social capital** | Trust building | Trust building | Additionally, evaluation activities were particularly important for building trust and credibility within and outside the collaborative. |
| **20 Resource dependence** |  | p.552 "I**ncentives to participate** in collaborative governance will also increase if stakeholders perceive achievement of their goals to be dependent on cooperation from other stake-holders (Logsdon 1991). For example, the prevalence of collaborative governance in local resource management disputes is probably related to the joint dependence of local groups on a common resource (Heikkila and Gerlak 2005). The implications of this interdependence can sometimes be counterintuitive. Thus, highly antagonistic stakeholders who are also highly dependent upon each other may move toward a successful collaborative process (Imperial 2005; Yaffee and Wondolleck 2003). Reilly (2001), for example, describes the ‘‘balance of terror’’ that kept rival stakeholders at the bargaining table for fear of losing out if they were not involved. |  |
| **21 Group size** |  |  |  |
| **22 Group homogeneity vs. heterogeneity** |  | Seems to not support homogenous group (556) - "Broad participation is not simply tolerated but must be actively sought."  "Weak or non-inclusive representation, therefore, threatens to undermine the legitimacy of collaborative outcomes." |  |