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“POSTCOLONIAL” MANAGEMENT OF THE TRANSBOUNDARY GUARANÍ AQUIFER SYSTEM: INDIGENOUS INPUT AS A GUIDE FOR ENVIRONMENTAL SUSTAINABILITY

Melissa Leonard*

INTRODUCTION

Water is a vital natural resource that is becoming scarcer every year. Although groundwater remains one of Earth’s most abundant water sources, both surface water and groundwater are diminishing rapidly. Water not only influences the behavior, movements, and actions of individuals, but of states, organizations, and institutions as well.¹ The Transboundary Guaraní Aquifer System, a vast groundwater source that spans across Argentina, Uruguay, Paraguay, and Brazil,² illustrates the current tensions and power imbalance between indigenous and colonial populations surrounding water management. The Guaraní Aquifer is located in South America beneath the ancestral homelands of the Guaraní indigenous peoples,³ yet the management of the Aquifer falls only under state jurisdiction, with no water management rights granted to local indigenous groups, including the Guaraní. Although indigenous peoples have successfully developed systems of customary law to maintain the natural environment sustainably, so-called “postcolonial” legal regimes,⁴ including both national and international law, often exclude indigenous groups from state decisions, especially where environmental issues are concerned. Leading scholars on issues of globalization and global law, Eve Darian-Smith and Peter Fitzpatrick, explain that “[e]ngagements between law and postcolonialism have been infrequent.”⁵ Nowhere is this trend more apparent than in the case of the Guaraní Aquifer. In order to

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¹ Sisira Saddhamangala Withanachchi, *The study of Transboundary Groundwater Governance in the notion of Governmentality: in the case of Guaraní Aquifer*, Am05039 AQUAMUNDI 9, 9 (2012).

² Bryan A. Green, *The Guaraní Aquifer & International Groundwater Law: Advancing Towards a Legal Framework for the Management of a Transboundary Aquifer*, 13 U. DENV. WATER L. REV. 361, 364 (2010).

³ *Id.* at 369.

⁴ *Postcolonial*, OXFORDDICTIONARIES.COM,

<https://en.oxforddictionaries.com/definition/postcolonial> (last visited Oct. 20, 2016) (defining ‘postcolonial’ as “[o]ccurring or existing after the end of colonial rule”).

⁵ EVE DARIAN-SMITH & PETER FITZPATRICK, *LAW OF THE POSTCOLONIAL* 4 (Eve Darian-Smith & Peter Fitzpatrick eds., 1999).

protect the Earth's precious water resources and indigenous lands, indigenous input on issues of environmental sustainability is a necessity. For truly "postcolonial" practices to be achievable, incorporation of Guaraní customary law and voice in the management of the Guaraní Aquifer is imperative. This inclusive relationship between South American indigenous and settler populations could model sustainable and just water management for future generations, indigenous and settler alike.

Part I of this article briefly overviews social and legal theory that connects the relationships of power in colonized communities, like the Guaraní, to the ideal of "postcolonial" water management. Part II of this article examines aquifers as freshwater sources, including cohesive water management, threats to water sources, and the capacity of the Guaraní Aquifer to serve the region. Part III of this article details Guaraní social organization, including the Guaraní belief systems, semi nomadic lifestyle, and settlement patterns, as well as colonization and missionization by Spaniards and Jesuits respectively, and Guaraní customary environmental law. Part IV of this article analyzes international transboundary water law, including the U.N. Watercourses Convention, U.N. Draft Articles on Transboundary Aquifers, the Guaraní Aquifer Project, and the Guaraní Aquifer Agreement. Part V of this article gives possible solutions to the exclusion of Guaraní input, utilizing the Bolivian Constitution as an example of indigenous incorporation into environmental law and sustainability, and describing Guaraní efforts to participate in the Aquifer's management.

I. POWER THEORY AS IT RELATES TO POSTCOLONIAL WATER MANAGEMENT

According to Michel Foucault, a leading philosopher in the study of power and social control, power is not hierarchical; rather, he describes power as a web of relations.⁶ Foucault argues that Western ontology enforces a dominant image of man which others non-western cultures and communities and excludes those cultures and communities from social institutions of governance.⁷ Sisira Saddhamangala Withanachchi, a scholar of sustainable water governance management in developing countries, connects this Foucauldian concept of power to water governance. Withanachchi states that contemporary water governance others and excludes indigenous tribes in accordance with Foucault's notions of power.⁸ Withanachchi states that indigenous tribes, othered by the state, do not have

⁶ PHILIP BARKER, MICHEL FOUCAULT: AN INTRODUCTION 28 (1998) (ebook).

⁷ MICHEL FOUCAULT, THE ORDER OF THINGS 355-58 (1994).

⁸ See HUBERT L. DREYFUS & PAUL RABINOW, MICHEL FOUCAULT: BEYOND STRUCTURALISM AND HERMENEUTICS 220 (1983) (asserting that "a power relationship can only be articulated on the basis of two elements which are indispensable if it is really to be a power relationship: that 'the other' (one over who power is exercised) be thoroughly recognized and maintained to the very end as a person who acts; and that, faced with the relationship of power, a whole field of responses, reactions, results, and possible inventions may open up" ... from "consensus" to "violence."); See generally, MICHEL FOUCAULT, STANFORD ENCYCLOPEDIA OF PHILOSOPHY, (May 22, 2013), <http://plato.stanford.edu/entries/foucault/> ("Michel Foucault (1926–1984) was a French historian and philosopher, associated with the structuralist and post-structuralist movements. He has had

a voice in water management within dominant cultures.⁹ Withanachchi explains that, “[w]ater is a natural and a common resource, however, disparities in the utilization of water can be observed in every part of the world.”¹⁰ Water connects communities, nation states, and institutions of government, and therefore water politics are globally embedded within all systems of government and administration.¹¹ However, as long as non-Western cultures are excluded from water politics, these systems will not exist within a truly “postcolonial” structure.

“Postcolonial” is a term often used to describe periods of time following durations of colonialism and colonization. This term is often misused given that the destructive and othering effects of colonization are ongoing.¹² A “postcolonial” system of government, “is, rather, an engagement with and contestation of colonialism’s discourses, power structures, and social hierarchies,”¹³ which includes engagement with the other. Because colonization is ongoing, truly “postcolonial” society does not exist. However, the inclusion of indigenous voices and customary law within dominant governance processes, challenges oppressive colonial discourse and power structures and therefore, is an effort to achieve a truly “postcolonial” society. Yet, indigenous peoples are automatically and knowingly excluded from global governance through systems of othering in which programs and laws are enacted over indigenous peoples rather than in collaboration with them. According to Withanachchi,

[t]he point is that the global climate governance is a network of actors with international organizations, regional organizations, global social movements, nongovernmental organizations, transnational scientific networks, business organizations, multinational corporations and other forms of private authority. It creates a new form of power and relational governance process to understand environmental governance.¹⁴

Thus, in the current case of the Guaraní Aquifer, the term “postcolonial” is an empty signifier, as colonialism survives through the continued exclusion of the Guaraní on issues of land ownership and aquifer management.

Guaraní involvement in the governance process could alter the nature of governance and the relationship between the Guaraní people and the state. The potential benefit of Guaraní participation in the sustainable management and use of the Aquifer is demonstrable through a comparison of similar South American environmental cases, or endeavored “postcolonial” legal regimes, which have benefited significantly from the inclusion of indigenous communities’ opinions,

strong influence not only (or even primarily) in philosophy but also in a wide range of humanistic and social scientific disciplines.”).

⁹ Withanachchi, *supra* note 1, at 12-13.

¹⁰ *Id.* at 10.

¹¹ *Id.*

¹² SHARP, JOANNE, GEOGRAPHIES OF POSTCOLONIALISM 110-111 (2009).

¹³ HELEN GILBERT & JOANNE TOMPKINS, POST-COLONIAL DRAMA: THEORY, PRACTICE, POLITICS 2 (1996) (ebook).

¹⁴ *Id.* at 11.

input, and legal action.

II. THE GUARANÍ TRANSBOUNDARY AQUIFER SYSTEM: A VITAL FRESH WATER SOURCE WHICH SPANS BOUNDARIES, BORDERS, AND CULTURES

A. *Transboundary Aquifers*

Due to the Earth's growing population, the demand for water that is clean, free of pollutants, and potable is ever increasing. However, only about two and a half percent of the total water on Earth is non-saline freshwater that can be used directly.¹⁵ Ninety-nine percent of this fresh water exists as groundwater.¹⁶ Just over thirty percent of fresh groundwater exists in aquifers.¹⁷ Furthermore, a significant portion of this groundwater exists in transboundary aquifers, making transboundary water systems extremely significant sources of freshwater.¹⁸

Transboundary water resource management experts have stated that cohesive water resource management systems require the synthesis of several areas of scientific thought, including hydrology, environmental, economic, ecological, and social sciences, hydraulic engineering, public health and toxicology, and international law.¹⁹ This paper adds that indigenous customary law is a vital epistemological scheme that should be included in the discourse related to transboundary water resource management. However, an international management system is not yet in place for transboundary aquifer systems and comprehensive data on transboundary aquifer management is significantly lacking.

According to Wouter Buytaerti, a senior lecturer in water resources and environmental change at Imperial College London and Lutz Breuer, Chair of Landscape, Water and Biogeochemical Cycles at the University of Geissen, "[a] major driver of water-related issues in South America is...the fast increase of water demand, underpinned by rapid economic and demographic growths rates."²⁰ Major water sources in South America include the Guaraní Aquifer System, the Hamza River, and the Amazon Basin.²¹ Hamza is the unofficial name for a slowly flowing

¹⁵ JACQUES GANOULIS & JEAN FRIED, *Transboundary Water Resources Management: Needs for a Coordinated Multidisciplinary Approach*, in TRANSBOUNDARY WATER RESOURCES MANAGEMENT: A MULTIDISCIPLINARY APPROACH, loc. 2.1 (Jacques Ganoulis et al. eds., 2011) (ebook).

¹⁶ *Id.*

¹⁷ U.S. Geological Survey, *How much water is there on, in and above the Earth?*, USGS.GOV (Dec. 2, 2016), <https://water.usgs.gov/edu/earthhowmuch.html>.

¹⁸ JACQUES GANOULIS & JEAN FRIED, *supra* note 15, loc. 2.1. (stating that forty-five percent of the Earth's total surface and forty percent world's population lives within the watersheds of transboundary aquifers, that there are 263 major internationally shared transboundary aquifers, one-third of which are shared by more than two countries, and that 145 countries have territory within transboundary aquifer watersheds and twenty-one countries lie entirely within one transboundary aquifer watershed. Further stating that nineteen transboundary aquifer watersheds involve five or more different countries.).

¹⁹ *Id.* at loc. 2.2.

²⁰ Wouter Buytaerti Breuer, et al. *Water resources in South America: sources and supply, pollutants and perspectives*, 1 Proceedings of the IAHS-IAPSO-IASPEI Assembly, Gothenburg, Swed. (July 2013).

²¹ Stan Lehman, *Brazil scientists find signs of underground river*, SAN DIEGO UNION-TRIB., Aug.

aquifer discovered in Brazil in 2011.²² The Hamza and Amazon Rivers drain into the Amazon Basin, and are its two main sources.²³ Private water companies control most of South America's fresh water which, combined with the destruction of other water sources, has left many South Americans without regular access to water.²⁴ At the start of the 21st century, water service companies controlled water services for 300 million South Americans in 130 countries.²⁵

B. *The Guaraní Aquifer*

The Guaraní Aquifer System (GAS) is one of the largest transboundary groundwater systems in the world.²⁶ Spanning about 1.2 million square kilometers, the Aquifer holds over 40,000 cubic kilometers of water, the use of which impacts more than 50 million South Americans living in the region.²⁷ Containing water that is potable with little to no treatment, the Aquifer has the potential to supply the region with industrial, agricultural, and drinking water for several generations to come.²⁸ Thus, the sustainable management of this groundwater source is imperative for current and future generations of indigenous and settler peoples in Uruguay, Paraguay, Argentina, and Brazil, and to the South American economy.



Figure 1: The Guaraní Aquifer and Surrounding Nation States²⁹

15, 2011, <http://www.sandiegouniontribune.com/sdut-brazil-scientists-find-signs-of-underground-river-2011aug25-story.html>.

²² *Id.*

²³ *Id.*

²⁴ Maude Barlow & Tony Clarke, *The Struggle for Latin America's Water*, NACLA, <https://nacla.org/article/struggle-latin-americas-water> (last visited Apr. 19, 2017).

²⁵ *Id.*

²⁶ Green, *supra* note 2, at 362.

²⁷ *Id.* at 364.

²⁸ *Id.* at 362.

²⁹ *Sharing water: An underground concordat*, THE ECONOMIST (Sao Paulo) (Sept. 4, 2013), <http://www.economist.com/node/2040666>.



Figure 2: The Guaraní Aquifer within South America³⁰

However, the Guaraní Aquifer is threatened by pollution, exploitation, absent legal management, and the overuse of commercial farming and agricultural practices on lands bordering the Aquifer.³¹ Harmful impacts to the Guaraní Aquifer include uncontrolled drilling and extraction, pollution from neighboring countries, and point source and nonpoint source pollution.³² Multiple indigenous groups, including the Guaraní, inhabit regions where the Guaraní Aquifer is located. Several of these communities are living in destitute economic circumstances and exposed living conditions. They are often living without access to safe potable water and adequate sewage systems.³³ The most important issue of the Guaraní Aquifer's management, however, is whether the water should fall under public or private ownership.³⁴ The answer to this question directly affects the issue of who may use the water, who maintains rights to it, and what information will be made available about its use, status, and pollution.

III. GUARANÍ CUSTOMARY LAW: GUARANÍ POLITICAL CONTROL OF THE GUARANÍ AQUIFER FROM PAST TO PRESENT

The Guaraní are a semi nomadic people who value the earth and its

³⁰ Zachary P. Sugg et al., *Transboundary groundwater governance in the Guaraní Aquifer System: reflections from a survey of global and regional experts*, 40 *WATER INT'L* 377, 383 (2015).

³¹ Green, *supra* note 2, at 367.

³² Joshua T. Newton, *Case Study of Transboundary Dispute Resolution: The Guaraní Aquifer*, INSTITUTE FOR WATER AND WATERSHEDS (last visited Apr. 23, 2017), http://www.transboundarywaters.orst.edu/research/case_studies/GuaraniAquifer_New.htm.

³³ Withanachchi, *supra* note 1, at 13.

³⁴ Green, *supra* note 2, at 368.

resources highly. After Spanish contact, the Guaraní were stripped of their land and forced into labor. Today, though some have migrated to cities, many Guaraní still live in rural locations within Uruguay, Paraguay, Bolivia, Brazil, and Argentina. Many Guaraní came together in the late 1980s to form the Assembly of Guaraní People (APG) to represent Guaraní interests.

A. *Guaraní Social Organization and Customary Law*

The Guaraní peoples originated from Amazonian regions of South America. The Guaraní eventually travelled down what is now Brazil's coastline, and made their way to tropical and subtropical regions of what is now Brazil, Paraguay, Uruguay, Argentina, and Bolivia.³⁵ Most Guaraní settlements were situated along the Paraná and Uruguay Rivers in order to facilitate communication between groups.³⁶ As a semi nomadic people, the Guaraní have survived as hunter-gatherers, fishermen, weavers, potters, and basket makers.³⁷ The Guaraní utilized slash and burn agricultural methods, which led to concentrated erosion and depletion of soil and forced the Guaraní to travel short distances in order to relocate to more productive land.³⁸ "Over time, the Guaraní began to attribute their moves to supernatural influences... [e]vents which might coincide with soil depletion."³⁹ Guaraní religious beliefs and their intense conviction in the supernatural influenced all aspects of their social lives and organization.⁴⁰

The Guaraní valued blood relationships very highly, and as such, banded together in small familial groups that lacked permanent rights or codes of law that pertained to all Guaraní.⁴¹ Their villages were organized in large, communal houses called *ogas* that surrounded each clan's plaza, called *parentels*.⁴² Bartomeu Meliá, a contemporary Jesuit historian, anthropologist, and linguist focusing on the Guaraní,⁴³ explains Guaraní social organization and systems of reciprocity and community as follows:

[the Guaraní] possessed a social organization based on the extended family, which depended on participation and mutual aid in the work at hand, and in which celebrations also figured importantly. Reciprocity characterized their economic exchanges. They were an intensely religious people, whose beliefs manifested in song, dance, dreams, visions and prophecies.⁴⁴

³⁵ Rafael Eladio Velázquez, *Paraguay In the Age of Jesuit Missions*, in PARADISE LOST: THE JESUITS AND THE GUARANÍ SOUTH AMERICAN MISSIONS 1609-1767 (C.J. MCNASPY, ed., 1989).

³⁶ *Id.*

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.*

⁴³ Georgetown University Bartomeu Meliá, RESOURCES ON FAITH, ETHICS & PUBLIC LIFE <https://berkeleycenter.georgetown.edu/people/bartomeu-melia>.

⁴⁴ Bartomeu Meliá, *Settlement by Settlements*, in PARADISE LOST: THE JESUITS AND THE GUARANÍ SOUTH AMERICAN MISSIONS 1609-1767 (C.J. MCNASPY, ed., 1989).

B. *Guaraní Customary Environmental Law*

Like many indigenous cultures, the Guaraní define themselves through the land they occupy. James Anaya, the former U.N. Special Rapporteur to the Rights of Indigenous Peoples, states that "[I]and defines Indigenous Peoples in fundamental ways."⁴⁵ According to Guaraní tradition, the creator, named Ñande Ru, had a son named Pa'í Reté Kuaray, the father of the Guaraní. Pa'í taught the Guaraní songs, dances, ethics, and farming. After the first earth was destroyed in a flood, a second earth was created, and the Guaraní were entrusted with protecting it.⁴⁶ Though religious beliefs differ between groups, in general, Guaraní believe that "all living things, including plants, animals, and water, have protective spirits."⁴⁷ After the arrival of the Spaniards, Guaraní land was seized and never returned; today, it is passed down through settler families or sold.⁴⁸ This loss of land and inability to regain it goes against Guaraní tradition and perpetuates colonization, as does Guaraní exclusion from matters of environmental sustainability, such as water use and management.

C. *The Colonization of the Guaraní*

Spanish rule over the Guaraní lasted for over three hundred years and during that time the Guaraní were forced to surrender to Christian missionaries, lost land to ranchers, haciendas, settlements, and government occupations, and faced significant oppression by the Bolivian army.⁴⁹

1. *Jesuit Arrival and Missionization of the Guaraní*

Before the Jesuits arrived in what is now Paraguay and Brazil in 1609, several Christian missionaries had come to the region.⁵⁰ These missionaries primarily focused on baptizing indigenous peoples and giving them Christian names, but did not influence the Guaraní further through preaching and establishing settlements.⁵¹ In 1609, Jesuits priests belonging to a religious order of the Catholic Church, arrived to establish a "political and civilizing project," in Guaraní villages by instituting *reducciones*. This term literally means 'reductions' and is

⁴⁵ U. of B.C. SCH. of Journalism, *Dying for Land*, NEW YORK TIMES (Jun. 9, 2012), <https://www.nytimes.com/video/world/americas/100000001595625/dying-for-land.html>.

⁴⁶ Countries and their Cultures, *Guaranís*, EVERYCULTURE.COM, (last visited Apr. 23, 2017, 10:13 PM), <http://www.everyculture.com/wc/Norway-to-Russia/Guaran-s.html>.

⁴⁷ *Id.*

⁴⁸ U. of B.C. SCH. of Journalism, *supra* note 45.

⁴⁹ Jean-Paul Faguet, *Governance from Below in Bolivia: A Theory of Local Government with Two Empirical Tests*, 51:4 LATIN AM. POL. AND SOC'Y 29, 35 (2009). Jean-Paul Faguet is a Professor of the Political Economy of Development at the London School of Economics and Political Science.

⁵⁰ Meliá, *supra* note 44.

⁵¹ *Id.*

controversial in that it implies shrinkage and insignificance.⁵² The Jesuits believed that the Guaraní could not be considered Christians or even human beings if they remained spread out in small semi nomadic groups, and therefore felt it their mission to concentrate them into large pueblos.⁵³ This way, colonizers could more easily control, educate, and force the Guaraní into labor. The Guaraní found that Jesuit settlements, while certainly not ideal, were the lesser of two evils, given the option between the Jesuits and the Spaniards.⁵⁴ When the Jesuits were expelled in 1767, seven Guaraní settlements rebelled throughout South America.⁵⁵

2. Spanish-Guaraní Relations as Colonizer and Colonized

Spaniards wanted to utilize the Jesuit settlement system to incorporate the Guaraní under colonial rule by subjecting “the tribal structure to state authority,” and bringing “Indian labor under the control of the *encomienda* (a tributary system) and *patrones* (overlords).”⁵⁶ The Spaniards wished to use forced *encomienda* settlement structures as a way to pacify and enslave the Guaraní.⁵⁷ These sixteenth century Spaniards considered the legal status of the Guaraní as follows:

The legal status of the Indian, established by the Spanish, was regulated by successive public ordinances, or general rule of the governors...The Indians were forbidden to work for the head of the *encomienda* unless they were payed [sic] in money or in kind, although in practice, they worked for free two months per year, which defeated the spirit of the law.⁵⁸

This demonstrates the significant difference between the words and actions of the Spaniards. The Guaraní were left without representation or meaningful law. Spanish colonization spanned more than three centuries, during which time Spaniards seized Guaraní land and other property.

Today, Guaraní peoples in South America inhabit parts of Uruguay, Paraguay, Brazil, Argentina, and Bolivia. Some communities live in rural locations, such as the Amazon Rainforest and the foothills of the Andes, while others live in cities. In Paraguay and Bolivia, Guaraní is recognized as an official language.⁵⁹ Guaraní populations across South America total roughly 257,400 people, many of whom live in lands situated above the aquifer.⁶⁰ Yet, because the Guaraní have been deprived of their ancestral lands, they have no say in the utilization or management

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ Velázquez, *supra* note 35.

⁵⁹ BRET GUSTAFSON, NEW LANGUAGES OF THE STATE: INDIGENOUS RESURGENCE AND THE POLITICS OF KNOWLEDGE IN BOLIVIA 1-2 (2009). Bret Gustafson is an Associate Professor of Sociocultural Anthropology at Washington University in St. Louis, Missouri.

⁶⁰ Center for World Indigenous Studies, *Guarani*, INTERCONTINENTALCRY.COM (last visited Apr. 20, 2017), <https://intercontinentalcry.org/indigenous-peoples/guarani/>.

of the water.

Despite Guaraní exclusion from aquifer management, in Bolivia, a sort of “Guaraní cultural renaissance” began in the early 1980s, leading to the formation of the Guaraní People’s Association (APG).⁶¹ The APG was established in 1987 to manage the matters of Guaraní communities, which included promoting cooperation between the Guaraní and the representation of Guaraní interests.⁶² The APG essentially built “upward levels of representation and voice onto existing Guaraní institutions of community self-government,” which facilitated Guaraní solidarity and community resistance.⁶³ Thus, the establishment of the “APG initiated a rebirth of Guaraní consciousness and pride.”⁶⁴ Specifically in Bolivia, the Guaraní have become heavily involved in national political matters, despite the fact that they are far outnumbered by Quechua and Aymara populations.⁶⁵ On an international level, the APG is a member of the Indigenous Confederation of Eastern Bolivia (CIDOB), a national organization representative of Bolivia’s indigenous movement, and a participant in the transnational confederation of indigenous organizations of the Amazon Basin.⁶⁶

Today, the APG is composed of a council of “captains” who are elected each year.⁶⁷ The captains are elected by representatives from twenty-four regional zones.⁶⁸ “Beneath the umbrella of the APG, each of these zones has its own, somewhat autonomous nuclei of leadership networks.”⁶⁹ Although the Bolivian Guaraní have not abandoned their small group structure, they have found a political structure that allows them to work together from afar while also remaining semi-autonomous.⁷⁰ In Charagua, Bolivia, for example, the Movimiento Bolivia Libre (MBL) party, a center-left political group, allowed the APG to select its candidates for office and to assist in writing out its political platform, while the APG mobilized voters in rural regions.⁷¹ This collaboration resulted in the MBL quadrupling its share of the vote, expanding its influence in Charagua and throughout Bolivia.⁷²

IV. INTERNATIONAL AQUIFER LAW AND ITS DEFICITS AS RELATED TO INDIGENOUS COMMUNITIES

Because the “use of water resources, protection of the environment and economic development are not separate challenges,”⁷³ effective and sustainable management of the Earth’s diminishing water resources depends on multifaceted and collaborative water governance. In the last century, transboundary surface

⁶¹ Faguet, *supra* note 49, at 35.

⁶² GUSTAFSON, *supra* note 59, at 12.

⁶³ Faguet, *supra* note 49, at 35.

⁶⁴ *Id.*

⁶⁵ GUSTAFSON, *supra* note 59, at 12.

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.* at 12-13.

⁷¹ Faguet, *supra* note 49, at 35

⁷² *Id.*

⁷³ Ganoulis & Fried, *supra* note 15, loc. 2.2.4.

water sources have seen significant international legal action.⁷⁴ Yet, groundwater sources, including transboundary aquifers, have only gained attention within the last few years.⁷⁵ This difference in legal attention is because “the assessment of groundwater is much more demanding and less certain” than the assessment of surface water sources.⁷⁶ As rivalry between states for use of transboundary resources can lead to disagreement⁷⁷ between states and oppressive water management regimes, it is critical that all transboundary aquifer stakeholders’ perspectives are considered in the laws that govern transboundary aquifers. These perspectives include the interests of transboundary nation states, public and private interest groups, and indigenous peoples. Thus, Part IV of this article describes the current scheme of international law that governs transboundary water resources like the Guaraní Aquifer and how such law currently excludes the vital perspectives of indigenous stakeholders.

A. International Transboundary Water Law: The United Nations Watercourses Convention

The U.N. Watercourses Convention makes up the body of international law that governs both surface and underground transboundary water sources.⁷⁸ Despite efforts to establish transboundary water source governance, no international treaty including all transboundary water systems has been created or agreed upon by all actors.

In 1997, the United Nations General Assembly adopted the U.N. Watercourses Convention, also titled the Convention on the Law of Non-Navigational Uses of International Watercourses.⁷⁹ Although the Assembly took over two decades to agree on the Convention,⁸⁰ even now the Convention only pertains to transboundary groundwater sources that connect to systems of surface

⁷⁴ *Id.* loc. 2.2.3.

⁷⁵ Neno Kukuric et. al., *Transboundary Aquifers 4.1 Towards a Methodology for the Assessment of Internationally Shared Aquifers in TRANSBOUNDARY WATER RESOURCES MANAGEMENT: A MULTIDISCIPLINARY APPROACH* loc. 4.1.1. (Jacques Ganoulis et. al. eds., 2011) (ebook).

⁷⁶ Anne Browning-Aiken and Barbara J. Morehouse, *Socio-Ecological Resilience of Transboundary Watershed Management: Institutional Design and Social Learning in TRANSBOUNDARY WATER RESOURCES MANAGEMENT: A MULTIDISCIPLINARY APPROACH* loc. 7.2.4. (Jacques Ganoulis et. al. eds., 2011) (ebook).

⁷⁷ Convention on the Law of the Non-navigational Uses of International Watercourses, May 21, 1997, 36 I.L.M. 700, http://legal.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf (English Version).

⁷⁸ *Id.*

⁷⁹ Raya Marina Stephan, *Progressive Development of International Groundwater Law: Awareness and Cooperation in TRANSBOUNDARY WATER RESOURCES MANAGEMENT: A MULTIDISCIPLINARY APPROACH* loc. 3.3.3.1. (Jacques Ganoulis et. al. eds., 2011) (ebook).

⁸⁰ *UN Watercourses Convention User’s Guide Fact Sheet Series: Number 9 Ratification Status and Entry into Force*, CENTRE FOR WATER LAW, POLICY AND SCIENCES UNDER THE AUSPICES OF UNECSO (Apr. 24, 2017 8:08 PM), <http://www.unwatercoursesconvention.org/documents/UNWC-Fact-Sheet-9-Ratification-Status-and-Entry-into-Force.pdf> (stating that although the UN Watercourses Convention was adopted by the UN General Assembly in 1997, it is still not in force because it requires ratification by 35 States).

water.⁸¹ The U.N. Watercourses Convention focuses on the “protection, preservation and management related to the uses of international transboundary water systems.”⁸² Under the Convention, transboundary water system states are entitled to participate in the negotiation for utilization of a watercourse, to become a party to international watercourse agreements, and to participate in any relevant consultations.⁸³

The U.N. Watercourse Convention serves as a framework for governing transboundary water sources and thus, outlines how watercourse states are to act toward each other in the utilization of watercourses. For example, watercourse states that utilize transboundary water sources in their territories must “take all appropriate measures to prevent causing significant harm to other watercourse States”⁸⁴ and “shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse.”⁸⁵ Further, watercourse states are required to “exchange readily available data and information on the condition of the watercourse,”⁸⁶ “consult with each other,” and “negotiate the possible effects of planned measures ... [on] an international watercourse.”⁸⁷

While the U.N. Watercourse Convention includes the perspectives of nation state stakeholders, it does not specifically allow for the perspectives of indigenous populations. For example, the Convention facilitates cooperation between Uruguay, Paraguay, Argentina, and Brazil, and promotes their agreed upon shared agenda for the sustainable management of the Guaraní Aquifer,⁸⁸ but does not consider the voices of the Guaraní or other indigenous populations in the region. Thus, although the Convention takes significant steps to protect transboundary water sources, because it perpetuates systems of privilege and oppression that support the colonizer rights of nation states while ignoring indigenous rights, the Convention is not a “postcolonial” act.

B. International Transboundary Aquifer Management Law: Shared Management

While the U.N. Watercourses Convention focuses on the management of all transboundary water sources, there are also bodies of law specifically related to the governance of transboundary aquifers. Thus, Part IV of this article describes the U.N. Draft Article on Transboundary Aquifers and Internationally Shared Aquifer Resources Management program (ISARM), two governance schemes that pertain to aquifers on an international level, and describes the two bodies of law that specifically govern the Guaraní Aquifer, the Guaraní Aquifer Agreement and the

⁸¹ Convention on the Law of the Non-navigational Uses of International Watercourses, *supra* note 77, at 3 (translating art. 2(a) of the Convention).

⁸² *Id.* at 1. (translating art.1.1 of the Convention).

⁸³ *Id.* art. 4.

⁸⁴ *Id.* art. 7.

⁸⁵ *Id.* art. 8.

⁸⁶ *Id.* art. 9.

⁸⁷ *Id.* art. 11.

⁸⁸ Stephan, *supra* note 79, loc. 3.3.3.2.

Guarani Aquifer Project.

1. Draft U.N. Articles on Transboundary Aquifers

Using the U.N. Watercourse Convention as a guide, the drafting committee of the U.N. International Law Commission developed the Draft Articles on the Law of Transboundary Aquifers (Draft Articles) and signed the Draft Articles into effect in 2008.⁸⁹ The Draft Articles state that each nation state home to a transboundary aquifer “has sovereignty over the portion of the transboundary aquifer or aquifer system located within its territory.”⁹⁰ Further, the Draft Articles explain that each aquifer state should “exercise its sovereignty in accordance with international law and the present draft articles.”⁹¹ The Draft Articles require aquifer states to utilize transboundary aquifers systems only “in a manner that is consistent with the equitable and reasonable accrual of benefits” for their nation state.⁹² Equitable and reasonable utilization of a transboundary aquifer system requires taking into account certain factors like the total transboundary population dependent on the aquifer system.⁹³

Similar to the U.N. Watercourse Convention, the Draft Articles require aquifer states, in their utilization of transboundary aquifers or aquifer systems, to “take all appropriate measures to prevent causing significant harm to other aquifer States.”⁹⁴ Furthermore, aquifer states must cooperate on the “basis of sovereign equality, territorial integrity, sustainable development, mutual benefit, and good faith in order to attain equitable and reasonable utilization and appropriate protection of their transboundary aquifers or aquifer systems.”⁹⁵ The Draft Articles also encourage aquifer states to enter into “bilateral or regional agreements or arrangements among themselves.”⁹⁶ The Draft Articles cover the Guaraní Aquifer, and contain several differences from the U.N. Watercourses Convention.

The Draft Articles are defective, however, in their dismissal of Guaraní communities occupying the land. The Draft Articles’ placement of power over the Aquifer in the hands of the state, leaves the authority to determine and define harm, equitable and appropriate use, and the dependent population with the nation state and does not leave room for indigenous voices. Historically, the defined generalized population does not include consideration of indigenous groups.

2. Internationally Shared Aquifer Resources Management Program (ISARM)

⁸⁹ INT’L. LAW COMMISSION, *Draft Articles on the Law of Transboundary Aquifers*, U.N. GOAR 63rd Sess., U.N. Doc. A/63/10 (2008), http://legal.un.org/ilc/texts/instruments/english/draft_articles/8_5_2008.pdf.

⁹⁰ *Id.* art. 3.

⁹¹ *Id.*

⁹² *Id.* art. 4(a).

⁹³ *Id.* art. 5(a).

⁹⁴ *Id.* art. 6 §1.

⁹⁵ *Id.* art. 7 §1.

⁹⁶ *Id.* art. 9.

Treaties between countries and peoples pertaining to water, such as those described above, require shared data, monitoring, and protection of groundwater sources.⁹⁷ Yet, the current scheme for comprehensive data collection on transboundary aquifer management is significantly lacking. For this reason, the United Nations Educational, Scientific and Cultural Organization's (UNESCO) International Hydrological Programme (IHP) launched the Internationally Shared Aquifer Resources Management program (ISARM) in June 2002.⁹⁸ Specifically, ISARM endorses shared research initiatives that focus on transboundary aquifers.⁹⁹ ISARM's main objectives are to "promote scientific, legal, socio-economic, institutional, and environmental assessment of internationally shared aquifer resources";¹⁰⁰ to bring awareness to the significance and importance of transboundary aquifer resources as "critical component[s] of the world's freshwater sources";¹⁰¹ and to promote cooperation between the "different countries that share transboundary aquifers."¹⁰² Under ISARM, proper evaluation of groundwater sources must include all aspects of transboundary aquifers including hydrogeological, socio-economical, legal, environmental, and institutional facets.¹⁰³

3. The Guaraní Aquifer Project as a Model of Exclusion

Cooperation between countries and governing bodies regarding management of the Guaraní Aquifer is key, as there is no formal mandate in place dictating the Aquifer's ownership and use. In order to implement and maintain this shared framework, these countries jointly participate in the Guaraní Aquifer Project. Negotiations between Argentina, Brazil, Uruguay, and Paraguay pertaining to the ownership and use of the Guaraní Aquifer began in Brazil in 1999.¹⁰⁴ These parties signed the Environmental Protection and Sustainable Development of the Guaraní Aquifer System Project (Guaraní Aquifer Project), which served as a starting point for further regional negotiations pertaining to the Aquifer.¹⁰⁵ The short-term objectives of the Project included enhancing "technical knowledge of the Guaraní Aquifer"; implementing "a system to monitor the Aquifer"; elaborating "a Strategic Action Plan and Transboundary Diagnostic Analysis"; and developing a management "proposal that factors in the water policies of each of the riparians for the coordinated management framework to reduce threats to the Aquifer."¹⁰⁶

The Guaraní Aquifer Project consists of seven components for management of the Aquifer. The first component is building a clear and consistent shared

⁹⁷ See generally Int'l. Groundwater Res. Assessment Ctr., *ISARM-Internationally Shared Aquifer Resources Management* (Apr. 24, 2017), <http://isarm.org/>.

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ Green, *supra* note 2, at 369.

¹⁰⁵ *Id.* at 370.

¹⁰⁶ *Id.* at 371.

scientific and technical knowledge base about the Aquifer.¹⁰⁷ The second, conducting strategic planning and development for the long-term objectives mentioned above.¹⁰⁸ Third, disseminating information about the Aquifer to the people most affected by its existence and use through public awareness campaigns and publicity.¹⁰⁹ Fourth, the regular tracking of the project's progress by using a constant system of monitoring between states.¹¹⁰ Fifth, studying risk of pollution in so-called "hot spots" and cooperating to avoid threats.¹¹¹ Sixth, committing to sustainable energy practices, and probing the Aquifer as a possible source of geothermal energy.¹¹² The seventh component requires providing organizational and administrative support to all projects and states as they pertain to the Aquifer.¹¹³ Although the Guaraní Aquifer Project concluded in 2009, those involved still hope to implement its mission of sustainable management and transparent administration in future legal frameworks.¹¹⁴

4. Guaraní Aquifer Agreement

Less than one year after the Guaraní Aquifer Project ended on August 2, 2010, Argentina, Brazil, Uruguay, and Paraguay signed the Guaraní Aquifer Agreement.¹¹⁵ The Guaraní Aquifer Agreement is a shared-management agreement between these four nation states. The Guaraní Aquifer Agreement calls "for the conservation and sustainable utilization of the Guaraní Aquifer System transboundary water resources,"¹¹⁶ and takes into account several agreements, treaties, declarations, and U.N. Resolutions.

The Guaraní Aquifer Agreement consists of twenty-two Articles detailing the management, responsibility, and conservation of the Aquifer. Article Two of the Guaraní Aquifer Agreement states that each party to the agreement retains "sovereign territorial control over their respective portions of the Guaraní Aquifer System, in accordance with their constitutional and legal arrangements, and in agreement with the norms of applicable international law."¹¹⁷ Article Five requires parties to act in accordance "with the principals and norms of applicable international law" when they intend to "undertake studies, activities or work related

¹⁰⁷ Org. of Am. States Office for Sustainable Dev. & Env't, *GUARANI AQUIFER SYSTEM: Environmental Protection and Sustainable Development of the Guaraní Aquifer System*, 7 WATER PROJECT SERIES, 1, 2 (Oct. 2005), https://www.oas.org/dsd/Events/english/Documents/OSDE_7Guarani.pdf.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.* at 3.

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Id.* at 4.

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ Luiz Amore, *Guaraní Aquifer Agreement*, INTERNATIONAL WATER LAW PROJECT, (last visited Apr. 24, 2017),

http://internationalwaterlaw.org/documents/regionaldocs/Guarani_Aquifer_Agreement-English.pdf (unofficial English translation of Official Agreement from Spanish and Portuguese).

¹¹⁶ *Id.*

¹¹⁷ *Id.* art. 2.

... to the Guaraní Aquifer System.”¹¹⁸ Article Six states that “parties that perform activities or work for utilizing the water resources of the Guaraní Aquifer System” must “adopt all the necessary measures to avoid causing significant harm to the other Parties or the environment.”¹¹⁹ Article Twelve requires parties to “establish cooperation programs for the purpose of extending the technical and scientific knowledge on the Guaraní Aquifer System, promoting the exchange of information and management practices, and developing joint projects.”¹²⁰ And finally, Article Twenty-two states that parties may “denounce” Guaraní Aquifer Agreement only by “written notification.”¹²¹ The Guaraní Aquifer Agreement is significant, as it establishes boundaries pertaining to Aquifer use and management, however, it perpetuates the exclusion of Guaraní input by only naming state actors.

Analysis of the Guaraní Aquifer Project and the Guaraní Aquifer is important to understanding which parties are included in the determination of the Guaraní Aquifer’s management and use. Although multiple indigenous groups, including the Guaraní, inhabit the regions of Argentina, Uruguay, Paraguay, and Brazil where the Guaraní Aquifer is located, indigenous peoples are marginalized and excluded from the Aquifer governing process. While foreign companies, under nation state law, are freely permitted to access the Aquifer’s water systems for agricultural and commercial purposes, indigenous communities are not afforded the same rights nor are consulted about the Aquifer’s management.¹²² As several of these communities are living in destitute economic circumstances and exposed living conditions without access to safe, potable water and adequate sewage systems,¹²³ it is critical that indigenous perspectives are included in all plans that pertain to governance of the Guaraní Aquifer. Guaraní perspectives are absent from both the Guaraní Aquifer Project and the Guaraní Aquifer Agreement as neither includes indigenous consultation or mention of land rights.

V. SOLUTIONS TO THE EXCLUSION OF THE GUARANÍ FROM THE MANAGEMENT OF THE GUARANÍ AQUIFER

As explained in Part IV, indigenous peoples’ perspectives and concerns, including those of the Guaraní, are consistently excluded from law established to manage shared aquifer resources; thus, the oppression of indigenous people is perpetuated. Part V of this paper offers the Bolivian Constitution, which came into effect in 2009, as a model of “postcolonial” efforts to include indigenous perspectives in the laws of the nation state, and describes current efforts the Guaraní have made to advocate for their rights to the Guaraní Aquifer. The example of the Bolivian Constitution and Guaraní efforts to participate in Aquifer management are provided to demonstrate that including Guaraní customary law within the management of the Guaraní Aquifer could be a solution that protects this precious

¹¹⁸ *Id.* art. 5.

¹¹⁹ *Id.* art. 6.

¹²⁰ *Id.* art. 12.

¹²¹ *Id.* art. 22.

¹²² Withanachchi, *supra* note 1, at 10-13.

¹²³ *Id.* at 13.

water resource for generations to come.

A. *Bolivian Constitution*

Though Bolivia is not one of the transboundary Guaraní Aquifer states, the recently amended Bolivian Constitution provides an example of how indigenous peoples have been included in the decision-making processes of issues pertaining to the local environment with positive results in other Latin American countries. In Bolivia, President Evo Morales, an indigenous Aymara man, implemented a new constitution in 2009 which considers indigenous peoples as autonomous entities and entitles them the right to “use their own norms and procedures” in legal and managerial matters.¹²⁴ This means that the new Bolivian Constitution supports the use of indigenous customary law in the governance of the nation state. In addition, the Bolivian Constitution names itself a “plurinational” state and recognizes thirty-six indigenous languages as official languages.¹²⁵ The Bolivian Constitution also protects and recognizes coca as “cultural patrimony because it is a resource vital to indigenous communities, a renewable natural resource of Bolivia’s biodiversity, and a factor of social unity.”¹²⁶

Furthermore, the Bolivian Constitution defines indigenous groups as any group which shares a language, cultural identity, historical tradition, territory, worldview, and institutions, and which predates Spanish contact.¹²⁷ Under the Constitution, such groups are afforded the right to “be free”; to practice their own customs and maintain their own identity; to “self-determination and territoriality”; to have their institutions recognized by the nation state; to be part of the nation state structure; to ownership of their land and protection of sacred places; to live in a healthy environment; and to participate in state institutions.¹²⁸ The Constitution states that natural resources are to be respected and ensured, and that only indigenous communities will determine if the Bolivian government may allow for natural resources to be exploited within their territory.¹²⁹ The provisions of the Bolivian Constitution demonstrate the country’s commitment to inclusion, equity, and respect, and a rejection of colonial and neoliberal attitudes, providing an example of attempted “postcolonial” governance.

Moreover, two chapters truly set the Bolivian Constitution apart as a champion of indigenous and environmental rights. The first chapter, titled “Social and Economic Rights,” includes environmental rights and provides that “every person has a right to a healthy, protected, and balanced environment[,]” and that this right must be protected for present and future generations of all living things.¹³⁰ Further, this chapter provides that any person, no matter their background, affiliation, or indigenous status, may take legal action against an organization or

¹²⁴ See generally BOL. CONST. 2009, art. 190 (located at CONSTITUTEPROJECT.ORG (last visited Apr. 24 2017), https://www.constituteproject.org/constitution/Bolivia_2009.pdf).

¹²⁵ *Id.* art. 5.

¹²⁶ *Id.* art. 384.

¹²⁷ *Id.* art. 30(I).

¹²⁸ *Id.* art. 30(II).

¹²⁹ *Id.* art. 30(II) § 15-16.

¹³⁰ *Id.* art. 33.

the state itself if they feel the environment is being attacked or treated unsustainably and irresponsibly.¹³¹ This chapter maintains that the state has the responsibility to use natural resources and protect the environment in a sustainable manner and that the Bolivian people have the right to be consulted and informed of all environmental decisions that might affect them or their lands.¹³² The second chapter, titled “Water Resources,” specifically pertains to water sources within Bolivia and states:

[w]ater resources in all their states, surface and subterraneous, constitute finite, vulnerable, strategic resources, and serve a social, cultural and environmental function. These resources cannot be the object of private appropriation and they, as well as water services, shall not be given as concessions and are subject to a system of licensing, registration and authorization pursuant to the law.¹³³

Additionally, the Bolivian Constitution recognizes rights of indigenous people as they pertain to water in Article 374, which states that Bolivia shall “recognize, respect and protect the uses and customs of the community, of its local authorities and the rural native indigenous organizations over the right, management and administration of sustainable water.”¹³⁴ This language benefits indigenous communities in Bolivia by outlawing private seizure of water sources for financial gain, protecting it as a vital resource with cultural significance.

Bolivia is an indigenous majority country, with sixty-two percent of citizens identifying as indigenous.¹³⁵ Colonization, ongoing oppression, and “brutal neoliberalism” spurred decades of organizing, protests, and movements, resulting in the election of Bolivia’s first indigenous president, Evo Morales, in 2006.¹³⁶ The Bolivian Constitution is a champion for indigenous rights, recognizing all thirty-six indigenous languages as official, autonomy for areas populated by indigenous communities, freedom of religion, and the right to practice indigenous community justice, or customary law.¹³⁷ By validating indigenous practices, the Bolivian constitution represents a shift toward a more “postcolonial” nation state, as “the recognition of indigenous justice is necessary to repair a history of oppression.”¹³⁸

In summary, these articles of the Bolivian Constitution mandate the inclusion of indigenous communities on environmental issues throughout the state and especially in territories claimed by indigenous groups. Because the Paraguayan, Uruguayan, Argentine, and Brazilian constitutions do not recognize indigenous peoples¹³⁹ or the environment and the delicate balance and relationship

¹³¹ *Id.* art. 34.

¹³² *Id.* art. 342-43.

¹³³ *Id.* art. 373.

¹³⁴ *Id.* art. 374.

¹³⁵ John L. Hammond, *Indigenous Community Justice in the Bolivian Constitution of 2009*, 33:3 *Human Rights Quarterly* 649, 650 (2011).

¹³⁶ *Id.* at 652.

¹³⁷ *Id.* at 654.

¹³⁸ *Id.* at 681.

¹³⁹ *See generally* PARAGUAY'S CONSTITUTION OF 1992 WITH AMENDMENTS THROUGH 2011

between the two in explicit terms as the Bolivian Constitution does, indigenous communities are unjustly excluded from matters pertaining to the Guaraní Aquifer. The Bolivian Constitution can serve as an excellent example of indigenous inclusion in environmental, governmental, and legal matters, such as water and land management, through adoption of indigenous customary law.

B. The Potential of Guaraní Advocacy for Truly Postcolonial Change

Guaraní efforts to advocate for their right to participate in Aquifer management serve as a foundation for the incorporation of indigenous concerns and perspectives into the management of the Guaraní Aquifer. In the late 20th and early 21st centuries, indigenous communities began banding together to form formal organizations that advocate for indigenous rights in South America.¹⁴⁰ Many of these organizations have strong partnerships with local NGOs.¹⁴¹ The goal of these organizations is to enhance the participation of indigenous peoples in decisions pertaining to the environment because their voices are largely unheard.

These organizations have challenged indigenous exclusion from legal matters pertaining to the environment and land possession through collaboration with indigenous lawyers and political leaders, and have been largely successful in assisting indigenous communities in fighting for their human rights, advocating for democracy, supporting economic development, revitalizing indigenous culture, and building infrastructure.¹⁴² While indigenous inclusion in the management of the Guaraní Aquifer, a transboundary water source spanning four countries, is a more difficult effort to coordinate, these organizations are a good example of the rights indigenous communities can claim through focused collaboration.

CONCLUSION

The Guaraní Aquifer is a vastly important resource, not only for the region, but also for the world. The demand for clean water is ever increasing. The Guaraní Aquifer is one of the largest transboundary aquifer systems on Earth, and as populations grow and threats such as contamination, pollution, and exploitation

CONSTITUTEPROJECT.ORG (last visited (Apr. 25, 2016), https://www.constituteproject.org/constitution/Paraguay_2011.pdf?lang=en (English translation provided by William S. Hein & Co.); URUGUAY'S CONSTITUTION OF 1966, REINSTATED IN 1985, WITH AMENDMENTS THROUGH 2004, CONSTITUTEPROJECT.ORG (last visited (Apr. 25, 2016), https://www.constituteproject.org/constitution/Uruguay_2004.pdf?lang=en; ARG. CONST. 1994 (Constitute Project through Apr. 2016), https://www.constituteproject.org/constitution/Argentina_1994.pdf?lang=en (English translation provided by William S. Hein & Co and Jefri J. Rutchi.); BRAZIL'S CONSTITUTION OF 1988 WITH AMENDMENTS THROUGH 2014, CONSTITUTEPROJECT.ORG (last visited (Apr. 25, 2016), https://www.constituteproject.org/constitution/Brazil_2014.pdfhttps://www.constituteproject.org/constitution/Argentina_1994.pdf?lang=en (English translation provided by Keith S. Rosenn).

¹⁴⁰ See generally DONNA LEE VAN COTT, FROM MOVEMENTS TO PARTIES IN LATIN AMERICA: THE EVOLUTION OF ETHNIC POLITICS 177-89 (2005) (describing the political successes of indigenous rights organizations in Argentina, Columbia, and Venezuela).

¹⁴¹ *Id.*

¹⁴² *Id.*

threaten the Aquifer to greater degrees, the need for a comprehensive, sustainable management plan is paramount. Because nation state constitutions and international agreements between nation states that share access to the Guaraní Aquifer currently do not protect the environment or indigenous peoples' rights as clearly as the Bolivian Constitution, the Guaraní are facing the environmental and political consequences of being completely excluded from the Aquifer's management. However, the future inclusion of Guaraní input and customary law has the potential to shape an Aquifer management plan that would ensure the Aquifer's sustainable administration long into the future. While the Guaraní Aquifer Project and the Guaraní Aquifer Agreement are admirable attempts at closing the gap between sustainable management and use, the fact remains that this colonial law excludes the concerns and perspectives of the Guaraní peoples who share the Aquifer's lands.

The scarcity of water, as well as the states' tendency to make decisions pertaining to the environment, lend themselves to a political system that is constructed by a Foucauldian notion of power that oppresses "Others." Local communities, such as the Guaraní, have different interests and needs as they pertain to the Aquifer. In the case of the Guaraní Aquifer, the laws, regulations, and statutes in place do not recognize Guaraní interests and thus marginalize or ignore those interests. State and global governance systems alone oversee the management of the Guaraní Aquifer System, and thus their relations of power are oppressive and colonial in nature. Without an overarching agreement implementing Guaraní input, territorial claims, and decision-making abilities, the Guaraní Aquifer System cannot be categorized as a system moving toward the "postcolonial." As evidenced by the Bolivian constitution, inclusion of indigenous customary law in decision-making processes is beneficial to indigenous communities, the sustainability of the environment, the nation state as a whole, and the survival of Earth's peoples.