

# Reducing Carbon Emissions through Indigenous Land Titles

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## ***Introduction***

The loss of ancestral land as a result of colonization and agricultural expansion, the degradation of forests and soils, and the struggle for legal recognition is an experience shared by many indigenous communities. This has significant implications for indigenous livelihoods, as many communities and indigenous groups often live closely with the land, forests often serving as a source of food, homes, and cultural importance.

Indigenous justice and climate change are closely tied together. Indeed, it is estimated that around 24% of above-ground stored carbon, or 54.5 gigatonnes of carbon, is stored in tropical forests held by communities and indigenous peoples.<sup>1</sup> Lands taken from indigenous peoples are often cleared and converted for agriculture and mining. This degrades forests, driving the release of carbon and counteracting their carbon storage potential.

Protecting indigenous peoples' rights to their ancestral lands not only supports their livelihoods, but it would serve as a strong tool for climate mitigation. Of course, there are challenges associated with protecting their land titles: often communities and indigenous peoples do not have formal rights to their lands, because governments do not uphold or even recognize their land titles. Traditional indigenous knowledge should also be valued and supported, as these are the practices that help lower rates of deforestation and degradation. Countless studies have shown that indigenous and community lands exhibit lower rates of deforestation, making the protection of indigenous property rights an excellent climate change mitigation tool. It is an important and necessary action for social justice and climate action.

## ***Indigenous Rights and Climate Change***

Tropical forests, especially native forests, are generally considered carbon sinks. They are touted as a key resource to help combat climate change, with trees and soil pulling carbon from the atmosphere. However, this forest characteristic has changed over the years. A 2017 study found that, because of

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deforestation and degradation, forests across tropical regions in the Americas, Asia, and Africa, forests have become a net emitter of 425 million tonnes of carbon, where approximately 861.7 million tonnes of carbon are released and 436.5 million tonnes are stored.<sup>2</sup> Reforestation or slowing down deforestation reverses these effects. The study showed that in Brazil, which has perhaps been more closely studied than any other forested country, carbon density losses slowed between 2004 and 2012 due to policies that helped curb deforestation. This was not long lasting, as forest loss began to increase again after this period.

Increasing deforestation should come as no surprise: crop production and raising livestock are key sources of income for many people and companies, and as food demands grow and change across the world, so too does the need for more land. Forests are cut down for timber, to make way for more crops, and to create pastures for cattle and other livestock. Deforestation is a particularly significant challenge in Latin America. Food corporations seek more land for soy and other agricultural products, while forest loss is compounded by logging and mining activities. While economic pressures are high, so too are the consequences of losing forest benefits like their roles as carbon sinks or providing ecosystem services.

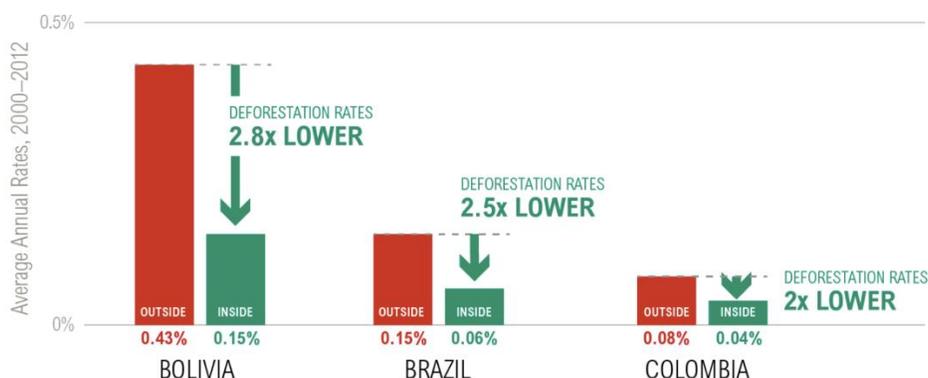
As noted previously, nearly a quarter of above-ground stored carbon is stored in indigenous and community-held tropical forests. Indigenous and community-held land are defined by areas of land that are held by individuals and groups that tend to be characterized by collective tenure and decision-making. These lands tend to have much lower rates of deforestation than other lands.<sup>3</sup> Many studies have shown that indigenous and community practices rely on traditional knowledge that promotes sustainable farming and forest management.

For example, in the Cordillera Mountains in the Philippines, the indigenous Ifugaos group follow traditions and customary laws that promote forest conservation, from planting trees when a child is baptized, to limiting hunting from protected forested areas, and carefully felling trees in ways that limit damage to surrounding forest or farm areas.<sup>4</sup> For the Māori people in New Zealand, humans are considered kin with nature. Guided by cultural beliefs, such as the *kaitiakitanga* concept of guardianship of the environment around them, the Māori actively fight for the protection of forests

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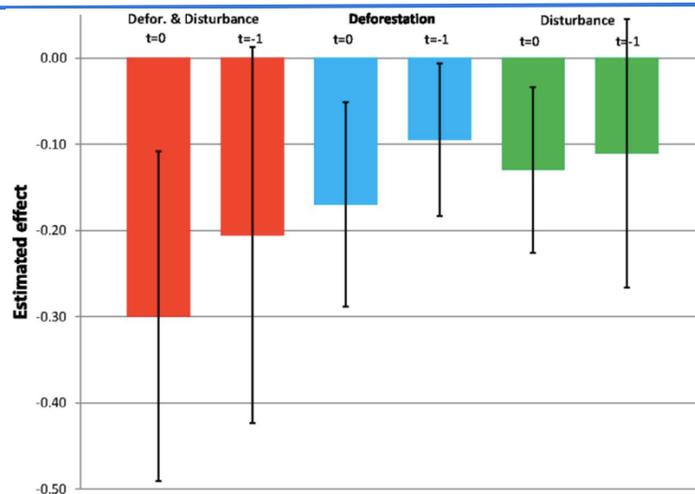
and other lands.<sup>5</sup> In the South Rupununi, Guyana, the Wapishana and Makushi people carefully manage their land with limited fire burning. These practices are carried out that help prevent large fires from entering forest-islands, to stimulate certain trees to fruit, and for social reasons including communication and maintaining village sites.<sup>6</sup>

Research shows that traditional knowledge practiced by indigenous communities, especially when passed down to younger generations, promotes more sustainable forest practices and leads to slower rates of deforestation compared to non-community and non-indigenous held lands. A recent report by the World Resources Institute proves this point. The “Economic Case for Securing Indigenous Land Rights in the Amazon” report investigated land conversion in three Latin American countries, Bolivia, Brazil, and Colombia. As shown in the graph below, deforestation tends to occur at higher levels outside of indigenous-held lands:



Source: *Protecting Indigenous Land Rights Makes Good Economic Sense*, World Resources Institute <sup>7</sup>

In another case, the Proceedings of the National Academy of Sciences (PNAS) journal published a study in 2017 focused on the Peruvian Amazon region where 11 million hectares of land had been titled to 1,200 indigenous communities since the 1970s. This study found that in a two-year window after a land title was awarded, forest clearing was reduced by three-quarters, and forest disturbance was reduced by two-thirds.<sup>8</sup> While the time span of the survey was fairly short, the results suggested that indigenous tenure had positive effects on forest cover, and that titling can indeed protect forests. This change in forest disturbance and deforestation between the year a title was awarded to the year after has been illustrated in the following graph:



Source: *Titling indigenous communities protects forests in the Peruvian Amazon*, A. Blackman, et al.<sup>9</sup>

In another study, by the World Resources Institute and the Rights and Resources Initiative, 14 countries in Latin America, Africa, and Asia with a high degree of forested land were examined. This report noted that on average, forests were more vulnerable when indigenous and community land rights were not protected, meaning rates of carbon emissions were higher. For example, compared with other areas in the Brazilian Amazon, indigenous community forests held 36% more carbon per hectare.<sup>10</sup> Reporting on countless other studies, this report confirmed that protecting indigenous and community land rights helped improve carbon storage. In Niger, for example, 30 million tonnes of carbon were absorbed from the 200 million trees that were added through the protection of community lands.<sup>11</sup>

Not only should indigenous and community land titles be legally recognized, it is also essential for their tenure over these lands to be respected and that government agencies, companies, or other parties do not infringe upon their land titles. In Ecuador, for example, indigenous communities hold communal land titles, but this is not necessarily the same as the land being protected from other activities, especially prior to the new Constitution passed in 2008 emphasizing indigenous land rights (albeit perhaps symbolically). Officially recognized indigenous lands often overlapped with oil and mining concessions, while other recognized areas fell under government-protected areas. From 2000-2008, Northwestern provinces in Ecuador lost 6.5% of forest cover largely due to these oil and mining concessions and the resulting expansion of roads and settlements.<sup>12</sup> Over this same period of

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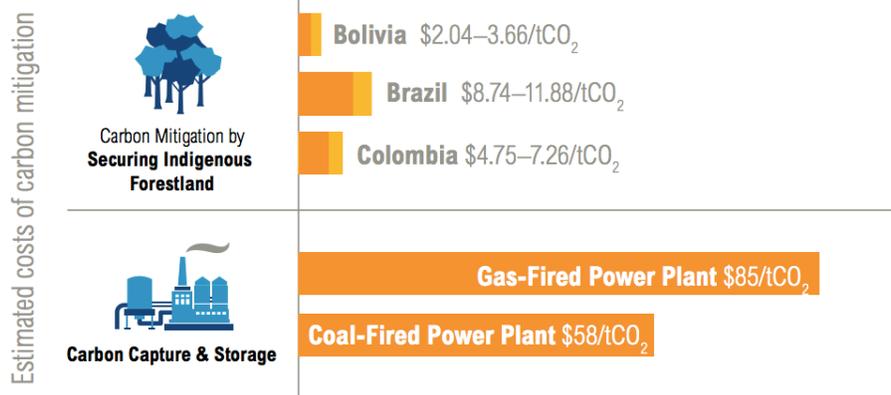
time, protected indigenous lands, where only subsistence-use of forest resources was allowed, forests only decreased by 1.5%.

We can see that land titles and government protection have a significant role to play in reducing deforestation, and thereby promoting a forest's carbon storage capacity and reducing greenhouse gas emissions. Not only is there a great potential for protecting indigenous and community land rights to serve as a climate mitigation strategy, but the economic benefits of protecting these land rights are also significant.

A forest's ecosystem benefits, from hydrological services to pollination to the regulation of local climates, also show the value of protecting indigenous land rights. Over the next 20 years, protecting indigenous land titles would yield an estimated \$4,559–10,274 per hectare – that is, \$679 and 1,530 billion – from preserved ecosystem services.<sup>13</sup>

Additionally, relative to other carbon storage methods, such as fossil fuel carbon capture and storage, protecting indigenous land rights also serves as a lower-cost alternative. Mitigating carbon emissions by securing land rights in Bolivia, Brazil, and Colombia is estimated to cost anywhere from \$2.04 to \$11.88 per tonne of CO<sub>2</sub> (tCO<sub>2</sub>), while carbon capture from fossil fuel plants costs much more, at around \$58/tCO<sub>2</sub> for coal plants or \$85/tCO<sub>2</sub> for natural gas plants.<sup>14</sup> As we can see, the benefits of securing indigenous and community land rights are vast. From reduced deforestation to economic benefits to the protection of cultural values, securing land rights has the potential to be a great climate change mitigation strategy.

The World Resources Institute (WRI) visualized these differences in the graph below, demonstrating the economic value of protecting land rights in comparison with other carbon capture and storage efforts:



Source: “Estimated Costs of Carbon Mitigation through Indigenous Forestland-Tenure Security and Other Carbon Capture and Storage”, *Climate Benefits, Tenure Costs*<sup>15</sup>

## How Do We Protect Land Titles?

While indigenous and community land titles have an important role to play in reducing carbon emissions and deforestation, this might not be an easy path.

In order to maximize these benefits, there are several key strategies that must be considered. Above all, indigenous and community lands must be legally recognized. A 2015 baseline assessment by the Rights and Resources Initiative found that 65% of the world’s land is held by indigenous peoples and communities. However, only about 10% of all land is recognized as owned by indigenous populations or communities, and another 8% of land is considered designated (meaning there are limitations on the duration or of land titles or on ownership rights) for indigenous peoples or communities.<sup>16</sup>

In their 2015 Global Baseline Report, the Rights and Resources Initiative broke this down in a detailed table, documenting their studies in 64 countries around the world (comprising about 82% of global land area). The chart below, taken from the Global Baseline report, shows the difference in percent of land owned by communities and indigenous peoples and the percent of land actually designated for these groups. In most of the examined countries, indigenous people occupied a greater area of land than was officially designated:

Country	Total Country Area (Mha) <sup>24</sup>	Designated for Indigenous Peoples and Local Communities		Owned by Indigenous Peoples and Local Communities		Total Area Designated for or Owned by Indigenous Peoples and Local Communities		Income Level <sup>25</sup>
		Area (Mha)	Percent of Country Area <sup>26</sup>	Area (Mha)	Percent of Country Area <sup>27</sup>	Total Area (Mha) <sup>28</sup>	Total Percent of Country Area <sup>29</sup>	
Argentina	273.67	5.29 <sup>48</sup>	1.93%	2.74 <sup>49</sup>	1.00%	8.02	2.93%	H
Bolivia	108.33	0.47 <sup>50</sup>	0.43%	38.92 <sup>51</sup>	35.93%	39.39	36.36%	M
Brazil	835.81	77.19 <sup>52</sup>	9.24%	114.63 <sup>53</sup>	13.72%	191.82	22.95%	M
Chile	74.35	0.06 <sup>54</sup>	0.09%	2.25 <sup>55</sup>	3.03%	2.32	3.12%	H
Colombia	110.95	-----	0.00%	37.58 <sup>56</sup>	33.87%	37.58	33.87%	M
Costa Rica	5.11	-----	0.00%	0.33 <sup>57</sup>	6.44%	0.33	6.44%	M
Guatemala	10.72	0.38 <sup>58</sup>	3.55%	1.40 <sup>59</sup>	13.04%	1.78	16.58%	M
Guyana	19.69	3.80 <sup>60</sup>	19.32%	-----	0.00%	3.80	19.32%	M
Honduras	11.19	0.50 <sup>61</sup>	4.42%	1.07 <sup>62</sup>	9.55%	1.56	13.98%	M
Mexico	194.40	-----	0.00%	101.13 <sup>63</sup>	52.02%	101.13	52.02%	M
Peru	128.00	9.27 <sup>64</sup>	7.24%	35.29 <sup>65</sup>	27.57%	44.56	34.81%	M
Suriname <sup>66</sup>	15.60	-----	0.00%	-----	0.00%	0.00	0.00%	M
Venezuela	88.21	2.84 <sup>67</sup>	3.22%	-----	0.00%	2.84	3.22%	H
Region Total	1876.01	99.80	5.32%	335.34	17.87%	435.13	23.19%	

Source: *Who Owns the World's Land? A global baseline of formally recognized indigenous and community land rights*, Rights and Resources Initiative<sup>17</sup>

To better protect indigenous and community lands, governments should make a greater effort to recognize property rights, yet governments often see indigenous and community lands as effectively uninhabited. According to the World Resources Institute study focused on Bolivia, Brazil, and Colombia, despite increased efforts over the years, “considerable areas of indigenous lands are not mapped, demarcated, or formally registered.”<sup>18</sup> As quoted in the New York Times, Nataly Ascarrunz, executive director of the Bolivian Institute of Forestry Investigation explained that “[t]he forest is seen as useless land that needs to be made useful.”<sup>19</sup> Better communication of the value of protecting indigenous lands, not only from a social standpoint, but for many of the economic benefits previously stated in this article, is essential to the task of identifying and protecting indigenous groups. Additionally, it would be valuable to remove administrative government hurdles

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and provide additional funding to the agencies working on those efforts.<sup>20</sup> This would be important not only in these three Latin American countries, but indeed to many countries that should strengthen indigenous and community land titles.

To complement this, governments should better enforce the existing laws and regulatory frameworks recognizing indigenous and community titles. As we saw with Ecuador, forests were at risk from oil and mining activities, even where indigenous land was recognized. Activities that convert forest lands, from mining to agricultural activity, threaten indigenous lands and increase carbon emissions. Government regulations should be clarified and streamlined so that indigenous and community property titles cannot be overridden.

Additionally, it would be valuable to better document and understand traditional indigenous knowledge, as many communities themselves are losing these practices. This is in part due to exchanges with non-indigenous communities and changing values, because in many regions, indigenous knowledge is considered less valuable.<sup>21</sup> However, encouraging governments and societies to understand and appreciate traditional knowledge could help encourage the use of traditional knowledge even outside of indigenous regions.

Finally, non-state actors such as NGOs and multilateral organizations can help increase pressure on governments to protect indigenous land rights, and to enhance the voices of indigenous peoples and communities. For example, the Rights and Resources Initiative launched The Tenure Facility in 2014, to provide “grants and technical assistance directly to Indigenous Peoples’ and local communities’ organizations to support initiatives that scale up implementation of land and forest tenure reform policies and legislation...[and] enable governments and communities to test new models, strategies and approaches.”<sup>22</sup> Such efforts can help engage important stakeholders from government agencies to indigenous peoples to private sector actors. Initiatives like this, or like the United Nations’ Sustainable Development Goal targets of promoting indigenous rights, can help bring stakeholders together to build solutions for supporting land titles.<sup>23</sup>

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From improving government regulations to engaging external stakeholders, there are many efforts that can be pursued to better protect indigenous and community land rights. As community and indigenous held lands tend to promote forest health and forest cover, we can not only improve indigenous livelihoods, but we can slow the release of carbon emissions and benefit from important forest ecosystem services. The interaction between players can be complex and can vary greatly across different countries and regions. The Mapuche in Chile, for example have faced different struggles from the indigenous peoples living in Ecuador, which differs from the challenges faced by communities and indigenous groups in Niger. Nevertheless, there are great climate change mitigation opportunities, along with important issues of social equality and improved livelihoods, that drive the necessity of protecting indigenous and community land rights.

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## Notes

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12. Ibid.
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  14. Ibid.
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