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FACTSHEET

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The Science Is In: Community Governance Supports Forest Livelihoods and Sustainability

But the Paris Agreement and Sustainable Development Goals lack this vital insight

Major strides have been made in global policies on climate change and sustainable development. Both the Paris Agreement[1] and the Sustainable Development Goals (SDGs)[2] fail, however, to take advantage of recent scientific findings that confirm what forest dwellers have long known: effective environmental governance is best achieved through community-based approaches. Private incentives and market-based strategies are often ineffective means of achieving environmental goals. Recent research (summarized here) provides compelling evidence that:

- When deforestation pressures are high, Indigenous Peoples' territories reduce deforestation more than other types of protected area.
- Local participation in forest rulemaking is crucial for producing sustainable forest outcomes.
- Community—rather than private—benefits are the key to motivating local people to protect forests.

Collectively, these studies show that community-based approaches have substantial positive effects on forest outcomes, forest management, and the motivation to conserve forests. The success of global policies such as the Paris Agreement and the SDGs requires immediate action to restore land rights for Indigenous Peoples and local communities, and a focus on community-based approaches to forest management.

What is effective environmental governance?

Effective environmental governance can be defined as a combination of institutions, incentives, and information that overcomes the gap between public and private interests to achieve the best possible environmental outcomes.[a]

a. Agrawal, Arun. 2015. "Communities, Forest Protection, and Governance." May. Powerpoint Presentation.

Indigenous Peoples' lands guard against deforestation, even when pressure is high

A 2013 study analyzed the relationship between deforestation and governance. It used data from 292 strictly protected areas, sustainable-use areas, and indigenous lands in the Brazilian Amazon during two periods (2001–2005 and 2006–2010).[3] It found that all three inhibited deforestation, but Indigenous Peoples' territories reduced deforestation more than the other two categories when deforestation pressures were high.[4]

Figure 1 shows that deforestation (y axis) barely increases in indigenous lands as pressures to deforest rise (x axis). Deforestation increases far more in strictly protected and sustainable-use areas.

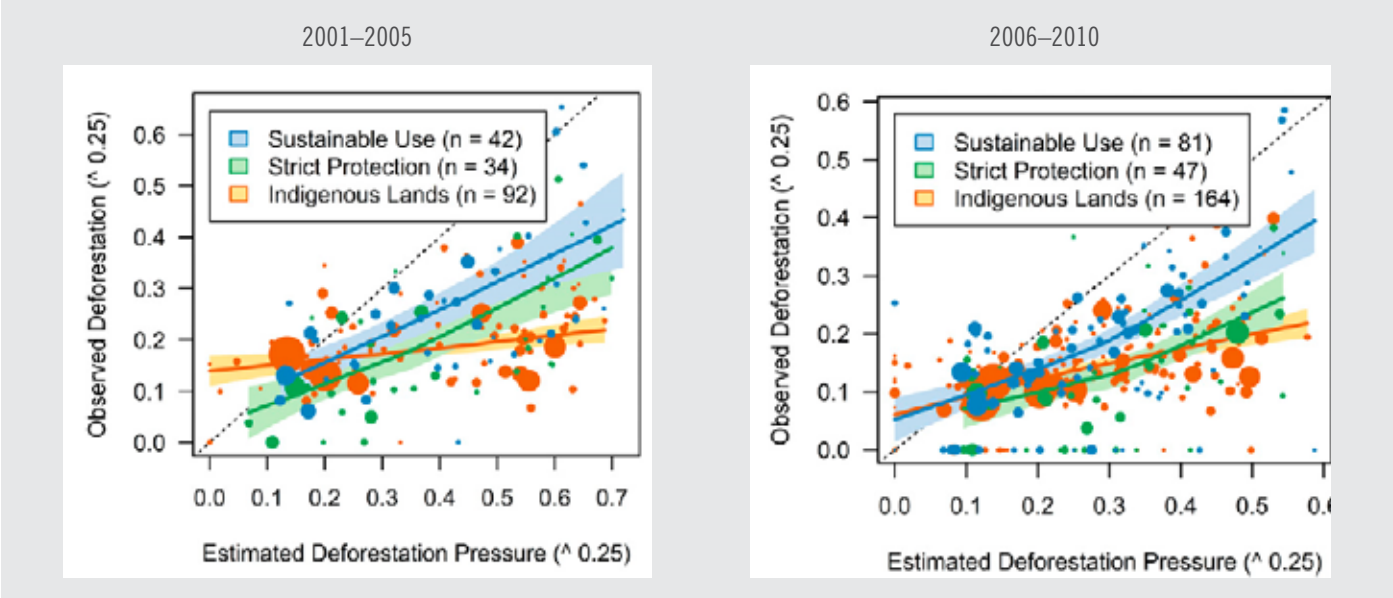

Figure 1: Observed deforestation in different types of protected area in the Brazilian Amazon as a function of deforestation pressure, 2001–2005 and 2006–2010

Note: Dot size is proportional to the size of area assessed. Dots below the dashed line represent areas where deforestation has been avoided. Shaded areas represent a 95% confidence interval by area.
Source: Nolte et al., 2013.

What's missing from the two global agreements

Article 5 of the Paris Agreement encourages parties to reduce greenhouse gas emissions from deforestation and forest degradation. Goal 15.2 of the SDGs is: "By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally." Neither document, however, clarifies the link between deforestation and governance, acknowledges Indigenous Peoples as the best defenders against deforestation, or recognizes the urgent need to address widespread injustices in forest tenure rights.

Local participation in forest rulemaking increases sustainable outcomes

A 2011 study published in *Science* examined the relationship between biodiversity conservation (as indicated by tree species richness) and livelihoods in six countries in East Africa and South Asia.[5] It found all possible combinations of relationship:

- **Jointly negative outcomes** for biodiversity conservation and livelihoods, deemed "unsustainable" in the study (13% of cases).
- **Tradeoffs** in which either species richness was above average and household incomes were below average, or species richness was below average and household incomes were above average (60%).
- **Jointly positive outcomes** for biodiversity conservation and livelihoods, deemed "sustainable" (27%).

Further analysis, however, revealed a striking relationship between local control over forest decision-making and

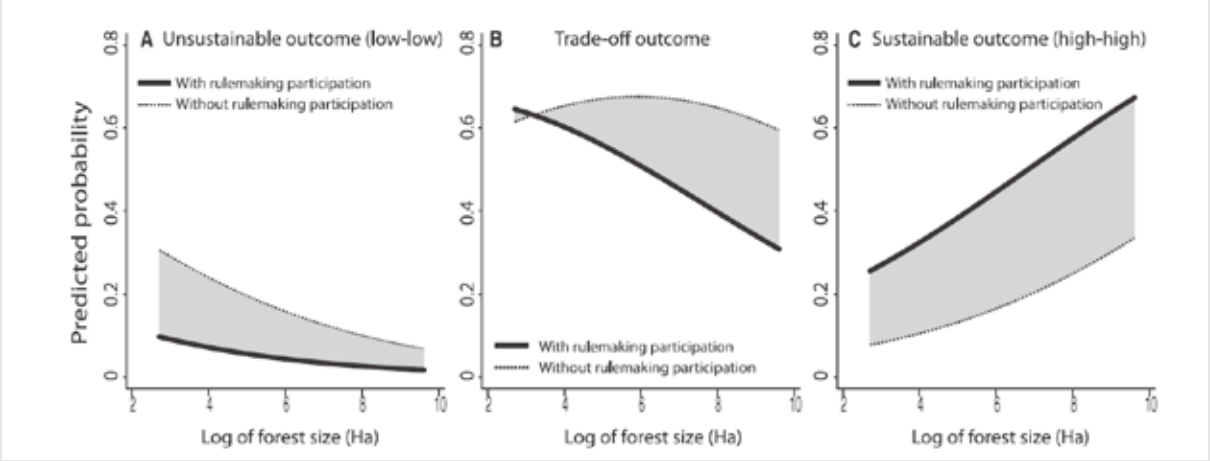

Figure 2: Predicted probabilities of (A) unsustainable, (B) tradeoff, and (C) sustainable forest outcomes when local forest users participate in forest rulemaking and when they do not, as forest size increases

Note: The grey shaded area between probability curves shows the decrease in the predicted probabilities of unsustainable forest systems and tradeoffs, and the increase in the predicted probability of sustainable forest systems when local forest users participate in forest rulemaking.
Source: Persha et al., 2011.

sustainable outcomes (See Figure 2). Data from 84 forest sites demonstrated that:

1. Forests were more likely to have sustainable outcomes (above-average tree species richness and household incomes) when local forest users were involved in making forest rules.
2. Local participation in rulemaking was associated with a lower probability of unsustainable outcomes (or tradeoffs) and a higher probability of sustainable outcomes for forests of all sizes.
3. Local participation in forest rulemaking may be especially important for promoting positive outcomes in small forest fragments, where the challenges for both biodiversity conservation and livelihoods are particularly demanding.

What's missing from the two global agreements

The Paris Agreement recognizes the need to strengthen the efforts of Indigenous Peoples and local communities in addressing and responding to climate change. One of the SDGs (1.4) is to ensure that the poor and vulnerable, among others, have equal rights to economic resources as well as access to basic services, ownership, and control over land and other forms of property and natural resources. Neither document, however, acknowledges the essential link between local participation in rulemaking and sustainable outcomes or recognizes the need for national and subnational governments to devolve forest governance to Indigenous Peoples and local communities.

Communal activities encourage positive environmental motivations

A study published in 2015 in the American Political Science Review investigated the environmental motivations of participants in a World Bank-supported watershed development project in Himachal Pradesh, India.[6] Researchers surveyed more than 2,000 respondents in ten panchayats (local government units encompassing 2–7 villages or hamlets) before and after implementation to assess how participation in the

project changed their motivations for environmental protection.

The study found that participants who received private material benefits from the project or took part in environmental education meetings were more motivated to conserve the forest for economic reasons than intrinsic ones. On the other hand, people who participated in project activities that provided community assets (such as common water-harvesting structures) were more likely to express intrinsic motivations for forest conservation, and were more likely to continue conservation activities even if economic rewards diminished. The study also showed that changes in motivation were consistent with changes in behavior: participants receiving primarily economic benefits and information were likely to extract more forest products, whereas those receiving collective benefits reduced their reliance on forests.

Figure 3 shows that providing villagers with information produced, on average, a negative effect on motivation. Private incentives on their own had little or no effect. Only communal benefits produced significant positive effects.

A key lesson from this research is that community-level benefits are likely to be most effective in motivating the protection of public goods. Individual payments (such as through REDD+[7]) for ecosystem services may actually undermine intrinsic motivations for forest protection.

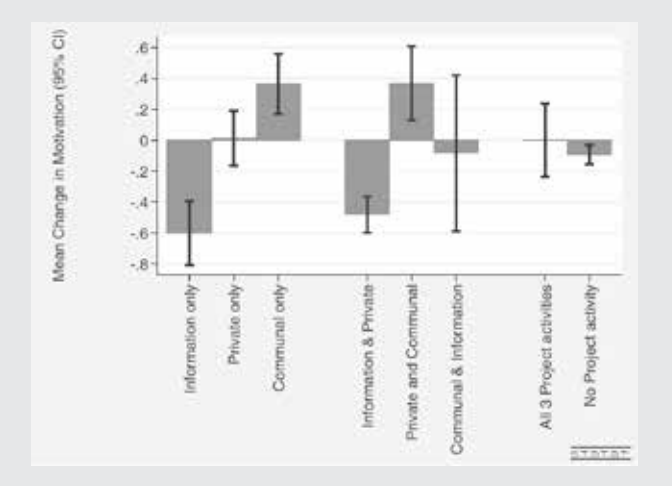

Figure 3: Effects of project activities on change in motivation

Source: Agrawal et al., 2015.

Such payments may be particularly counterproductive if they are low.

What's missing from the two global agreements

Neither the Paris Agreement nor the SDGs acknowledge the importance of community-level benefits in incentivizing conservation and sustainable development activities. Rather, they emphasize the role of financial incentives, which may be counterproductive if—as is likely—they are set too low.

Conclusion

Rigorous scientific research supports the view that forest tenure rights, community-based approaches, and community-level benefits are more likely than alternatives to generate positive sustainable development outcomes. The potential for scaling up is high in community-based interventions because incentives for good environmental management are built in and do not require external contributions.

Disappointingly, neither the Paris Agreement nor the SDGs admit the fundamental need to recognize the rights of Indigenous Peoples and local communities. By ignoring scientific evidence regarding the efficacy of land rights and community-based approaches, the world's nations have missed the chance to fast-track progress in implementing their agreements.

The good news is that both the Paris Agreement and the SDGs acknowledge the importance of science in developing solutions to global challenges. The Paris Agreement, for example, recognizes "the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge".

Political leaders need to know that recent scientific studies provide strong arguments in favor of community-oriented governance of environmental resources. It is possible to simultaneously restore justice in the world's forest lands, improve local livelihoods, and prevent deforestation by unlocking the power of Indigenous Peoples and local communities to govern themselves and their forests.

Endnotes

1 The "Paris Agreement Under the United Nations Framework Convention on Climate Change [UNFCCC]" was adopted by 195 countries in Paris, France, at the 21st Conference of the Parties to the UNFCCC, 30 November–11 December 2015.

2 The United Nations General Assembly adopted Resolution A / RES/70/1 "Transforming our world: the 2030 Agenda for Sustainable Development," including the Sustainable Development Goals, on 21 October 2015.

3 Nolte, Christoph, Arun Agrawal, Kirsten M. Silvius, and Britaldo S. Soares-Filho. 2013. Governance regime and location influence avoided deforestation success of protected areas in the Brazilian Amazon. Proceedings of the National Academy of Sciences of the United States of America, 110(13).

4 Deforestation pressure was estimated as the rate of deforestation observed in control groups of forest parcels that had never been protected up to 2010 but were similar in terms of key variables to matched protected areas.

5 Persha, Lauren, Arun Agrawal, and Ashwini Chhatre. 2011. Social and ecological synergy: local rulemaking, forest livelihoods, and biodiversity conservation. Science, 331(6024).

6 Agrawal, Arun, Ashwini Chhatre, and Elisabeth Gerber. 2015. Motivational crowding in sustainable development interventions. American Political Science Review, 109(3): 470–487.

7 REDD+ is a term used for policy approaches and positive incentives for reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks.

THE RIGHTS AND RESOURCES INITIATIVE

RRI is a global coalition of 13 Partners and over 150 international, regional, and community organizations advancing forest tenure, policy, and market reforms. RRI leverages the strategic collaboration and investment of its Partners and Collaborators around the world by working together on research, advocacy, and convening strategic actors to catalyze change on the ground.

RRI is coordinated by the Rights and Resources Group, a non-profit organization based in Washington, D.C. For more information, please visit www.rightsandresources.org.

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