Quotes Table B: Key criteria identified in the adaptive co-management literature

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| **22 Key criteria of robust natural resource governance systems identified in the literature:** | **Conditions of successful adaptive co-management (Armitage et al. 2009)** | **Variables of interest emerging within adaptive co-management (Plummer et al. 2012,** Table 2**)** | **Charting New Territory of Adaptive Co-Management: A Delphi Study (Plummer & Armitage 2007,** Table 1**)** |
| **1 Clearly defined rights of users to utilize resources** | Reasonably clear property rights to resources | Enabling conditions (.5); Shared power; Shared responsibility (.5) | Collectively developed and agreed upon model of management roles and responsibilities |
| **2 Clearly defined resource boundaries** | Well defined resource system |  |  |
| **3 Congruence or fit of appropriation rules with local ecology and local culture (i.e. sustainable use of resources)** |  | Enabling conditions (.5); Incentives;   Organizational interactions (fit w/ ecosystems) (.5) | Aim to increase SES resilience, i.e. conservation/preservation of resource system;  Matching management to complex ecosystem structures/dynamics |
| **4 Balance between costs expended / investments made into a resource and benefits received from resources (equitable resource use)** |  | Incentives (.5) | Sustainable livelihood   development |
| **5 Collective choice arrangements (individuals affected by the rules can participate in making and modifying the rules)** | Clear and identifiable set of social entities with shared interests | Enabling conditions (.5); Incentives (.5); Shared Power (.5); Shared Responsibility (.5) | Shared decision making;  Participation in various aspects, e.g., decisions, enforcement, monitoring, etc.;  Equity (in decision making);   Inclusion of stakeholders; Minimal external inputs, self-organization, and self-reliance |
| **6 Monitoring resource conditions and appropriator behavior** |  |  | Monitoring ecological and social changes and outcomes of interventions, i.e., adequate feedback loops |
| **7 Monitoring the monitors** |  |  | Participation in various aspects, e.g., decisions, enforcement, monitoring, etc. |
| **8 Graduated sanctions** |  |  |  |
| **9 Conflict resolution mechanisms** |  | Conflict | Conflict management mechanisms and processes |
| **10 Minimal recognition of rights to organize** | National and regional policy environment explicitly supportive of collaborative management efforts | Enabling conditions (.5); Shared Power (.5) | Decentralization;  Focus on elements of difference, i.e., power culture, knowledge and legitimization and empowerment of different social actors |
| **11 Nested enterprises: governance activities are organized in multiple layers of nested enterprises** | Small-scale resource use contexts reduce complexity (.5) | Bridging organizations; Organizational interactions (.5) | Sharing authority;  Dealing with cross-scale linkages, i.e., across multiple levels |
| **12 Institutional adaptability/ variety/ flexibility** | Access to adaptable portfolio of management measures | elsewhere in article: importance of flexibility/adaptability of institutions and management (.5) | Capacity to evolve and change;  Institutional innovation and creativity;  Flexibility that permits rapid  institutional change;  Careful design, i.e., structuring of management actions as deliberate experiments |
| **13 Social learning** | Openness of participants to share and draw on plurality of knowledge systems and resources | Learning (social learning is a strong subtheme); | Social learning |
| **14 Long-term commitment and shared understanding** | Commitment to support long-term institution building process | Shared power; Shared responsibility (.5) | Communication, i.e., sharing of information and establishment of shared understanding;  Place-based understanding;  Common vision/goal or endpoint supported by rational for direction |
| **15 Leadership** | Key leaders or others willing to champion the process | Leadership | Strong leadership and/or facilitation |
| **16 Capacity building (e.g., training, resources)** | Provision of training, capacity building and resources for local-, regional-, and national-level stakeholders | Bridging Organizations (.5) | Adequate resources and capacity (human, financial, institutional);  Community capacity building |
| **17 Knowledge building (e.g., learning, information sharing)** |  | Knowledge; Learning | An underlying and ongoing process;  Incorporation/engagement of multiple sources of knowledge and culture;  Social/organizational memory |
| **18 Prior Networks** |  | Networks | Social/organizational memory (.5) |
| **19 Trust and Social capital** | treats as an indicator of success (.5) | Trust | Trust, i.e., social capital among participants and a nurturing environment |
| **20 Resource dependence** | p. 97 "These factors include evolving motivations for resource harvesting as individuals and communities engage with the market economy..." (.5) |  |  |
| **21 Group size** | "Such factors as group size and levels of homogeneity, reciprocity and trust in social dilemmas, benefit and cost distribution mechanisms, the existence of monitoring systems, and clearly defined resource system boundaries are highlighted. However, these insights are largely derived from the study of self-organizing, community based systems of management of the commons. Very few published papers about co-management have dealt with the complexities of multi-party and multi-scaled governance (Pinkerton 1994; Brown 2003). Recognition of the challenge of governance in multi-scale systems highlights additional priorities: deliberative processes among all stakeholders, redundant and layered institutions, and a mix of institutional types (Dietz et al. 2003). Adaptive co-management reflects these combined insights." |  |  |
| **22 Group homogeneity vs. heterogeneity** | "In contrast, novel governance approaches emphasize group decision making that accommodates diverse views, shared learning, and the social sources of adaptability, renewal, and transformation"   "Such factors as group size and levels of homogeneity, reciprocity and trust in social dilemmas, benefit and cost distribution mechanisms, the existence of monitoring systems, and clearly defined resource system boundaries are highlighted. However, these insights are largely derived from the study of self-organizing, community based systems of management of the commons. Very few published papers about co-management have dealt with the complexities of multi-party and multi-scaled governance (Pinkerton 1994; Brown 2003). Recognition of the challenge of governance in multi-scale systems highlights additional priorities: deliberative processes among all stakeholders, redundant and layered institutions, and a mix of institutional types (Dietz et al. 2003). Adaptive co-management reflects these combined insights." | See Table 8: Factors contributing to failure "Lack of homogeneity among resource systems and users" (.5) |  |