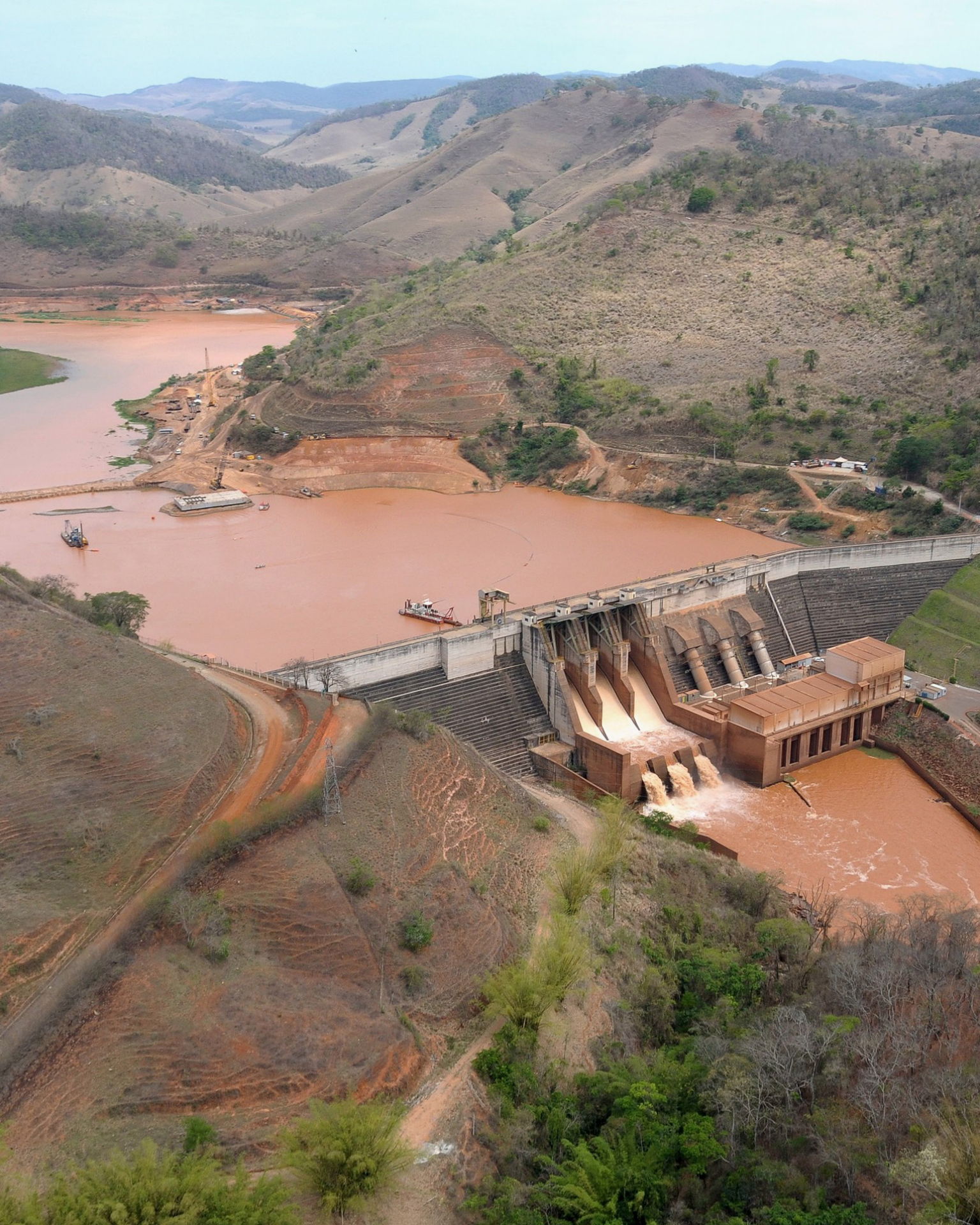

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Water and Heritage: Sustainable Alternatives Based on the Worldviews of South American Communities

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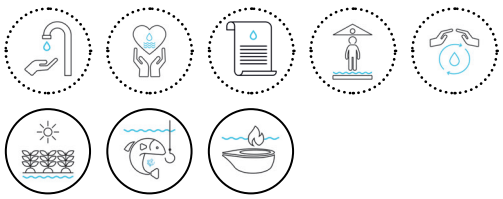
Water has a central position in the cosmovision of Native peoples in Brazilian culture. In the Andes, water is sacred and revered. However, in South America, colonial practices and the advance of agriculture and farming following industrialization has had devastating effects on cultures and ecologies. Only in recent decades has awareness started growing that there might be lessons for a sustainable future to be found in Indigenous peoples' ways of living with water. This article conceptualizes the importance of "nature-based solutions" and illustrates this with examples from Brazil (Minas Gerais) and the Andes. It shows how ancient water practices are still present in local communities and languages, and the authors suggest ways of reinstating and protecting water-related heritage that go beyond the divides between nature and culture, tangible and intangible.

KEY THEMES



< Fig. 1 Aerial photo of the area affected by a dam breaking in Mariana, Minas Gerais (Source: Vinícius Mendonça/IBAMA Brazil, 2017, CC BY 2.0, via Wikimedia Commons).

Introduction

Understanding the world's diverse water cultures is essential to grasping the different rationales, conflicts of interest, and impasses encountered in community-based water management. Such an understanding also suggests possible solutions to common problems. The cosmovision of the Native peoples of South America that is manifested in their ways of seeing, thinking, ordering and feeling the world indicates paths for management based on nature-based solutions, as proposed by a United Nations report (UN 2018). That support recognizes the importance of local traditional knowledge and practices in the functioning of ecosystems and in nature-society interaction. The intersubjective perception of the world of the Amerindian peoples has depended on the interaction between culture and environment.

The ethics of the Indigenous people of South America is rooted in the collective identity of the inhabitants of a common territory. Indigenous communities reassert this ethical sensibility as they try to defend their original place in recurrent clashes with mega-projects of intensive agriculture, dam construction and mining with their destructive and degrading social, cultural and environmental impacts. Cristián Parker (2017), sociologist and researcher, has studied the different worldviews of Indigenous groups, economic groups and environmental movements, as well as the conflicts between different social actors involving water and natural resources in South America. Parker notes that as part of the colonialist development process, extractive policies in Latin America are generally not respectful of the environment (2017).

Parker (2017) also assesses various ethical discourses, such as those proposing utilitarian growth. He defends regulatory ethics as a way to minimize the environmental and social impacts of extractive companies, thus highlighting corporate social responsibility. In addition, Parker proposes sustainable development, with companies regulated by the state, and emphasizes the discourse of ecological ethics.

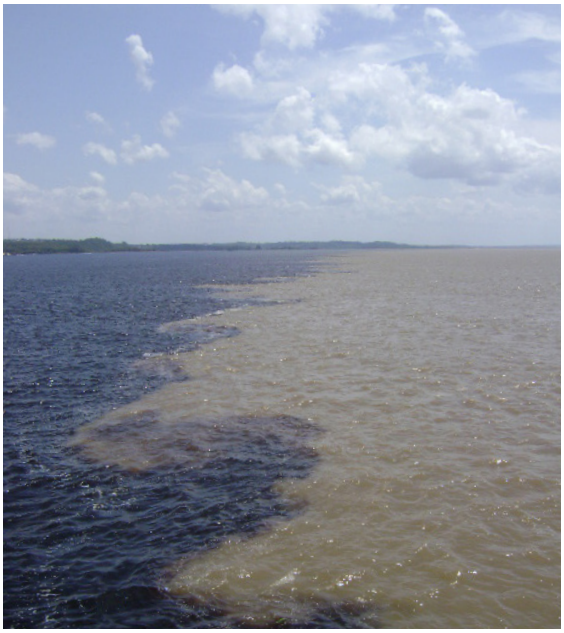
South American Cosmovisions and the Destruction of Indigenous Territories in the State of Minas Gerais, Brazil

These various discourses are evident in the struggle for survival of the Krenak people in Minas Gerais. The fight for the preservation of their land dates back almost 200 years. When the Portuguese arrived in the territory that today corresponds to the city of Resplendor, they fought against the Krenak to occupy the area to extract minerals and natural resources. It was at this time, around two centuries ago, that the attempt to exterminate the Krenak Indians began.

The Krenak people gained national visibility after the tragedy in Mariana in November 2015. A dam belonging to Mineradora Samarco broke, bringing a flood of toxic mud that covered more than 200 kilometers to the Rio Doce basin (fig. 1). Vegetation and fauna were destroyed, and toxic mud residues covered the river bed like an impermeable plastic mantle. The river was the main source of livelihood for the Krenak community who consider the river their relative and sacred entity. Watu, meaning the old grandfather, the nickname of the river in the Krenak language, is an essential element of the collective identity of his people and his flow is a link between the past, present and future of Krenak riverside communities. Before mining and the dams were built on its course, the Doce River sustained considerable life. In addition to providing water to humans and animals, Watu

made the food that sprouted on the riverbanks; he made fertile lands grow and fishing an important source of food and livelihood.

The Maxacalí, an Indigenous people who inhabit the same territory in the Rio Doce basin as the Krenak, saw their lands and forests devastated by cattle ranching in the early twentieth century. The ranchers cut down the forest and introduced mining. To this day, the Maxacalí continue to farm in traditional ways while surrounded by commercial farms and crushed by the colonial violence, murders and disputes around them. In an interview, Ailton Krenak says that 90 per cent of the Maxacalí people do not speak Portuguese and refuse to learn it – as a way of continuing to live in their world, which they are able to recreate every day (Massuela and Weis 2019). In the view of Paula Júnior (2021), the slow death of the Doce River started when its flow was interrupted by dams.



^ Fig. 2 "Meeting of the Waters" of the Negro and Solimões rivers (Source: Claudio JJ, 2009, CC BY-SA 4.0, via Wikimedia Commons).

Indigenous Worldviews, Traditional Knowledge and Protection of Territories

In Brazil, there are several UNESCO World Heritage Sites, protected by the Instituto do Patrimônio Histórico e Artístico Nacional (IPHAN), in addition to state and municipal bodies. Community initiatives to protect water include secular and recent ones, such as neighborhood communities and environmental movements that work to protect urban lakes and rivers. Religion can also be involved in protecting water resources and changing the way these resources are managed, as in the religious processions by boat that take place in Bom Jesus da Lapa on the São Francisco River, in the state of Bahia. The processions put water back at the center of community spirituality and are intended to prevent boats from running aground in the river. Another example of the protection of waters in Brazil for cultural and heritage reasons is IPHAN's declaration of the Negro and Solimões rivers in the city of Manaus (Amazonas) as heritage, in 2010, at the "Meeting of the Waters" (fig. 2). According to IPHAN (n.d.), "the more than 10 kilometers where you can see the dark and transparent waters of the Rio Negro running along the muddy waters of the Solimões River, in the Amazon, were registered as heritage assets due to the exceptional nature of the phenomenon, considering its high landscape value." This statement at the "Meeting of the Waters" was intended to protect this natural phenomenon from the threat posed by the construction of a port next to the area.

Another contribution of popular cultural heritage in relation to water comes from the Brazilian northeast. This is a dry region, where observing natural cycles, especially related to rainfall, is essential for life. In this context, the Prophets

of Rain have emerged – men and women from the countryside who make meteorological forecasts based on observations of changes in the ecosystem, the signals produced by animals, the atmosphere, and the position and visibility of celestial bodies, among other traditional forecasting methods (Silva et al. 2014). Some prophecies are based on dreams and even on religious rituals that mix Indigenous beliefs and other forms of knowledge. Practices of observing nature and acquiring empirical knowledge related to these predictions are usually transmitted orally from generation to generation.

Worldviews of Indigenous communities have long been ignored, but they can influence decision-making about the protection of community territories. Today, Amazonian Indigenous peoples in Brazil speak 170 languages. There were about six million people when the Portuguese arrived in 1500; today they make up a population of 600,000 self-declared Indigenous peoples. Article 231 of the Brazilian Constitution from 1988 establishes that "the Indians are recognized for their social organization, customs, languages, beliefs and traditions and the original rights over the lands they traditionally occupy, and the Union is responsible for demarcating, protecting and enforcing all their assets." Although even since 1988, there have been many violations of this principle, it represents some kind of awareness and commitment.

Currently there are territories and areas in Brazil that are protected for ecological and cultural reasons. This protection is established through policy instruments for the protection of cultural and environmental heritage, the delimitation of Indigenous peoples' lands and the recognition of sacred sites in Indigenous religious traditions. There are many religious rituals involving water that are common in Indigenous groups in Brazil. Diegues (Institute for the Environment and Renewable Natural Resources 2006, 169) states that "fishing rituals are performed to obtain permission to enter the river and catch the fish. For the Metutire (Caiapó group) water is considered an element that stimulates physical growth and psychosocial maturation, and women often send their children to take a rain shower so they grow up fast. The Mebengocrê (people from the water hole, also Caiapó) portray the close relationship of their people with water through many myths."

Based on the Indigenous cosmovision, IPHAN protected the Cachoeira de Iauaretê or Cachoeira da Onça, a sacred place of the Indigenous peoples of the Uaupés and Papuri rivers, on the Upper Rio Negro in the Amazon. The Lauaretê waterfall, a sacred site of the Indigenous people who inhabit the region, is bathed by the Uaupés and Papuri rivers in the Brazilian Amazon region. The inscription of the waterfall as intangible heritage favored the protection of the water heritage of fourteen ethnic groups who inhabit the region. Its inscription in the Book of Registration of Places was carried out in 2006, a recognition that the stones, slabs, islands and water courses around the waterfall symbolize wars, persecutions, deaths and alliances described in myths of origin and in the historical narratives of local ethnic groups.

Political conjunctures vary and in certain situations protection becomes possible. In other situations, the opposite occurs, as was the case of Guaíra or "Sete Quedas," sacred to the Guarani people, which was flooded in 1966 to make way for the Itaipu hydroelectric plant.

In the Andes: "Abya Yala" and *Buen Vivir*

As in Brazilian culture, water has a central position in the cosmovision of peoples of the An-

^ Fig. 3 There is a great number of water fountains, interconnected by channels and water-drainages perforated in the rock, designed for the original irrigation system (Source: Jorge Láscar, 2009. CC BY 2.0 via Wikimedia Commons).

des. The original Andean people called America "Abya Yala," which means "mature land of eternal youth." For many centuries, European colonization suffocated Andean culture and made it invisible. However, this vision of the land, rooted in Indigenous cultures, continued to be lived by the Quechua, Aymara, Guarani and others.

Alberto Acosta is one of the authors who recorded the original Andean and Inca cosmovision. According to Acosta (2016), *buen vivir* (well-being) is affirmed in community and cooperative concepts, different from the "good life" for some individuals and the accumulation of goods for common use, such as water, land and forest. The unity of human beings with nature is present in this Andean worldview that emphasizes long cycles of evolution, cooperation and fraternity. The sense of community includes human and biological interaction. Everything is interconnected in our common home. Fernando Huacanuni (2010) is another author who has treated *buen vivir* not only as an intellectual conception but as a philosophical and spiritual vision, the life response of Indigenous peoples, sustained by an ancestral cosmovision. Everything lives: the mountains, the trees, the people. Among the Aymara peoples, it is said that we are children of Father Cosmos and Mother Earth. According to David

Choquehuanca (minister of foreign affairs in the government of Evo Morales from 2006 to 2017), cited by Huacanuni (2015), Indigenous people believe that we are all brothers, humans, and that Mother Earth is fed with water as "milk from the earth," so we must live in harmony with nature and other human beings, caring for and protecting Mother Earth.

The concept of *buen vivir* can support actions to protect water and natural heritage in South American countries (fig. 3). It is a valuable intangible heritage left by Andean communities as a legacy to be continued. Indigenous worldviews have demonstrated resilience and the ability to resist invasions and external pressures, and have strengthened and resurfaced in recent decades. The age-old wisdom contained in the "well-being" cosmovision points out paths to new knowledge and practices that we are invited to follow in building a sustainable future, with socio-environmental justice and respect for life in all its forms. The tangible and intangible heritage that Indigenous cultures have left us is of great value in thinking about the present and the future, and a fundamental approach to implementing the Sustainable Development Goals (SDGs).

For Acosta and Brand (2018, 136), the sustainable economy must be based on solidarity, reciprocity, relationality and complementarity. They consider it essential to socially reinterpret nature from cultural imaginaries such as "*buen vivir*" or "*sumak kawsay*," in the native language of Quechua. The cosmovisions and epistemologies of the cultures of the South are alternatives to the hegemonic concept of economic growth and show that socioeconomic models focused on quality of life, fraternal relationship with nature, socio-environmental justice and sustainability are possible and viable. The history of territorial occupation by Native peoples of South America points in this direction.

Recognition of Nature and Water as Legal Entities

In the clash between the mercantilist economic discourse, the environmental discourse and the Indigenous cosmovision, a strategy adopted by some countries has been to recognize water and nature as "legal persons." In 2010, Bolivia proposed the institution of water to the UN as a human and natural right. In a proposal from Bolivia, April 22 was declared by the UN as the International Day of Mother Earth, Pacha Mama, Mother Earth in Balance. Bolivia and Ecuador are the countries that have made the most progress in applying and institutionalizing this approach based on Indigenous traditions. This South American discourse is in line with initiatives in other parts of the world that have also proposed and approved legislation recognizing rivers as "legal persons" due to the ancestral relationship of their communities with these rivers. In 2017 New Zealand's parliament recognized the Whanganui River (Te Awa Tupua) as an indivisible living whole constituted by the river and its territory. The intrinsic value of Whanganui and its cultural significance has been declared a legal person, recognizing and validating the cosmovision of Indigenous traditions of the river as a being.

Final Considerations

At a time when climate change has intensified, we are witnessing a more acute, imperceptible and sometimes open confrontation between a utilitarian ethic of exploitation and an ecological ethic. In Western colonialist thought, nature is considered an object subject to exploitation (as are vulnerable social groups). This, according to

Parker (2017) is the logic of immediate capitalist accumulation and the ethics of post-industrial, globalized and neoliberal society.

In this context, Indigenous ethics confronts the commodification of territories and emphasizes a kinship of humans and nature that inspires contemporary ecological ethics. The cosmovisions of the Native peoples of South America and the principles of socio-environmental sustainability recognize unity in diversity and *buen vivir* in a peaceful and fraternal relationship with all communities of life. The way forward must be built, necessarily, from an ethics of reciprocity between human beings and nature. The UN notes that 1.8 billion people are affected by land degradation and desertification, extreme weather events and drought, and that economic losses caused by climate change cost an average of $46 billion annually. We are water, outside and inside of us. Life calls for an ethics of care, the only kind of ethics capable of reversing the desolate scenario and the devastating impacts of climate change on planetary ecosystems and, above all, on human communities. According to Catalão (2006), water is the element of listening. It is urgent that we listen with an open mind and heart to the wisdom of traditional and Indigenous peoples in order to achieve the SDGs.

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References

Acosta, Alberto. 2016. *O Bem Viver: Uma Oportunidade para Imaginar Outros Mundos* [Buen vivir: an opportunity to imagine other worlds]. São Paulo: Elefante.

Acosta, Alberto, and Ulrich Brand. 2018. *Pós-Extrativismo e Decrescimento: Saídas do Labirinto Capitalista* [Post-extractivism and degrowth: Exits from the capitalist labyrinth]. São Paulo: Elefante. (In Portuguese).

Boelens, Rutgerd. 2017. "Rivers of Scarcity: Utopian Water Regimes and Flows against the Current." Wageningen: Wageningen University & Research. https://doi.org/10.18174/432727.

Burg, Ricardo. 2014. "Povos Indígenas na Gestão das Águas: Diálogos para Cooperação" [Indigenous peoples in water management: dialogues for cooperation]. In *Água e Cooperação: Reflexões, Experiências e Alianças em Favor da Vida, edited by Sergio Ribeiro, Vera Catalão and Bené Fonteles*, 213–21. Brasilia: Ararazul, Organização para a Paz Mundial.

Chamorro, Graciela. 2010. "Imagens Espaciais Utópicas. Símbolos de Liberdade e Desterro nos Povos Guarani" [Utopian spatial images. Symbols of freedom and exile in the guarani people]. *Indiana* 27: 79–107. https://doi.org/10.18441/ind.v27i0.79-107.

Catalão, Vera Lessa. 2006. "As Qualidades Sensíveis da Água" [The sensible qualities of water]. In *Agua como Matriz Ecopedagógicaica: Um Projeto a Muitas Mãos, edited by Vera Lessa Catalão and Maria do Socorro Rodrigues*, 82–94. Brasilia: Universidade de Brasília. (In Portuguese).

Cambridge Language Surveys. 1999. *The Amazonian Languages*, edited by Robert M. W. Dixon and Alexandra Y. Aikhenvald. New York: Cambridge University Press.

Huanacuni, Fernando Mamani. 2010. *Buen Vivir/Vivir Bien. Filosofía, Políticas, Estrategias y Experiencias Regionales Andinas* [Buen vivir/vivir bien. Philosophy, policies, strategies and andean regional experiences]. La Paz: PRISA. https://dhls.hegoa.ehu.eus/documents/5182.

Instituto do Patrimônio Histórico e Artístico Nacional. n.d. "Home." Accessed January 12, 2023. https://www.gov.br/iphan/pt-br.

Institute for the Environment and Renewable Natural Resources. 2006. "Plano Nacional de Recursos Hídricos" [National water resources plan]. *Panorama e Estado dos Recursos Hídricos do Brasil 1*. Brasilia: Ministério do Meio Ambiente. https://www.cbhdoce.org.br/wp-content/uploads/2015/01/PNRH-Vol-01.pdf.

Massuela, Amanda, and Bruno Weis. 2019. "O Tradutor do Pensamento Mágico" [The translator of magical thinking]. Interview of Ailton Krenak, CULT, no. 251 (November). São Paulo: Editora Bregantini. https://revistacult.uol.com.br/home/ailton-krenak-entrevista/. (In Portuguese).

Parker, Cristián. 2017. "Les Acteurs Sociaux et les Éthiques Écologiques dans le Conflit Extractif: L'Éthique Autochtone Sud-Américaine" [Social agents and ecological ethics in the extractivist conflict: Indigenous South American ethics]. In *L'Espoir Malgré Tout – L'Oeuvre de Pierre Dansereau et l'Avenir des Sciences de l'Environnement*. 1st edition, edited by Normand Brunet, Paulo Freire Vieira, Marie Saint-Arnaud and René Audet, 173–88. Québec: Presses de l'Université du Québec. https://doi.org/10.2307/j.ctv6zd9gp.19.

Paula Júnior, Franklin. 2021. "We are Water: Cosmovisions and Political Perspectives on Water from the Dialogue with Institutional Actors and Civil Society." Master's thesis, University of Brasilia.

Ribeiro, Maurício Andrés. 2017. "Ecologizar as Comunidades" [Ecologizing communities]. In *Psicologia, Educação e o Debate Ambiental: Questões Históricas e Contemporâneas*, edited by Béatrice Haengelli-Jen-

ni et al., 37–55. Belo Horizonte: FaE/UFMG. https://cdpha.pro.br/wp-content/uploads/2020/10/Colecao-Antipoff-2017-Psic-educ-debate-ambiental.pdf.

Silva, Neusiene Medeiros da, Anna Jéssica Pinto de Andrade and Cimone Rozendo. 2014. "'Profetas da Chuva' do Seridó Potiguar, Brasil" [Rain prophets' from the seridó region, brazilian northeast]. Boletim do Museu Paraense Emílio Goeldi. *Ciências Humanas* 9, no. 3: 773–95. http://dx.doi.org/10.1590/1981-81222014000300014.

United Nations. 2018. *The United Nations World Water Resources Development Report: Nature-Based Solutions for Water Management.* Paris: UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000261424.locale=en.

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