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Governing Nature Conservation in Political “Hotbeds”: A Contractual Approach

Taufik Haryanto*, Kai P. Purnhagen**

Abstract

The implementation of nature conservation initiatives is one of the major factors in successfully securing sustainability. According to social science literature, bottom-up approaches¹ that build on community engagement are preferred over top-down approaches because the establishment of nature conservation relies on mutual agreement and non-opportunistic behavior of the parties concerned. This preference is particularly notable in political “hotbeds” with weak governmental enforcement. The success of bottom-up approaches depend heavily on how the governance arrangements concerning nature conservation initiatives incentivize the commitment and trust of the stakeholders involved. This study explores what types of governance frameworks are appropriate to establish commitment and trust in bottom-up nature conservation. This paper also investigates whether private law theories on contractual governance, namely contractual networks, can establish the basis for a governance framework in private relationships. Contractual networks are hybrid forms of organizations located between markets and hierarchies.² “They are created to coordinate activities by legally independent parties who cooperate to achieve a common objective without creating a new corporate entity.”³ We will demonstrate that the theory related to the governance of contractual networks has the potential to form such an effective framework.

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1. Bottom-up approaches are characterized by a coordination of a web of individuals.
2. Oliver E. Williamson, *The Economics of Governance*, AM. ECON. REV., May 2005, at 1, 3–4.
3. Fabrizio Cafaggi, *Contractual Networks and Contract Theory: A Research Agenda for European Contract Law*, in CONTRACTUAL NETWORKS, INTER-FIRM COOPERATION AND ECONOMIC GROWTH 66, 66 (Fabrizio Cafaggi ed., 2011).

I. Introduction

Nature conservation initiatives play a pivotal role to the protection of biodiversity.⁴ “[M]ost areas considered to be high-priority diversity ‘hot spots’ (Myers 1988; Myers et al. 2000) are also social and political ‘hotbeds.’”⁵ Political ‘hotbeds’ are “rural areas in countries such as Colombia, Brazil, Madagascar, Tanzania, Malaysia, Indonesia, and the Ivory Coast which often feature high levels of poverty, insecure land tenure and landlessness, unstable and/or undemocratic political systems, and histories of state-sponsored repression.”⁶ The absence of effective public institutional governance frameworks limit the possibilities for effective state-centered governance arrangements, to the benefit of nature conservation in such “hotbeds.”⁷ As a consequence, arrangements increasingly focus on the introduction of more participatory bottom-up methods. As these arrangements hence focus more as social institutions, the existence of social mechanisms such as trust among the actors are pivotal for the success of decentralized bottom-up approaches.⁸ Decentralized bottom-up approaches delegate rights and responsibilities away from the state, to the local level.⁹ The bottom-up approach involves stakeholders such as local communities and governmental and nongovernmental entities, in a collective action, to establish nature conservation initiatives. Some of these bottom-up approaches establish

4. Hubert Job et al., *Protected Areas in a Neoliberal World and the Role of Tourism in Supporting Conservation and Sustainable Development: An Assessment of Strategic Planning, Zoning, Impact Monitoring, and Tourism Management at Natural World Heritage Sites*, 25 J. SUSTAINABLE TOURISM 1697, 1697–98 (2017); Nahieli Manjarrez-Bringas et al., *Lessons for Sustainable Development: Marine Mammal Conservation Policies and Its Social and Economic Effects*, 10 SUSTAINABILITY 1, 9 (2018); Yves M. Zinngrebe, *Conservation Narratives in Peru: Envisioning Biodiversity in Sustainable Development*, 21 ECOLOGY & SOC’Y 1, 1–23 (2016).

5. Steven R. Brechin et al., *Beyond the Square Wheel: Toward a More Comprehensive Understanding of Biodiversity Conservation as Social and Political Process*, 15 SOC’Y & NAT. RESOURCES 41, 42 (2002).

6. *Id.* at 42–43.

7. Julia Black, *Critical Reflections on Regulation*, 27 AUSTL. J. LEGAL PHIL. 1, 1–27 (2002) (on the difference between state-centred and de-centred regulation and their implication).

8. INGILD H. T. HARKES, FISHERIES CO-MANAGEMENT, THE ROLE OF LOCAL INSTITUTIONS AND DECENTRALISATION IN SOUTHEAST ASIA: WITH SPECIFIC REFERENCE TO MARINE SASI IN CENTRAL MALUKU, INDONESIA 250–51 (Institute of Environmental Sciences ed., 2006).

9. Svein Jentoft et al., *Social Theory and Fisheries Co-Management*, 22 MARINE POL’Y 423, 423 (1998).

nature conservation initiatives through contractual arrangements.¹⁰ For example, in Raja Ampat, Indonesia, a local conservation practice known as *sasi*, which formally involves institutions and stakeholders traditionally not involved in *sasi*—such as the church, business, government, and nongovernmental organizations—has proven to be an effective component of marine resource conservation.¹¹ In this paper, we investigate whether contractual governance theory can serve as an effective regulatory framework to govern bottom-up initiatives. Contractual governance describes the theory surrounding private ordering, “which entails efforts by the immediate parties to a transaction to align incentives and to craft governance structures that are better attuned to their exchange needs.”¹²

Contractual networks describes the sum of the contractual relationships between the several stakeholders which are bound together to achieve a common objective. From a legal perspective, the management of bottom-up nature conservation is embedded into a complex network of contractual arrangements.¹³ These govern not only the respective parties, but also third parties, such as the governing state.¹⁴ From a regulatory perspective, these contracts are created to coordinate the activities of otherwise legally independent parties; their purpose is to accomplish the common objective of nature conservation without creating a new corporate entity. Due to these features, we argue that the management of bottom-up nature conservation satisfies the requirements of a contractual network and should be analyzed as such.

Contractual networks require governance devices to monitor and steer the web of relationships.¹⁵ Several designs of contractual network exist. They specifically take the form of either formal or informal contracts,¹⁶ or relational

10. Sepus M. Fatem et al., *Camouflaging Economic Development Agendas with Forest Conservation Narratives: A Strategy of Lower Governments for Gaining Authority in the Re-Centralising Indonesia*, 78 LAND USE POL’Y 699, 700 (2018); Endang Gunaisah et al., *Socio-Economic and Cultural Sustainability in Local Wisdom Management at Local Marine Conservation Area (KKLD) of Mayalibit Bay, Raja Ampat Regency, West Papua Province*, 9 AQUACULTURE, AQUARIUM, CONSERVATION & LEGIS.-INT’L J. BIOFLUX SOC’Y (AAFL BIOFLUX) 901, 905 (2016).

11. Elizabeth McLeod et al., *Sasi and Marine Conservation in Raja Ampat, Indonesia*, 37 COASTAL MGMT. 656, 673 (2009).

12. Oliver E. Williamson, *The Theory of the Firm as Governance Structure: From Choice to Contract*, 16 J. ECON. PERSP. 171, 172 (2002).

13. See McLeod et al., *supra* note 11, at 673.

14. *Id.*

15. See Cafaggi, *supra* note 3, at 76–77.

16. Ian R. Macneil, *The Many Futures of Contracts*, 47 S. CAL. L. REV. 691, 720–25 (1973).

contracts where compliance is primarily built on mutual trust.¹⁷ Trust-related features can also work as a regulative tool, by which they contribute, inter alia, to the creation of trust and incentivize wanted behavior.¹⁸ This regulatory function, generally speaking, combined with the trust-creating feature of contract governance, make it particularly interesting for our type of study. As was shown in the example of marine *sasi* fishery systems in Indonesia, “the real ‘glue’ that keeps an institution [such as a nature conservation initiative] alive over time are the social mechanisms, i.e., trust, legitimacy, and transparency.”¹⁹ Contractual networks can deliver trust, legitimacy and transparency, while acting largely in the absence of state enforcement mechanisms. For this reason, they may be the ideal arrangement for the governance of nature conservation initiatives in political and social “hotbeds.”

In order to investigate whether such contractual networks are a good governance tool for establishing trust in bottom-up initiated nature conservation, we first discuss the theoretical literature on the effectiveness of bottom-up versus top-down initiated nature conservation. To this end, we evaluate the empirical literature on the effectiveness of bottom-up initiated nature conservation in the second section. Both strands of literature illustrate the need for governance by way of bottom-up approaches and trust-building measures. In the third section, we will link the outcome of the literature review to insights coming from relational contract theory and contractual network. We will show that both approaches share essential features with the governance requirements of bottom-up approaches towards the governance of nature conservation. And as such, can provide a good analytical framework for the governance of nature conservation in political “hotbeds.” However, empirical research into the effectiveness of the regulatory tools of network contracts is largely absent. Therefore, we call for more empirical research

17. Mathew Boyle, *The Relational Principle of Trust and Confidence*, 27 OXFORD J. LEGAL STUD. 633, 633–57 (2007); Nuno Gil et al., *Trust in Relational Contracting and as a Critical Organizational Attribute*, in THE OXFORD HANDBOOK OF PROJECT MANAGEMENT (Peter W. G. Morris et al. eds., 2011).

18. Fernando Gómez, *Cooperation, Long-Term Relationships and Open-Endedness in Contractual Networks*, in CONTRACTUAL NETWORKS, INTER-FIRM COOPERATION AND ECONOMIC GROWTH 21, 24 (Fabrizio Cafaggi ed., 2011); Jeffrey L. Bradach & Robert G. Eccles, *Price, Authority, and Trust: From Ideal Types to Plural Forms*, 15 ANN. REV. SOC. 97, 97–118 (1989); Stewart Macaulay, *Non-Contractual Relations in Business: A Preliminary Study*, 28 AM. SOC. REV. 55, 62–67 (1963); Arif Satria et al., *Contractual Solution to the Tragedy of Property Right in Coastal Fisheries*, 30 MARINE POL’Y 226, 226–36 (2006) (illustrating how contractual arrangements can incentivize sustainable behavior in the fisheries sector).

19. See HARKES, *supra* note 8, at 250–51.

to investigate whether the tools of contractual network governance can be used to successfully govern nature conservation in political and social “hotbeds.”

II. Bottom-up vs. top-down approach to natural resources governance in “hotbeds” and the need for governance, engagement, and trust

The following section is an overview of findings in the literature on the effectiveness of bottom-up approaches. We illustrate, based on selected examples, how the discussion in the literature developed to identify the “trust problem” of the governance of nature conservation initiatives. First, we analyze the pertinent theoretical literature, and then empirical research.

A. A review of theoretical literature

Early literature broadly highlighted the problems with bottom-up approaches, focusing on the identification and structure of the challenges. Whereas later literature concerned the evaluation of the execution of remedial measures. Some of the concerns illustrated by earlier literature include: participation,²⁰ access,²¹ authority,²² power,²³ and cooperation.²⁴

Communities’ participation in natural resource governance can be described as a spectrum²⁵ with a varying degree of the involvement of the State—with government-centralized management as the strongest involvement, co-management in the middle and community-self management representing least involvement.²⁶ Co-management covers a different level of communities’ participation, power sharing, and integration of local and government-centralized management systems²⁷ The spectrum of co-management ranges from simple

20. Robert S. Pomeroy & Fikret Berkes, *Two to Tango: The Role of Government in Fisheries Co-Management*, 21 *MARINE POL’Y* 465, 465–68 (1997).

21. Jesse C. Ribot & Nancy Lee Peluso, *A Theory of Access*, 68 *RURAL SOC.* 153, 153–81 (2003).

22. Thomas Sikor & Christian Lund, *Access and Property: A Question of Power and Authority*, 40 *DEV. & CHANGE* 1, 1–22 (2009).

23. Max Krott et al., *Actor-Centred Power: The Driving Force in Decentralized Community Based Forest Governance*, 49 *FOREST POL’Y & ECON.* 34, 34–42 (2014).

24. Carina Cavalcanti et al., *Public Participation and Willingness to Cooperate in Common-Pool Resource Management: A Field Experiment with Fishing Communities in Brazil*, 69 *ECOLOGICAL ECON.* 613, 613–22 (2010).

25. Pomeroy & Berkes, *supra* note 20, at 466.

26. *Id.* at 466.

27. *Id.*

information regimes, cooperation to community control and inter-area coordination.²⁸ However, there is neither a clear line between points on the spectrum, nor does the spectrum work towards a static point due to the social, political, and cultural factors that influence community participation.²⁹ For instance, one study suggested that stakeholders are most likely to participate if they are the ones who will be economically and socially better off, and have preexisting links to authorities and information by authorities.³⁰ Conversely, another study argues that participation is related to cooperation.³¹ This study reveals that the willingness to cooperate in such conservation initiatives is influenced by communities' participation, leadership, and the belief of others' cooperation influence.³²

"Access studies" describes research that examines how stakeholders have, obtain, and retain benefits of available natural resources.³³ Access studies differentiate two kinds of access mechanisms, which are termed "rights-based" and "structural-relational-based." The rights-based mechanism relates to granting access by means of the law, rules, and regulations. Conversely, structural-relational mechanisms grant access to natural resources by use of tools such as technology, information, knowledge, capital, social relation, and self-identity.³⁴ It is difficult to distinguish both mechanisms since they are interconnected with one another. Sikor and Lund's study provides a richer theory on exercising access to natural resources that is not exclusively defined by property rights but also includes authority which influences the process of legitimacy.³⁵ Sikor and Lund's perspective widens the view towards natural resources governance to include property and authority in the legitimacy processes. According to Sikor and Lund's study, legitimacy is not static. Rather, it is evolving and creates contracts that are influenced by socio-political and even cultural aspects.³⁶ Accordingly, recent researchers witnessed a wide involvement of stakeholders, including the state. The state together with other stakeholders exercise control via power plays.³⁷ The study of power cited in the

28. Pomeroy & Berkes, *supra* note 20, at 466–68.

29. *Id.*

30. Arun Agrawal & Krishna Gupta, *Decentralization and Participation: The Governance of Common Pool Resources in Nepal's Terai*, 33 *WORLD DEV.* 1101, 1110–11 (2005).

31. Cavalcanti et al., *supra* note 24, at 619–20.

32. *Id.*

33. See Ribot & Peluso, *supra* note 21, at 154–55.

34. See Ribot & Peluso, *supra* note 21, at 162–72.

35. See Sikor & Lund, *supra* note 22, at 1–7.

36. See Sikor & Lund, *supra* note 22, at 6–7.

37. Krott et al., *supra* note 23, at 35–36; Jane Mansbridge, *The Role of the State in Governing the Commons*, 36 *ENVTL. SCI. & POL'Y* 8, 8–10 (2014).

previous footnote emphasizes that the power play between stakeholders is a crucial factor to take into account in decentralized forest governance.³⁸ Moreover, this literature defines the elements of power as coercion (force), (dis)incentives, and dominant information.³⁹ Mansbridge's study provides another perspective on stakeholders and their power plays.⁴⁰ This study stipulates the state plays a significant role in governing natural resources. Specifically, the localized governance is nested in higher institutions.⁴¹

Contemporary literature focuses on the evaluation of the correct implementation tools. Early literature introduced the need to take into account complexity of the society and the cross-scale interaction between them in natural resource governance.⁴² Due to the intersection between society and natural resources governance, local knowledge needs to be implemented to enable cooperative processes. Furthermore, several factors encourage stewardship and build mutual trust which are implementation of solutions at the local level, equity and empowerment as a part of multidimensional incentives, and the sharing of power and of responsibility.⁴³ Similarly, some proponents of bottom-up nature conservation advance the co-management strategies previously introduced, namely simple information regimes, cooperation to community control and inter-area coordination. These strategies emphasize engaging local stakeholders in different aspects and to various extents.⁴⁴ We argue that co-management will likely be the best way to meet the intended goals of conservation while also meeting social and ecological goals because capabilities to adjust social, economic and institutional condition that fit the need of the locals.⁴⁵ An empirical assessment concerning communal farmers in Namibia and South Africa has revealed that challenges of compliance and efficiency can be dealt with when rules are not in conflict with local norms.⁴⁶ A similar assessment on compliance also highlights the need for adaptive co-management. Co-management of this nature allows for renegotiation and adaptation, which is highly beneficial. Accordingly, another study on forest users groups in Bolivia also provided evidence for the importance of local self-

38. Krott et al., *supra* note 23, at 35.

39. Krott et al., *supra* note 23, at 37–39.

40. *See* Mansbridge, *supra* note 37, at 8–10.

41. Mansbridge, *supra* note 37, at 9–10.

42. Fikret Berkes, *Rethinking Community-Based Conservation*, 18 *CONSERV. BIOL.* 621, 623–24 (2004).

43. *Id.* at 629.

44. *See* Pomeroy & Berkes, *supra* note 20, at 468–71.

45. Joshua E. Cinner et al., *Co-management of Coral Reef Social-Ecological Systems*, 109 *PROC. NAT. ACAD. SCI. U.S.A.* 5219, 5222 (2012).

46. Björn Vollan et al., *Co-Managing Common-Pool Resources: Do Formal Rules Have to Be Adapted to Traditional Ecological Norms?*, 95 *ECOLOGICAL ECON.* 51, 62 (2013).

organized rule-making and sanctioning in assuring cooperation and compliance.⁴⁷ In order to effectively achieve such engagement of local stakeholders, studies have shown that it is essential to understand the socio-cultural context before engagement starts.⁴⁸

To summarize, many scholars propose bottom-up approaches for establishing and managing natural resources because many cases have shown more success with this model than top-down regulation.⁴⁹ However, upon closer examination, the empirical literature reveals mixed success stories.⁵⁰ Important determinants for the success of nature management are, in particular, the chosen aspect of community involvement,⁵¹ the acquisition of access,⁵² and willingness to cooperate.⁵³ Other important determinants include the existence of functioning rules, cooperation,⁵⁴ legitimation, and equitability.⁵⁵ As a consequence, the success of bottom-up approaches to nature conservation requires effective governance. As a result, many observers quickly emphasize the need of government control to ensure long-term sustainability of bottom-up nature conservation activities.⁵⁶ In their view, such a state centered perspective is required in order to prevent a backlash of conservation goals behind other community demands⁵⁷ or to enable cooperation and establish leadership among diverse stakeholders.⁵⁸ However, all too often, scholars overlook the fact that governmental control is particularly difficult to establish in political “hotbeds.”

So far, scholars have not developed a governance framework that is feasible for nature conservation in political “hotbeds.” Research has shown that nature

47. Krister Andersson et al., *Institutional Diversity and Local Forest Governance*, 36 ENVTL. SCI. & POL'Y 61, 62 (2014).

48. Eleanor J. Sterling et al., *Assessing the Evidence for Stakeholder Engagement in Biodiversity Conservation*, 209 BIOLOGICAL CONSERVATION 159, 162–66 (2017).

49. Arun Agrawal, *Common Property Institutions and Sustainable Governance of Resources*, 29 WORLD DEV. 1649, 1650 (2001).

50. Sterling et al., *supra* note 48, at 166–67; Berkes, *supra* note 42, at 622.

51. See Pomeroy & Berkes, *supra* note 20, at 468.

52. See Ribot & Peluso, *supra* note 21, at 172–74; Sikor & Lund, *supra* note 22, at 5.

53. See Cavalcanti et al., *supra* note 24, at 620; Agrawal & Gupta, *supra* note 30, at 1110–11.

54. See Vollan et al., *supra* note 46, at 60.

55. See Andersson et al., *supra* note 47, at 70.

56. Edward J. Hind et al., *From Community-Based to Centralised National Management—A Wrong Turning for the Governance of the Marine Protected Area in Apo Island, Philippines?*, 34 MARINE POL'Y 54, 55 (2010).

57. *Id.*

58. Marc J. Stern et al., *The Goals and Challenges of the March 30-31, 2001 Yale ISTF Conference Entitled: Transboundary Protected Areas: The Viability of Regional Conservation Strategies*, 17 J. SUSTAINABLE FORESTRY 1, 4 (2003).

conservation cannot just be governed by public institutions, but must also be adequately supported by social mechanisms that will ensure “legitimacy, trust, collaboration and transparency.”⁵⁹ Out of these four elements, theorists⁶⁰ and empiricists⁶¹ have identified the building of trust between stakeholders as a major factor in determining: social capital, cooperation, participation, as well as the success of natural resource governance.

B. A review of empirical literature.

This section introduces empirical findings on the effectiveness of bottom-up approaches to the governance of natural resources. We will illustrate that participation in decision making, information sharing, and trust as the key factors in establishing successful nature conservation initiatives. The population size determines what form of participation will occur, and compliance defines the effectiveness of nature conservation initiatives. The discussion of natural resources management in disciplines such as marine, freshwater, forest, or across these disciplines (marine-forest or landscape scale) cover three types of approaches to the governance of natural resources, namely top-down, bottom-up, and co-management (which is a middle ground between top-down and bottom-up). Nature conservation initiatives can seldom rely on complete ecological data.⁶² Complex societal issues make the estimation of an optimal solution for each one involved

59. HARKES, *supra* note 8, at 249.

60. Kimberly Coleman & Marc J. Stern, *Exploring the Functions of Different Forms of Trust in Collaborative Natural Resources Management*, 31 SOC’Y & NAT. RES. 21, 21–38 (2018); Bart Nooteboom et al., *Effects of Trust and Governance on Relational Risk*, 40 ACAD’Y MGMT. J., 308, 308–38 (1997).

61. Birgit I. de Vos & Jan P. M. van Tatenhove, *Trust Relationship Between Fishers and Government: New Challenges for the Co-Management Arrangements in the Dutch Flatfish Industry*, 35 MARINE POL’Y 218, 220 (2011); Michael J. Manfredo et al., *Values, Trust, and Cultural Backlash in Conservation Governance: The Case of Wildlife Management in the United States*, 214 BIOLOGICAL CONSERVATION 303, 310 (2017); Landon Yoder & Rinku Roy Chowdhury, *Tracing Social Capital: How Stakeholder Group Interactions Shape Agricultural Water Quality Restoration in the Florida Everglades*, 77 LAND USE POL’Y 354, 360 (2018); Lucia Ordoñez-Gauger et al., *It’s a Trust Thing: Assessing Fisherman’s Perceptions of the California North Coast Marine Protected Area Network*, 158 OCEAN & COASTAL MGMT. 144, 152 (2018).

62. David R. Smith et al., *Developing a Landscape-Scale, Multi-Species, and Cost-Efficient Conservation Strategy for Imperiled Aquatic Species in the Upper Tennessee River Basin, USA*, 27 AQUATIC CONSERVATION: MARINE & FRESHWATER ECOSYSTEMS 1224, 1225 (2017).

almost impossible.⁶³ However, empirical studies may nonetheless provide valuable insights on the effective governance arrangements in several cases.

Within the marine discipline, scholars discussed several key aspects for the success of marine conservation. Participation in decision making,⁶⁴ information sharing, and trust⁶⁵ are among the key aspects. For example, different sets of ideas, specifically the experience and beliefs of each stakeholder influence participation in marine conservation in the Philippines.⁶⁶ This case also shows that adherence to the rules of the game and the communication of a clear objective from the outset are essential.⁶⁷ However, it is notable that the quality of the communication strategies matter as well. In a case study in Galapagos, local actors did not participate in decision making, resulting in continuous conflict.⁶⁸ This case study illustrates the need for internal consultation and a feedback strategy for the successful implementation of nature conservation.⁶⁹ Additionally, population size influences the form of participation.⁷⁰ On Galapagos the size of the relevant population represented had an impact on the responsible representative's form of participation.

Compliance is a major factor in effectively establishing nature conservation initiatives.⁷¹ Traditionally, compliance is achieved by state-centered top-down approaches involving coercion. However, top-down approaches are costly and ineffective due to many factors, such as low compliance and a high risk of conflict. Decentralized bottom-up approaches delegate rights and responsibility away from the state to the local level.⁷² Such bottom-up approaches decrease costs and

63. Christine Rockmann et al., *Stakeholder Participation in Marine Management: The Importance of Transparency and Rules for Participation*, in CONSERVATION FOR THE ANTHROPOCENE OCEAN 289, 289 (Phillip S. Levin & Melissa R. Poe ed., 2017).

64. Richard B. Pollnac et al., *Discovering Factors That Influence the Success of Community-Based Marine Protected Areas in the Visayas, Philippines*, 44 OCEAN & COASTAL MGMT. 683, 707 (2001).

65. Rodrigo Oyanedel et al., *Establishing Marine Protected Areas through Bottom-Up Processes: Insight from Two Contrasting Initiatives in Chile*, 26 AQUATIC CONSERVATION: MARINE & FRESHWATER ECOSYSTEM 184, 193 (2016).

66. See Rockmann et al., *supra* note 63, at 303.

67. Rockmann et al., *supra* note 63 at 303.

68. *Id.* at 205.

69. Pippa Heylings & M. Bravo, *Evaluating Governance: A Process for Understanding How Co-Management Is Functioning, and Why, in the Galapagos Marine Reserve*, 50 OCEAN & COASTAL MGMT. 174, 188–89 (2007).

70. Pollnac et al., *supra* note 64, at 706.

71. Timothy R. McClanahan et al, *A Comparison of Marine Protected Areas and Alternative Approaches to Coral-Reef Management*, 16 CURRENT BIOLOGY 1408, 1411 (2006).

72. See Jentoft et al., *supra* note 9, at 423–24.

conflicts while also promoting compliance.⁷³ A freshwater conservation study in South Africa provides a valuable lesson on how top-down conservation targets and bottom-up implementation feedbacks are interdependent. Systematic feedback requires systemic conservation governance.⁷⁴ Hence, conservation efforts are aligned across the vertical and horizontal dimension.⁷⁵ In this manner, conservation activities are characterized by the involvement of different stakeholders at different levels, including third parties like brokers and scientists.⁷⁶ Knowledge, relationships, and facilitation skills are important in building a broad network of stakeholders.⁷⁷

In forest management, individual and social identities influence participation in forest governance.⁷⁸ Across the tropics, community-managed forests show lower rates of deforestation.⁷⁹ Local forest governance with high community involvement in organizing, ruling, and sanctioning results in more effective management.⁸⁰ If a forest is primarily state-owned, like in the tropics for example, scholars have shown that hybrid governance models, which include specific measures to ensure transparency and accountability in the decision-making process, are more effective.⁸¹ Therefore, no one stakeholder—such as the government, private institutions, or the community—should exclusively govern forests. A case study conducted in Nepal concerning decentralized governance in the *Terai* conservation area revealed that participation needs to be built into an institutional mechanism in order to: (1) improve the access to information and knowledge of those in low income households, and (2) promote more interaction between less powerful residents and the government.⁸² In terms of forest conservation, recognizing the

73. Priscila F. M. Lopes et al., *Suggestions for Fixing Top-Down Coastal Fisheries Management Through Participatory Approaches*, 40 *MARINE POL'Y* 100, 109 (2013).

74. Dirk J. Roux et al., *Top-Down Conservation Targets and Bottom-Up Management Action: Creating Complementary Feedbacks for Freshwater Conservation*, 26 *AQUATIC CONSERVATION: MARINE & FRESHWATER ECOSYSTEMS* 364, 377 (2016).

75. *Id.*

76. Roux et al., *supra* note 74.

77. *Id.*

78. Bir Bahadur Khanal Chhetri et al., *Community Forestry in the Hills of Nepal: Determinants of User Participation in Forest Management*, 30 *FOREST POL'Y & ECON.* 6, 12 (2013).

79. Luciana Porter-Bolland et al., *Community Managed Forests and Forest Protected Areas: An Assessment of Their Conservation Effectiveness Across Tropics*, 268 *FOREST ECOLOGY & MGMT.* 6, 14 (2012).

80. *See* Andersson et al., *supra* note 47, at 70.

81. Pushpendra Rana & Ashwini Chhatre, *Beyond Committees: Hybrid Forest Governance for Equity and Sustainability*, 78 *FOREST POL'Y & ECON.* 40, 49–50 (2017).

82. *See* Agrawal & Gupta, *supra* note 30, at 1111.

socio-economic needs of the locals, acknowledging tenure rights,⁸³ and strengthening local practices and customs will benefit nature conservation positively.⁸⁴

Meanwhile, under the umbrella of conservation policy, understanding human or social dimensions could improve conservation outcomes.⁸⁵ This approach will reduce conflicts or the opposition to conservation initiatives.⁸⁶ For instance, Swedish national park governance policy was exclusively geared towards nature conservation, excluding human demands.⁸⁷ This approach triggered conflict with local land users⁸⁸ and resulted in a change of national park policy toward increasing local involvement and promoting local interests, local needs.⁸⁹ Studies such as those in Sweden illustrate that successful governance of a national park requires local practices and customs to be “fully incorporated within the designation process and subsequent park management.”⁹⁰ The question is not whether co-management works, but rather, under what conditions it can be used to successfully govern natural resources.⁹¹ Furthermore, conservation initiatives need to be able to identify and take into account heterogeneity in community groups and build trust between stakeholders, otherwise, we are just paying lip-service to nature conservation.⁹²

The initiation of a nature conservation in any discipline raises the challenge of compliance and conflict.⁹³ Compliance with the rules of conservation initiatives is a key factor for success.⁹⁴ Additionally, participatory processes are essential

83. Porter-Bolland et al., *supra* note 79, at 6.

84. Lina Holmgren et al., *Protected Area Governance in Sweden: New Modes of Governance or Business as Usual?*, 22 LOCAL ENV'T.: INT'L J. JUST. & SUSTAINABILITY 22, 34 (2017).

85. Nathan J. Bennett et al., *Conservation Social Science: Understanding and Integrating Human Dimensions to Improve Conservation*, 205 BIOLOGICAL CONSERVATION 93, 104 (2017).

86. *Id.*

87. *See* Holmgren et al., *supra* note 84, at 22

88. Holmgren et al., *supra* note 84, at 22

89. Holmgren et al., *supra* note 84, at 33.

90. Holmgren et al., *supra* note 84, at 34.

91. Simo Sarkki et al., *Local People and Protected Areas: Identifying Problems, Potential Solutions and Further Research Questions*, 14 INT'L J. ENV'T. & SUSTAINABLE DEV. 299, 309 (2015).

92. *Id.* at 308.

93. Jennifer N. Solomon et al., *Detecting and Understanding Non-Compliance with Conservation Rules*, 189 BIOLOGICAL CONSERVATION 1, 2 (2015).; Adrian Arias, *Understanding and Managing Compliance in the Nature Conservation Context*, 153 J. ENVTL. MGMT. 134, 134 (2015).

94. Chiara Bragagnolo et al., *Understanding Non-Compliance: Local People's Perceptions of Natural Resource Exploitation Inside Two National Parks in Northeast Brazil*, 40 J. NAT. CONSERVATION 64, 73 (2017).

features of bottom-up governance of nature conservation initiatives because they are a way to remedy the lack of support and compliance of top-down conservation processes.⁹⁵ Participatory processes are a promising solution for resolving social and environmental challenges.⁹⁶ Nevertheless, participatory processes raise concerns about power plays between stakeholders and about equality among different stakeholders, this also holds true for community groups.⁹⁷ As a participatory process, relationships among stakeholders are important. Interactions within a social network have a strong, often overlooked, influence on the tendency of stakeholders to participate in a policy that affects livelihood.⁹⁸ Trust plays an important role in the success or failure of the relationship.⁹⁹

III. Linking contract governance theory to bottom-up nature conservation governance

So far, our analyses of empirical and theoretical studies revealed that nature conservation requires a functioning governance framework to ensure compliance. This is difficult to establish in political “hotbeds” if one looks only to traditional, state-centered governance solutions.¹⁰⁰ Social factors, such as the stabilization of trust among stakeholders, also play an important role in the successful bottom-up governance of a nature conservation.¹⁰¹ In the absence of available state-centered solutions, the success of collective action situations largely depend on the willingness of actors to cooperate, which in turn strongly relates to their

95. See Oyanedel et al., *supra* note 65, at 185.

96. James Reed et al., *Integrated Landscape Approaches to Managing Social and Environmental Issues in the Tropics: Learning from the Past to Guide the Future*, 22 *GLOBAL CHANGE BIOLOGY* 2540, 2545 (2016).

97. Pina Lena Lammers et al., *The Challenges of Community-Based Conservation in Developing Countries – A Case Study from Lake Alaotra, Madagascar*, 40 *J. NAT. CONSERVATION* 100, 109 (2017); Susan Chomba et al., *The Political Economy of Forest Entitlements: Can Community Based Forest Management Reduce Vulnerability at the Forest Margin?*, 58 *FOREST POL'Y & ECON.* 37, 45 (2015).

98. Roy J. Lewicki et al., *Models of Interpersonal Trust Development: Theoretical Approaches, Empirical Evidence, and Future Directions*, 32 *J. MGMT.* 991, 997–98 (2006); Scott D. McClurg, *Social Networks and Political Participation: The Role of Social Interaction in Explaining Political Participation*, 56 *POL. RES. Q.* 448, 457–58 (2003).

99. Latifou Idrissou et al., *Trust and Hidden Conflict in Participatory Natural Resources Management: The Case of the Pendjari National Park (PNP) in Benin*, 27 *FOREST POL'Y & ECON.* 65, 65 (2013); Adam Liljebblad et al., *Determinants of Trust for Public Lands: Fire and Fuels Management on the Bitterroot National Forest*, 43 *ENVTL. MGMT.* 571, 571 (2009); Lewicki et al., *supra* note 98, at 992.

100. See Black, *supra* note 7, at 4.

101. See HARKES, *supra* note 8, at 42–43.

expectations of the behaviors of the other members in the cooperation.¹⁰² Trust can be pivotal for achieving such cooperation.¹⁰³ Trust can also lead to expectations that others will reciprocate and when these expectations are met long-term obligations may develop.¹⁰⁴ In complex circumstances, such as the management of nature conservations, causal and legal attributes can be essential to creating reliable expectations that stabilize patterns of interaction and thereby systemic trust. Contracts may be assigned an important governance role of coordinating collaboration between actors where collective action problems arise and are also of a transboundary nature (such as in nature conservation initiatives).¹⁰⁵ Contracts may work best outside of a state-centered governance framework, whose regulative function is determined by enabling the “social glue” via the required cooperation.¹⁰⁶ The management of ecosystems and ecosystem services on which nature conservation rely upon are embedded into complex contractual arrangements. Contractual networks require governance devices to monitor and steer the web of relationships.¹⁰⁷ These networks can be designed as relational contracts,¹⁰⁸ where compliance is built on mutual trust.¹⁰⁹ Legal tools, such as rights and principles, can ensure that trust in contractual relations will be rewarded and opportunistic behavior, which may work against achieving the common objective, will be punished.¹¹⁰ Such tools involve, for example, provisions that ensure the transfer of information, open communication, and risk sharing.¹¹¹ To enforce trust-related obligations, courts have developed implied duties between contracting parties that allow for certain remedial measures where breach of an

102. Lennart J. Lundqvist, *Games Real Farmers Play: Knowledge, Memory and the Fate of Collective Action to Prevent Eutrophication of Water Catchments*, 6 LOCAL ENV'T. 407, 418 (2001); Graham R. Marshall, *Farmers Cooperating in Commons? A Study of Collective Action in Salinity Management*, 51 ECOLOGICAL ECON. 271, 275 (2004); Jules Pretty, *Social Capital and the Collective Management of Resources*, 302 SCI. 1912, 1913 (2003).

103. Elinor Ostrom, *Analyzing Collective Action*, 41 AGRIC. ECON. 155, 158-59 (2010).

104. See Pretty, *supra* note 102, at 1913.

105. T. K. Das & Bing-Sheng Teng, *Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances*, 23 ACAD'Y MGMT. REV. 491, 495-96 (1998).; Utkur Djanibekov et al., *Understanding Contracts in Evolving Agro-economies: Farmers, Dekhqans and Networks in Khorezm, Uzbekistan*, 32 J. RURAL STUD. 137, 140 (2013).

106. See Bradach & Eccles, *supra* note 18, at 106.; Macaulay, *supra* note 18, at 65; Satria et al., *supra* note 18, at 233 (illustrating how contractual arrangements can incentivize sustainable behavior in the fisheries sector).

107. Cafaggi, *supra* note 3, at 67-68.

108. See Macneil, *supra* note 16, at 720-21.

109. Boyle, *supra* note 17, at 638; Gil et al., *supra* note 17.

110. Cafaggi, *supra* note 3, at 68.

111. Cafaggi, *supra* note 3, at 68.

implied duty occurs.¹¹² Beyond that, legal scholarship increasingly identifies rights, duties, and other non-legal regulatory instruments that cope with trust problems. Their impact on trust in the bottom-up establishment and governance of a nature conservation initiative has not been researched. As the use of bottom-up approaches increases, there is an urgent need for research on trust as a successful governance mechanism.

In contractual theory, contracts can take a variety of forms: formal or informal, written or verbal, and implicit or explicit.¹¹³ Within the governance of nature conservation initiatives, we can find many of these different forms of contracts as well. West Papua is the only political “hotbed” in the world we know of which already uses contracts for the establishment of a conservation initiative.¹¹⁴ The type of contract that stakeholders use in West Papua are formal contracts.¹¹⁵ To be able to test out theoretical underpinnings empirically, we also focus on formal contracts as a starting point in this paper. Formal contracts have the following two features:¹¹⁶ First, contractual clauses confer a form of control over the contracting parties and, second, they create opportunities that arise from the rights granted by the contract.¹¹⁷ Long-term contracts in particular have the ability to create trust among the contracting parties;¹¹⁸ however, they also necessitate trust to control potential opportunistic behavior.¹¹⁹ Thus, contracts can be viewed as a sign of commitment and a tool for coordination.¹²⁰

Interpreting contracts through such a lens opens up the possibility to investigate contracts as a governance tool for nature conservation in political “hotbeds.” If these “hotbeds” feature a lack of efficient government involvement—which nature conservation requires for effective governance and trust-building mechanisms—formal contracts may serve as an adequate substitute. The subsequent questions then arise: How should one design these contracts? Which framework shall be established to safeguard their effective regulatory function?

112. See Boyle, *supra* note 17, at 647.

113. See generally Stanford J. Grossman & Oliver D. Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 J. POL. ECON. 691, 691–719 (1986); Oliver Hart & John Moore, *Property Rights and the Nature of the Firm*, 98 J. POL. ECON. 1119, 1119–58 (1990); Stuart L. Hart, *A Natural-Resource-Based View of the Firm*, 20 ACAD’Y MGMT. REV. 986, 986–1014 (1995).

114. See Fatem et al., *supra* note 10, at 700; Gunaisah et al., *supra* note 10, at 900.

115. *Id.*

116. Rosalinde Klein Woolthuis, *Trust, Contract and Relationship Development*, 26(6) ORG. STUD. 813, 818 (2005).

117. *Id.*

118. Bradach & Eccles, *supra* note 18, at 107–08.; Macaulay, *supra* note 18, at 64.

119. Woolthuis et al., *supra* note 116, at 814.

120. Gómez, *supra* note 18 at 25.

Across markets around the world the use of long-term and networked contracts steadily increases.¹²¹ In contract law theory, many of these functions have been studied in several settings. By looking into the functions that work best to facilitate nature conservation in political “hotbeds,” we can rely on a rich source of literature governing many situations. The governance of nature conservation and the general literature on formal networking contracts share a common feature, namely that the underlying transactions are so complex that formal contracts cannot possibly cover all contingent circumstances.¹²² In complex contexts, contracts should be more general and take into account uncertainty.¹²³ While such a lack of clear-cut rules may be viewed as an impairment to the steering capacity of a contract, it can also be identified as a means to enforce trust among the parties.¹²⁴ Contracts play a pivotal role in trust dynamics, reinforcing each other in either positive or negative ways.¹²⁵ Long-term contracts require constant social interaction to preclude opportunistic behavior by engaging in trust-building capacities.¹²⁶ When contracts are organized in a network, such as in the bottom-up governance of nature conservation, these social interactions need not be designed to cover only the two parties involved in an exchange contract, but rather the whole network.¹²⁷

The contractual relationships needed for the governance of nature conservation run parallel to what has been described in contractual networks theory as a “multilateral contract.”¹²⁸ “Multilateral contracts are used to coordinate parties’ activities in order to pursue common objectives.”¹²⁹ They “are generally chosen when a higher level of coordination is necessary, when information exchange needs to be centralized, and when monitoring occurs through common technological platforms.”¹³⁰ Each of these features describe what has been identified earlier in the description of the bottom-up governance of nature

121. Gómez, *supra* note 18 at 25.

122. Mick Moore, *How Difficult Is It to Construct Market Relations? A Commentary on Plateau*, 30 J. DEV. STUD. 818, 819 (1994).

123. Oliver E. Williamson, *The New Institutional Economics: Taking Stock, Looking Ahead*, 38 J. ECON. LITERATURE 595, 603 (2000).; Jasper R. de Vries et al., *The Pivot Points in Planning: How the Use of Contracts Influences Trust Dynamics and Vice Versa*, 13 PLANNING THEORY 304, 305 (2013).

124. Bradach & Eccles, *supra* note 18, at 111; Macaulay, *supra* note 18, at 64.

125. See De Vries et al., *supra* note 123, at 316–17.

126. See Macneil, *supra* note 16, at 722–23.

127. See Cafaggi, *supra* note 3, at 72–73.

128. See *id.* at 84.

129. *Id.*

130. Cafaggi, *supra* note 3, at 94.

conservation.¹³¹ Turning to the governance features of these multilateral contracts, decisions are usually made based on consensus,¹³² although voting power is often delegated to a committee or board.¹³³ The contractual networks involve rules on information sharing, participation, the prohibition of unfair competition, and decision-making.¹³⁴ Enforcement mechanisms often rely on naming and shaming.¹³⁵ While a considerable amount of literature exists on the description of these contractual networks (scoping), little empirical work exists on their effectiveness towards reaching the common goal.

IV. Conclusion

Contractual networks and relational contracts share essential features with the process that are described in theoretical and empirical work as bottom-up nature conservation. A participatory process that engages the various stakeholders and stimulates their involvement is key for successful governance of conservation initiatives through contract. Social mechanisms play an essential part in ensuring such conservation governance works. Legal scholarship also assigns governing features to contractual networks, which can be used to tackle problems associated with the bottom-up nature conservation. Hence, contractual networks and the governance tools assigned to them have the potential to serve as an effective governance framework to bottom-up nature conservation. Additionally, contractual networks also have big potential to become a successful governance tool for bottom-up approaches towards the establishment of nature conservation in political “hotbeds” because of their trust-enabling function and their ability to function in the absence of state-centered governance systems. While we have demonstrated the potential of contract governance as a superior governance tool for the bottom-up establishment of nature conservation, currently there is no empirical research to prove this claim. We encourage those engaged in this field to consider conducting this type of research. In particular, research into which contractual governance tools work towards the common goal of nature conservation establishment is imperative. This literature review has shown that the success of contractual tools is likely measured on the degree to which they are able to create and maintain trust among the parties.

131. See Stern et al., *supra* note 58, at 4.

132. See Cafaggi, *supra* note 3, at 94.

133. See Cafaggi, *supra* note 3, at 101.

134. See Cafaggi, *supra* note 3, at 70.

135. Cafaggi, *supra* note 3, at 95.
