

The Role of Indigenous Traditional Knowledge in Biodiversity Conservation in the Colombian Amazon – A Systematic Literature Review

Lara Rother, Bachelor Thesis

Abstract

The Colombian Amazon plays a vital role for global biodiversity and in global climate regulation; however, this important ecosystem faces increasing pressures resulting from globalisation and post-conflict dynamics. The role of Indigenous peoples in biodiversity conservation is widely recognised. Nonetheless, little is known about what Indigenous traditional knowledge consists of and how exactly it aids in protecting biodiversity. Furthermore, the concrete effects of external pressures on Indigenous traditional knowledge and its transmission are unclear. It is often not specified how Indigenous communities interact with the Colombian government and what challenges and opportunities arise when integrating them into formal conservation governance.

This thesis addresses the knowledge gaps using a systematic literature review as a method. The review is based on the databases Primus and Google Scholar. Qualitative, peer-reviewed literature published between 2000 and 2025 is included to answer three research questions: 1. How does Indigenous traditional knowledge contribute to biodiversity conservation in the Colombian Amazon? 2. What impacts do external pressures have on Indigenous knowledge systems and their transmission? 3. What are the main challenges and opportunities when integrating Indigenous traditional knowledge into formal conservation governance?

Key findings suggest that Indigenous traditional knowledge contributes to biodiversity conservation through agroforestry systems, knowledge about ecology, institutions, rules, and spiritual ontologies. Indigenous conservation significantly differs from scientific approaches. Conservation is perceived as a by-product of intrinsic human-nature relationships. External pressures on different levels affect and weaken knowledge transmission by reshaping local livelihoods in ways not beneficial for Indigenous peoples. Power asymmetries, legal frameworks, participation gaps and market dynamics hinder their integration into governance. Opportunities like life plans, bottom-up approaches, participatory action research, and geographical indications exist. To be effective, recognition of Indigenous traditional knowledge as a holistic governance system is needed. Indigenous autonomy and their active and equal participation must be supported. Addressing and changing structural power inequalities ensures a more effective integration and recognition of Indigenous voices.

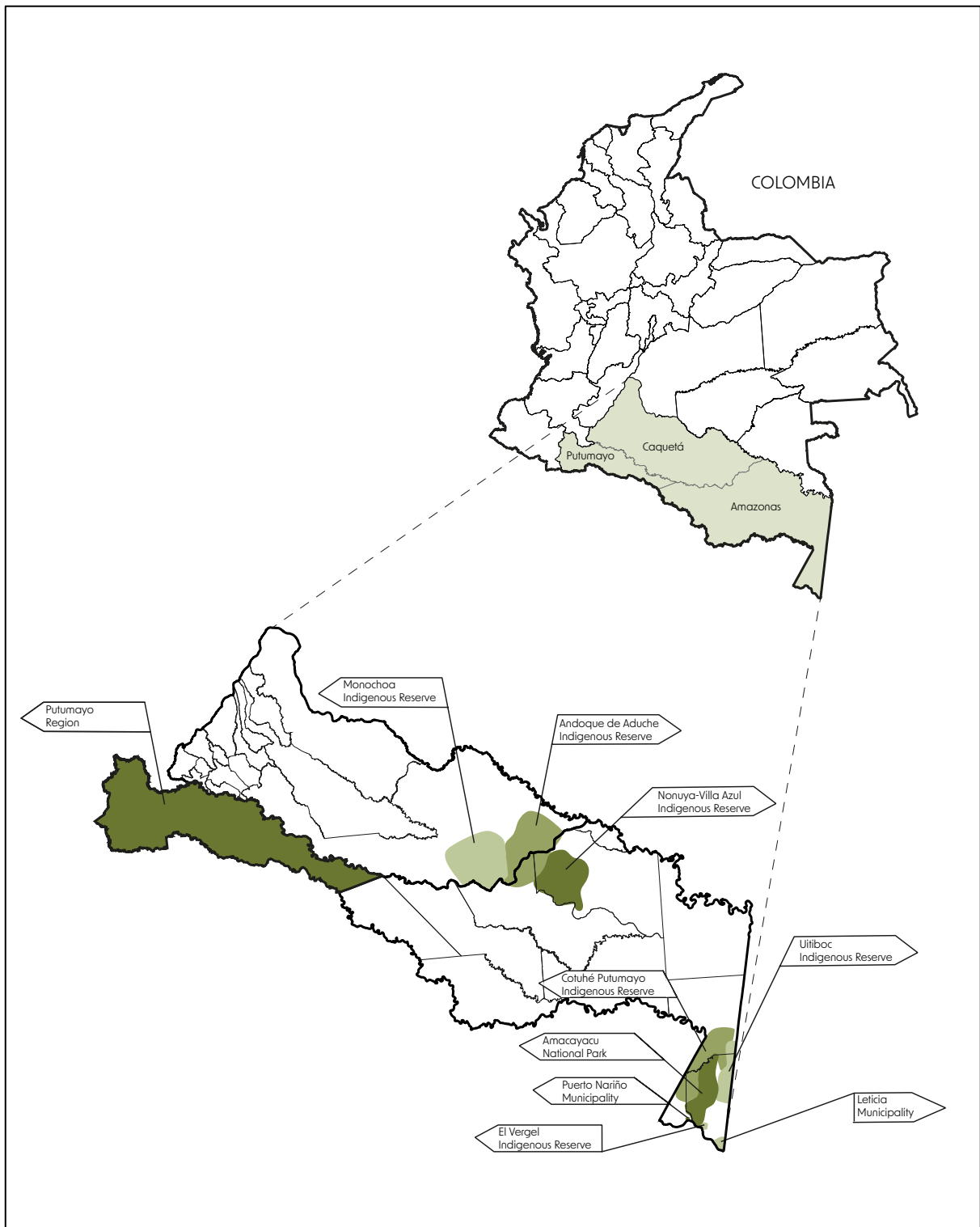


Figure1: Study Areas (own illustration)

Table 1: Study Characteristics and Relevance to the Research Questions (own illustration)

	Author, Year	Location	Community	1	2	3
1.	(Acosta & Mendoza Hernandez, 2007)	Not specified	Not specified	X	X	X
2.	(Acosta Muñoz & Zoria Java, 2012)	Leticia Municipality; Puerto Nariño Municipality	Ticuna	X		X
3.	(Almonacid Márquez et al., 2025)	Not specified	Andoke, Bora, Miraña, Muinane, Uitoto	X		
4.	(Andoke Andoke et al., 2023)	Middle Caquetá Region: Andoque de Aduche Indigenous Reserve	Uitoto, Andoque, Muinane and Nonuya;	X	X	X
5.	(Burgos-Ayala et al., 2020)	Not specified	Not specified			X
6.	(De La Cruz Nassar et al., 2020)	Tarapacá Region: Uitiboc & Cotuhé Putumayo Indigenous Reserves	Uitiboc: Uitoto, Ticuna, Yagua, Bora, Cocama, Inga, Pijao, Okaina, Embera Cotuhé Putumayo: Uitoto, Ticuna, Bora, Yagua, Ocaina	X	X	X
7.	(Fonseca-Cepeda et al., 2019)	El Vergel Indigenous Reserve	Ticuna		X	
8.	(Garavito et al., 2021)	Ziora-Amena “Km 7”, Leticia Municipality	Uitoto, Bora, Ticuna	X	X	
9.	(González & Kröger, 2020)	Putumayo Region	Inga, Andoque, Nonuya, Embera, Nasa	X		
10.	(Hernández Marentes et al., 2021)	Monochoa Indigenous Reserve	Huitoto, Muinane	X	X	

11.	(Krause et al., 2020)	Nonuya Villa Azul Indigenous Reserve	Matapí: Uldarico Matapí Yucuna Matapí, Nonuya, Muinane, Yucuna, Huitoto	X	X	X
12.	(López Garcés, 2002)	Alto Río Region Amazonas, Solimões	Ticuna		X	X
13.	(Parathian, 2019)	Amacayacu National Park (Mocagua & San Martín)	Ticuna, Cocama, Yagua	X	X	X
14.	(Parrado-Roselli, 2007)	Middle Caquetá River Region, Peña Roja	Nonuya		X	X
15.	(Pérez Cubillos, 2022)	Leticia Municipality	Ticuna, Cocama, Yagua, (Muina Murui, Muinane, Bora, Miraña, Andoque, etc.)	X	X	
16.	(Van Vliet et al., 2018)	Puerto Nariño (San Francisco, Ticoya, Casco Urbano, Patrullero, 20 de Julio, and Puerto Esperanza)	Ticuna, Yagua, Cocama	X	X	