

Lithium Extraction and Hydropower Development in Bolivia: Climate Mitigation versus Indigenous Environmental Justice

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Abstract: Located at the heart of the Amazonian-Andean geobiological interface, Bolivia is uniquely situated with an ecologically diverse landscape, a politically active Indigenous population, and natural resources that attract foreign interest. As climate change mitigation gains international traction, Bolivia's potential to provide lithium globally and hydropower regionally has prompted exploitation of the land by the Bolivian government. In a nation where the Indigenous majority has defined the rights of Mother Earth in its Constitution, the destructive nature of these projects calls attention to the novel issue of justifying environmental degradation with a promise to save the world from climate change. By examining primary and secondary sources, this paper explores the friction between development for sustainability and Indigenous environmental justice in Bolivia. In my investigation, I question whether investing in renewables that cause environmental degradation is inherently contradictory in the context of Bolivian Indigenous tradition. I consistently find that the methods of development and consultation for these projects are flawed. I suggest that a framework of temporal environmental justice is needed to fully understand this friction between environmental and climate justice.

Keywords: *Bolivia, Vivir Bien, Indigenous Environmental Justice, Lithium, Hydropower*

Introduction

Throughout the 20th century, extractivist Western corporations and organizations pushed an exploitative neoliberal agenda in Bolivia, capitalizing on lenient oil and gas policies to the detriment of the Bolivian people (Hindery 2013, 27-62). Together with a lack of rural Indigenous representation in government and the absence of a unified left-wing party, popular dissent manifested itself in the foundation of the political party *Movimiento al Socialismo* (Movement Toward Socialism, hereafter referred to as MAS) at the turn of the century (Zuazo 2010).

The MAS called for a rejection of neoliberal policy and advocated for Indigenous representation in government. With the 2005 election of Indigenous Aymara MAS leader President Evo Morales, the Indigenous majority finally saw itself recognized at the highest branch of Bolivian power. Morales oversaw the implementation of a new constitution in 2009 that incorporated measures for Indigenous protection and beliefs: for the first time, Mother Earth and the importance of Indigenous cultures were recognized in the most fundamental document of the nation, paving the way for the legal declaration of the rights of Mother Earth itself (Asamblea Legislativa 2010). The nation was retitled “El Estado Plurinacional de Bolivia,” or the Plurinational State of Bolivia, to recognize its diverse Indigenous composition and the rights of its people (Constitución Política del Estado 2009). The previously foreign-occupied oil and gas industry was nationalized, leading to increases in state revenue that were subsequently set aside for social spending (Zissis 2006; Bonifaz and Lefebvre 2014). Under Morales from 2006 to 2019, Bolivia’s poverty rate was reduced from 60% to less than 35% with extreme poverty decreasing from 37.7% to 15.2% (Arauz et al. 2019).

In the wake of Bolivia’s commitment to the rights of Mother Earth, the Asamblea Legislativa passed the Framework Law of Mother Earth and Integral Development for Living Well in 2012, which federally recognized the Andean Indigenous concept of *Vivir Bien*. Called *sumaq kawsay* in Quechua or *suma qamaña* in Aymara, *Vivir Bien* is a complex and evolving vision that places the Andean *Pachamama*, or Mother Earth, at

the center of its worldview rather than humanity. It embraces complementarity, rejects colonialism and exploitation as a requisite for progress, and views humans as “mediators” of nature. Importantly, the *Pachamama*, and therefore *Vivir Bien*, is grounded in local interpretations of Mother Earth, embracing local self-determination as a form of decolonization (Asamblea Legislativa 2012; Solón 2018).

Despite the MAS’s initial legislative flurry to protect Indigenous rights and the environment during the Morales administration, the current MAS-controlled government is moving forward with environmentally destructive projects on Indigenous land, dismissing protections that it itself implemented (World Energy Council 2016). In efforts to capitalize on the global push to mitigate the effects of climate change (European Commission 2019; Zhan et al. 2020; IEA 2021), Bolivia has sharpened its focus to two locally destructive projects: exploiting largely untapped lithium reserves to become a global exporter of the high-demand rechargeable battery material, and accessing renewable energy potential from hydroelectric dams to establish itself as the “energy heart of South America” (Estado Plurinacional, Ministerio de Comunicación 2018). Moreover, with Bolivia’s ties with the United States weakening under the MAS, China has moved in to sponsor and benefit from these Bolivian projects, aiming to monopolize its lithium exports and infrastructure contracts (Achtenberg 2017a).

Even as Bolivia begins to move away from its previous economic dependence on hydrocarbon extraction, exploitative practices on Indigenous land continue. However, these projects are now carried out in the name of global sustainability. This research questions how we adjudicate environmental justice in a situation where development for a sustainable future comes into conflict with local environmental protection. This is accomplished by examining case studies of lithium extraction in Salar de Uyuni and hydroelectric dam construction on the Beni River.

To explore this topic, I will analyze the environmental and social impacts of lithium extraction in Salar de Uyuni within the context of the growing global demand for lithium. Then, I will analyze the environmental, social, and economic impacts of

the Chepete-El Bala dam project within the context of Bolivia's aspirations for regional energy leadership. Lastly, I will scrutinize these case studies in the context of Bolivian law, *Vivir Bien*, and standard lenses of environmental justice.

Case 1 Background: Bolivia's Lithium Problem

The global economy is on a path towards environmental sustainability, both due to a growing public concern for the damaging effects of climate change as well as corporate and governmental security concerns. Demand for lithium-ion batteries, the rechargeable energy storage method widely used in phones and other portable devices, is projected to increase rapidly over the next several decades (Wanger 2011) as they become synonymous with electric cars, solar panels, and the decarbonization of the global economy. This has led to speculation in the lithium extraction industry, which must develop alongside these technologies. While lithium deposits can be found across the globe, the current center of lithium extraction is shared between Chile, Bolivia, and Argentina in an area dubbed the "Lithium Triangle," which together holds over 50% of the world's observed lithium resources (United States Geological Survey 2022). While Bolivia does not currently dominate the export of lithium from this region, it contains what is estimated to be the largest lithium deposit in the world, Salar de Uyuni.

Lithium Extraction and its Environmental Challenges

The general method for extracting lithium from salt flats, or *salar*s, is to pump water into the flat and release the lithium in the form of brine into large evaporation pools where the water evaporates naturally, leaving lithium and other salts behind. The lithium is then isolated in a processing plant for ultimate use in battery products. Concern about the destructive nature of these practices arises in part from the large space that evaporation pools take up due to their on-site placement, permanently altering the landscape. Waste products from this method would increase soil alkalinity and affect agriculture and biodiversity around the *salar*,

and cleanup methods are not yet fully developed. This process is expected to be used for up to 60% of lithium production in Salar de Uyuni (Abelvik-Lawson 2019, 233-234). The evaporation component of this process requires about 500,000 gallons of water per ton of lithium, exacerbating the pressure on human water usage in the desert landscape and diverting immense amounts of water from subsistence-based agriculture in the Salar de Uyuni basin (Early 2020; Katwala 2018).

Foreign Interest in Lithium Development

Salar de Uyuni is at the center of interest for the future of the lithium industry due to its pristine condition. As Bolivia lacks large domestic extraction companies, it has formed contracts with foreign corporations in anticipation of the rise in global demand for lithium. However, Bolivia has committed to cooperating only with foreign corporations that will manufacture lithium into products within the country itself to maximize Bolivia's economic benefit (Stone 2020). Bolivia has taken on multiple such opportunities with China, including a \$2.3 billion lithium contract with Chinese mining company Xinjiang TBEA signed in 2019, and another \$1 billion contract in 2023 with Chinese company CATL, firmly establishing Chinese influence over Bolivian lithium aspirations (Ramos 2019; Ramos 2023).

MAS Protection and Rejection

By incorporating the Andean *Pachamama* into its 2009 Constitution, the MAS paved the way for further inclusion of Indigenous environmental practices by subsequently bringing the Indigenous concept of *Vivir Bien* into the federal political sphere. However, the MAS's support of neo-extractivist methods for economic growth has led to controversial laws, including one in 2014 that restricts the ability of mining cooperatives to make contracts with private companies and criminalizes protests against mining activity (Achtenberg 2014; Sempértégui 2014; Estado Plurinacional, Ministerio de Planificación 2014). The MAS's dual embrace of Indigenous protections and defense of

extractivism sets the stage for a clash over the lithium industry and raises questions about public consultation and transparency (Revette 2016; Abelvik-Lawson 2019, 306).

Consultation and Local Repression

To understand the Salar de Uyuni project's impact on Indigenous locals, it is essential to examine Bolivian environmental policy in practice. The 2014 mining law removes consultation from the exploration stage, positioning itself at odds with the Bolivian Constitution (Estado Plurinacional, Ministerio de Minería 2014; Constitución Política del Estado 2009). The 2014 law also establishes the method of consultation as giving information rather than involving communities in decision-making, falling short of the MAS's promise of Indigenous protections in line with *Vivir Bien*. Furthermore, interviews with various Indigenous Quechua communities and lithium workers near active projects in Salar de Uyuni demonstrate that, even under the 2014 law, there is a lack of information. One miner from Colchani, a community neighboring the *salar*, states "We don't know about it – zero. We don't have any kind of explanation," while another community member does not recall the presentation of any information (Abelvik-Lawson 2019, 253-255). The lack of use of the term "consultation" in official documents regarding the development of evaporation pools and substitution with the term "socialization" should also be noted. These socializations are intended to "create an environment of mutual trust" between the state lithium company and local communities, though there is no official definition for socialization and instances of these socializations have not proven to be adequately informative to local communities (Abelvik-Lawson 2019, 258; Villca 2022). Intentional selectivity about which groups are consulted or "socialized" with and the government's interaction exclusively with supporters of the MAS rather than representative communities suggests that MAS officials would rather press forward with extraction than address local concerns (Sehlke 2017).

Not only is the MAS government negligent in consultation with Indigenous locals, but it has also given itself permission

to actively stifle disagreement with its policies. Fear of further criticism of the Bolivian state has led to restrictions on foreign journalists (Abelvik-Lawson 2019, 263). In addition, the 2014 law authorizes the criminal prosecution of people who “impede or intend to impede” mining functions, extending penalties to “authors, material and intellectual property, or accomplices” and gives the government broader power to suppress protests against the Bolivian mining industry. This disproportionately affects the ability of Indigenous communities to make decisions on mining that affects their traditional land. Coupled with historical Chinese disregard for environmental protections, the Chinese-Bolivian partnership threatens to further fortify these repressive extraction practices in Bolivia, undermining the anti-colonial and anti-exploitative ideals of *Vivir Bien* (Achtenberg 2017a).

Indigenous and Federal Property

Salar de Uyuni resides in the largest native territory in the country, where land is legally owned by the Indigenous people and the region’s population is largely Quechua and Aymara. However, Salar de Uyuni itself has been designated as a Fiscal Reserve to be set aside for mining exploration, deemed to be an “independent area” where Indigenous claims over the *salar* are unrecognized. Its independent status means the federal government receives royalties from lithium extraction instead of the local municipalities (Sanchez-Lopez 2021). This further exacerbates the unfair compensation of local communities, leading to Indigenous dismay over lithium extraction and denial of self-governance. The MAS’s response is summed up by a common reply from Bolivian state-owned extraction companies to local complaints: “it belongs to you, to the state, and you should not be against the state” (Schilling-Vacaflor 2016). The combination of lack of consultation, repression of criticism, and overlapping territorial designations entails that full Indigenous participation in decision-making remains unencouraged.

Lack of Indigenous Benefits

Article 403 of the 2009 Constitution declares the right “to participat[e] in benefits from the exploitation of natural resources in [Indigenous] territories,” solidifying the issue of Indigenous compensation in law (Constitución Política del Estado 2009). Though it may characterize the industry’s nationalization as a form of local benefits from state-owned companies, it does not constitute a real replacement (Schilling-Vacaflor 2016). There is still partial local support for lithium extraction in Salar de Uyuni, stemming from a hope for increased investment and economic benefit for the community. As the leader of a local salt gatherer and quinoa farmers’ group said, “We know that Bolivia can become the Saudi Arabia of lithium. We are poor, but we are not stupid peasants. The lithium may be Bolivia’s, but it is also our property” (Romero 2009). However, it is unclear whether a large number of jobs will be generated and whether they will actually go to the local population (Sehlke 2017). Compounded with the state’s claim to royalties from the Salar de Uyuni, what local benefits may come from lithium extraction is anything but certain. It appears that the MAS is not adequately recognizing the concerns of local Indigenous communities despite its supposed embrace of *Vivir Bien*, and, as a result, these projects are proceeding in a manner that harms these communities.

Lithium and “Harmony with the Environment”

Lithium extraction brings up a classic environmentalist dilemma by pitting economic development against environmental protection. However, it also introduces the novel issue of justifying environmental degradation and indigenous repression with the urgent push to move away from fossil fuels in the context of climate change. As China capitalizes on anti-United States sentiment in Bolivia by involving itself in the growing Bolivian lithium industry, the industry in Bolivia promises to mitigate the worst effects of climate change and bring great economic benefits to the country by continuing to involve an exploitative foreign partner. The environmental destruction from mining operations, pollution from lithium extraction, and intensive water usage that accompany these benefits blur the line between environmental

justice and climate justice, where one is supported at the expense of the other.

The MAS government's focus on advancing its Salar de Uyuni project has resulted in the abandonment of Indigenous protection in exchange for streamlined lithium extraction, leading to a clash between renewable energy investment and environmental degradation that strains existing interpretations of environmental justice.

Case 2 Background: Bolivia's Hydroelectric Problem

Both the construction and use of hydroelectric dams are well documented to be detrimental to local communities and environments despite their production of renewable energy. Hydroelectric projects affect much more land than the area immediately surrounding the structure: hundreds to thousands of square kilometers of land upstream from the dam are completely flooded, irreparably harming the environment and potentially displacing communities living in the area (United States, Department of Energy 2021; Fearnside 1989; UCSUSA 2013). As of 2019, hydroelectric energy made up 30% of Bolivia's total energy production, and over 70% of renewable energy production (Punys et al. 2019). Bolivia has speculated on the potential of hydroelectric dams on its Beni River since 1958, specifically the Chepete Gorge and El Bala Gorge regions in the north of the department of La Paz (Layme 2016). The Chepete-El Bala project has been projected to impact high-biodiversity areas in the region (Berton 2016). President Morales revived the half-century-old plans by declaring the plan a national priority in 2007, threatening to flood over 770 km² of land (ENDE 2016; Geodata 2016) and displace over 5000 Indigenous people, including the Masetén, Tsimané, Esse Ejjá, Leco, Tacana, and Uchupiamona. Indigenous anger over the project's revival is tangible, as seen in 2016 when a Chepete-El Bala geographic exploration study was repelled by Indigenous protest (Tamayo 2021).

Energy Leadership through Chepete-El Bala

Morales's MAS set its sights on South American energy leadership through the export of electricity: Bolivia's hydroelectric energy generation is key to its goal of exporting at least 8,000 megawatts (MW) to neighboring countries by 2025 (Achtenberg 2017b; Página Siete 2015; Muñoz et al. 2019). This falls in line with Bolivia's *Agenda Patriótica*, a Morales-era set of goals for 2025 including the role of renewable energy leadership in both production and export, with the ultimate goal of providing universal electricity "in the framework of respect for Mother Earth" (Estado Plurinacional, Ministerio de Planificación 2013). Bolivia already has the electric volume to provide for its entire population: instead, its development of hydropower is to shift the Bolivian grid to renewables and generate a surplus for export (ENDE 2022). Bolivia's Vice Minister of Electricity and Alternative Energies explains that Bolivia strives for renewable energy in order to reduce dependence on hydrocarbons and eventually export higher amounts of electricity for profit (BNamericas 2021).

Continued Work and Influence on Local Organizations

In response to the 2016 protests that repelled project exploration, Morales denounced those involved as groups who "want to harm not only La Paz but Bolivia" (Estado Plurinacional, Viceministerio 2016). Similarly, Vice-President Alvaro García Linera labeled the protesters as "paid by the United States to impede the country's development and who want the population to suffer from lack of water" (Página Siete 2016). Despite additional constitutional protection for consultation on projects that impact the quality of the environment, the state energy company ENDE also dismissed the notion of there being a requirement for consultation on hydropower projects, citing a constitutional exception for consultation regarding renewable projects (Constitución Política del Estado 2009; Véliz 2016). Since the initial protests, there is disagreement among Indigenous organizations as to whether consultation has occurred in subsequent exploration plans on the Beni River. La Central de Pueblos Indígenas de La Paz (CPILAP), an Indigenous organization that

represents Beni communities, signed an agreement with ENDE in 2021 to begin exploration in exchange for electricity and housing projects (with a “socialization” like those used to legitimize lithium extraction) (Chiqui Reporte Rurrenabaque 2021). At the same time, a separate organization, La Mancomunidad de Comunidades Indígenas de los Ríos Beni, Tuichi, y Quiquibey (hereafter La Mancomunidad), also meant to represent the territorial interests of Indigenous Beni communities, denounced the agreement, citing concerns that it does not constitute prior consultation (Jarrín 2022; Tamayo 2021). Alex Villca Limaco, Communication Secretary of La Mancomunidad, has expressed that CPILAP is aligned with MAS and rejects any pretense of the agreement’s validity (Tamayo 2021).

I spoke with Villca to clarify the contrasting views of these two organizations on the Chepete-El Bala project despite the fact they largely represent the same communities. Villca explains:

The leadership of CPILAP has shown a lot of sympathy [with the government], because it worked hard to spread the belief it was a government of the Indigenous people...saying “if you are with us, if you support our politics, you will get the help you want,” in social service projects. So, if you’re not on their side, it’s difficult to get help. Because of this, [CPILAP] has maintained its closeness and companionship with government politicians... because of this, I imagine it is difficult for this organization to forcefully express itself and hold a firm position where it can let Indigenous rights prevail...and the fact is...they permanently accompany the current representatives of CPILAP in all their meetings. So, they have them held and watched. (Villca 2022)

Villca contrasts CPILAP with La Mancomunidad by pointing out that La Mancomunidad is not allied with the government “at any level...La Mancomunidad does not respond to external influences.” Villca maintains the view that Indigenous participation

in the Chepete-El Bala project is limited to groups that maintain positive relations with the MAS government and are reliant on its support. Demanding exploration contracts in exchange for basic needs highlights the contradictory nature of generating renewable energy while stripping Indigenous communities of environmental self-determination, as the MAS uses large-scale *Vivir Bien* as justification.

Chinese Influence in Bolivian Hydropower

At the international scale of dependency and control, Morales's MAS government has allotted China significant influence beyond lithium extraction, including infrastructure projects like the development of hydropower. Chinese support of Bolivia's goal to become the "energy heart of South America" manifests itself in massive involvement in hydroelectric projects, including the contribution of \$1.5 billion for the Rositas dam project (Méndez 2020) and contracts with Chinese state-owned company Sinohydro to carry out a \$240 million civil works project for the San Jose dam complex (Harris 2014). Poor quality of construction and discrimination against Bolivian workers at the San Jose project raise concerns over Chinese dedication to fostering their "unbreakable" friendship (Camacho 2016). Instead of direct benefits, China seeks a foothold in Bolivia's expanding economy, increasing Bolivian dependency on its Asian partner as it incurs debt and forfeits regional projects to foreign companies, running counter to Bolivia's goal of financial sovereignty (Achtenberg 2017a). As Chinese corporations use hydropower to "consolidate [their] dominant position[s] in the construction market of Bolivia" and promote Chinese presence in South America, Bolivia's local communities and environment suffer the consequences (Zengpeng 2021).

The MAS's socialist ideals have put ideological distance between Bolivia and the United States as it moves the country away from its former neoliberal agenda and relations with exploitative Western corporations (Haarstad and Andersson 2009; Hindery 2013, 27-62). This drift from the United States's influence gave China an opportunity to appeal to the MAS

and fill the gap left by trade with the United States in a show of leftist ideological solidarity (Ganchev 2020). However, the Chinese government contrasts with the Bolivian MAS in that it is an established expansionary force that is widely recognized to repress dissent, while the MAS is still in its relative infancy in a country aspiring to celebrate its plurinational Indigenous roots. Instead, by presenting itself as an alternative to Western dominance, it furthers its expansionist agenda by capitalizing on Bolivian anti-United States sentiment and evading environmental and human impact management.

Wider Issue of Hydroelectric Dams in Bolivia

Bolivia exported its first 120 MW of electricity to Argentina in 2022 and is working with Brazil to advance binational dam initiatives. (ENDE 2022). Bolivia hopes to expand its sale of energy to neighboring countries by adding to its collection of hydroelectric projects including the proposed Rositas dam, which is similarly subject to local protest, Chinese funding, and Indigenous demonization. In 2019, Minister of Energy Rafael Alarcón called the local Guaraní communities near the proposed project “bad people” and “stingy” to oppose development after they filed a lawsuit against the government for violating their constitutional right to consultation (CEDLA 2020; Jemio 2019). The MAS’s new dam proposals and repeated disregard of Indigenous resistance requires analysis of its failing implementation of *Vivir Bien*, and how it contributes to the novel dilemma of pitting local environmental justice against mitigating global climate change.

Analysis: Lithium and Hydropower in Terms of Bolivian Law

The Bolivian government uses vague wording of legal documents to cut corners in the development of the projects in Salar de Uyuni and on the Beni River. Regarding consultation, Article 403 of the 2009 Constitution declares:

[The State] recognizes the integral character of original rural Indigenous territory, including the right to the earth, exclusive use of natural renewable resources as determined by law; to previous and informed consultation and to participation in the benefits from the exploitation of the non-renewable natural resources on [Indigenous] territory... (Constitución Política del Estado 2009)

The Beni River projects conflict with this constitutional protection, as ENDE's explorational studies and persistence with the Chepete-El Bala project suggest that the MAS government does not consider the Beni River as the territory of the people who live along it.

The constitutional grounds of Indigenous authority over the Beni River stems from Articles 30 and 403: if the river is considered renewable, the state acknowledges Indigenous ownership but there is no explicit right to consultation. If considered non-renewable, the Constitution protects consultation of Indigenous people "in good faith" and participation in benefits regarding projects that affect them (Constitución Política del Estado 2009). My conversation with Alex Villca confirmed this loophole, and that a company could easily say "if I say it's renewable, I'm not going to consult you" (Villca 2022).

Similarly, lithium extraction in Salar de Uyuni begs the question of whether adequate consultation on the "exploitation of the non-renewable natural resources" exists given the government's opting for "socializations" rather than "consultations." This is compounded with the minimal information that these socializations have distributed. In either case, the government has decided to exercise a careless interpretation of its own revolutionary Indigenous-centric Constitution.

In Terms of Vivir Bien

Pachamama is rooted in local interpretations of Mother Earth, where each group has its own interpretation of Vivir Bien

that developed in its own environment. The fundamental similarity of these interpretations, according to Uruguayan social ecology researcher Eduardo Gudynas, is a rejection of globalized Western development and recognition of the pre-political value of the nonhuman (Gudynas 2018). Definitions of *Vivir Bien* differ from community to community: the government's application of *Vivir Bien* uniformly across the nation attempts to simplify a complex concept and subsequently tears it apart. Bolivia's current vision to facilitate a regional and global transition to sustainability cannot be justified by *Vivir Bien*. Instead, Bolivia caters to foreign aspirations like China's to profit off the shift toward sustainability, to the detriment of the *Pachamama*. Its lithium projects lie at the center of the global interest in sustainable technology; its hydroelectric dams aspire to dominate the South American energy grid. Neither project fits in the realm of *Vivir Bien*, as their place in the capitalist global economy contradicts the local character of the *Pachamama*.

The MAS opens the door for a global definition of *Pachamama* by connecting Mother Earth to climate change in the 2010 Law of Rights of the Mother Earth (Asamblea Legislativa 2010). However, owing to its fundamental variation on the local level, *Vivir Bien* cannot be altered at the national level to fit federal objectives. These changes must occur at the community level, otherwise, the concept ceases to be *Vivir Bien*. Therefore, development of lithium and hydropower neither protects the *Pachamama* nor enables *Vivir Bien*, and instead is yet another method for foreign powers to exploit Bolivia for materials and ideological influence.

In Terms of Standard Dimensions of Environmental Justice

To better understand environmental justice in Bolivia, we must analyze these issues within the standard justice framework of participatory, recognition, capabilities, and distributive justice. Participatory justice addresses whether the state system allows equitable participation in decision-making, closely tied to the equitable systems required by procedural justice. While Bolivia's

fundamental documents have, since 2009, emphasized the plurinational and Indigenous character of the nation, its focus on participation has not maintained legal momentum at the federal level. Instead, its approach is characterized by popular consultation without participation in decision-making, and the amplification of partial representative voices (Estado Plurinacional, Ministerio de Minería 2014; Véliz 2016).

Bolivia has made huge strides in facilitating recognition justice, or mutual confirmation of identity, for its Indigenous population, as demonstrated by the 2009 Constitution and its following legislation. However, its recognition of local sovereignty is still lacking. As David Schlosberg puts it, “a *lack* of recognition in the social and political realms, demonstrated by various forms of insults, degradation, and devaluation at both the individual and cultural level, inflicts damage to oppressed individuals in the political and cultural realms” (Schlosberg 2007, 16). The Bolivian government’s designation of Salar de Uyuni as a Fiscal Reserve and its demonization of protesting Indigenous groups as enemies of the state show that, despite its revolutionary framework to recognize the nation’s Indigenous roots, it still struggles to recognize the legitimacy of local land sovereignty. The government sees all Bolivian land as its own, rather than that of the local people.

Capabilities justice examines the foundational social, environmental, and emotional “qualities that enable individuals to have a fully functioning life” (Schlosberg 2007). This is closely linked with participation as a necessary capability to ensure a fair process, as on the Beni River, locals are only procedurally represented by an Indigenous organization affiliated with the government. The Bolivian government also takes advantage of the local Indigenous lack of capabilities, including the need for well-paying jobs in Salar de Uyuni and the need for electricity and housing on Beni River, to bargain for advancing its projects. As a result of residing in a location that the government deems expendable, local concerns are deprioritized and the constitutional Indigenous “right to the earth” becomes inaccessible.

Complications in Distributive Justice

Bolivia's aspirations for regional leadership through hydroelectric dams and global leadership through lithium extraction complicate the issue of distributive justice, which analyzes justice by looking at the allocation of social goods (Schlosberg 2007): Indigenous people at the local level face environmental injustice from these projects, while marginalized groups at larger scales stand to benefit from their role in fighting climate change. Most Indigenous people in Bolivia and marginalized groups around the world are unaffected by the harmful environmental effects of these projects: the dimension of distributive justice cannot distinguish these projects as entirely good or bad. Marginalized groups will face the greatest existential threats of climate change, from worsening droughts to intensifying weather events (UN Humanitarian 2021). By looking at how different groups are impacted differently by these projects, it becomes clear that there are tangible benefits from Bolivia's extraction of lithium and export of renewable energy for marginalized communities around the world.

Beyond Distributive Justice

Climate change must be addressed as quickly as possible to keep global temperatures from rising more than 1.5°C above pre-industrial levels and mitigate the worst effects of climate change. Decisions made over the next few decades will affect the descendants of all living species on Earth for millennia. Because of this, there is an urgent need for a quick transition to renewable energy and production of battery-grade lithium. The realization of meaningful global climate justice relies on swift action, and, as a result, this temporal aspect has been integrated into the narrative of scientific consensus of an impending climate disaster (IPCC 2018).

This temporal effect in Bolivia fits neatly into what Josie Sparrow terms *antipolitical ecology*:

It's the notion that ecological concerns don't connect to, or somehow transcend political considerations like justice, liberation, or decolonisation...that we somehow don't have

time to worry about how we do it; that anything is justified in the name of “stopping climate change.” (Sparrow 2019)

Bolivia’s refoundation fundamentally intertwines politics with ecology and is therefore incompatible with this antipolitical ecological approach. However, at the seams of its environmental initiatives, the rapid transition narrative still has a frightening effect on Bolivia’s justification of Indigenous rights violations. Transcension of essential democratic considerations for the sake of global ecological concerns lends itself to eco-authoritarianism: this closely resembles the MAS’s unilateral actions and demonizing rhetoric. However, as stated above, the necessity for a rapid transition is founded in scientific consensus.

Cases like those in Bolivia will only become more common as the effects of climate change continue to worsen. This issue, while sharing the distributive characteristic of allocating certain groups justice over others, distinguishes itself from established guidelines since it is not immediately clear how both groups could benefit. In fact, it directly conflicts with John Rawls’ development of principles of distribution in that neither one path, nor a combination of the two, can be “reasonably expected to be to everyone’s advantage” (Rawls 1971, 53). How do we reconcile the impact of exploiting the environment for a rapid transition with the goal of ensuring that both local and global communities are either unharmed or benefit from this process?

Discussion

Mainstream definitions of environmental justice must develop new principles to navigate this issue, specifically a form of environmental ethics that deals with the notion of antipolitical ecology and its friction with the rapid transition. In communities like those near Salar de Uyuni and the Beni River, where pushing a rapid transition threatens local environmental justice, we must consider the short-term impacts of environmental exploitation when the long-term benefits of climate change mitigation are used to justify exploitative practices. Then, to discuss the negative

impacts of temporal pressure on disadvantaged communities, we must amend the established understanding of distributive justice to include how perceived urgency influences justice.

Understanding perceived urgency helps further bridge the disconnect between local and global environmental degradation. In the context of Bolivia, this may provide a platform for Vivir Bien to be more effectively implemented at a local level to fulfill national aspirations and make good on Vivir Bien's promise as a pre-political alternative to capitalism. Bolivia's evolving political situation has major implications for its lithium-rich neighbors like Chile that have attempted to enact a constitution that similarly enshrined environmental and Indigenous rights (Lowy 2022). If Bolivia and the Global South are to play a significant role in combating climate change, it is imperative to consider how sweeping recognition of Indigenous rights and subsequent disregard of their concerns play out in our collective effort to avoid climate catastrophe.

References

- Abelvik-Lawson, Helle. 2019. "Indigenous Environmental Rights, Participation and Lithium Mining in Argentina and Bolivia: A Socio-Legal Analysis." Research Repository. October 1. <https://repository.essex.ac.uk/25797/>.
- Achtenberg, Emily. 2017. "The Growing Resistance to Megadams in Bolivia." NACLA. February 14. <https://nacla.org/blog/2017/02/20/growing-resistance-megadams-bolivia>.
- Achtenberg, Emily. 2014. "Conflict over New Bolivian Law Highlights Mining Sector Contradictions." NACLA. May 9. <https://nacla.org/blog/2014/5/9/conflict-over-new-bolivian-law-highlights-mining-sector-contradictions>.
- Achtenberg, Emily. 2017. "Financial Sovereignty or a New Dependency? How China Is Remaking Bolivia." NACLA. August 10. <https://nacla.org/blog/2017/08/11/financial-sovereignty-or-new-dependency-how-china-remaking->

bolivia.

Arauz, Andrés., Mark Weisbrot, Andrew Bunker, and Jake Johnston. 2019. "Bolivia's Economic Transformation: Macroeconomic Policies, Institutional Changes, and Results." Center for Economic and Policy Research. October. <https://cepr.net/images/stories/reports/bolivia-macro-2019-10.pdf>.

Berton, Eduardo F. 2016. "Hydropower Threatens Bolivian Indigenous Groups and National Park." Mongabay Environmental News. October 7. <https://news.mongabay.com/2016/10/hydropower-threatens-bolivian-indigenous-groups-and-national-park/>.

BNamericas. 2021. "Until 2025, Bolivia plans to cover at least 70% of the internal demand for electricity with renewable sources" BNamericas.com. September 21. <https://www.bnamericas.com/en/news/until-2025-bolivia-plans-to-cover-at-least-70-of-the-internal-demand-for-electricity-with-renewable-sources>.

Bonifaz, Jeanette., and Stephan Lefebvre. 2014. "Lessons from Bolivia: Re-Nationalising the Hydrocarbon Industry." OpenDemocracy. November 24. <https://www.opendemocracy.net/en/opendemocracyuk/lessons-from-bolivia-renationalising-hydrocarbon-indust/>.

Camacho, Enid L. 2016. "Obreros Se Rebelan Contra Firma China." Los Tiempos. January 13. https://web.archive.org/web/20160217145359/http://www.lostiempos.com:80/diario/actualidad/economia/20160113/obrerros-se-rebelan-contra-firma-china_329416_731925.html.

CEDLA. "La Resistencia De Mujeres Indígenas y Campesinas Frente a Megacentrales Hidroeléctricas En Bolivia." 2020. CEDLA. October.

https://www.coalicionregional.net/wp-content/uploads/2021/06/revista_gpfd_33_la_resistencia_de_mujeres_indigenas_y_

campesinas_frente_a_megacentrales.pdf.

Chiqui Reporte Rurrenabaque. 2021. “Asamblea De CRTM Resuelve Firma De Convenio Especifico Entre ENDE y CRTM Para Estudios.” Chiqui Reporte Rurrenabaque. August 27. <https://www.facebook.com/watch/?v=391481782540087>.

Early, Catherine. 2022. “The New ‘Gold Rush’ for Green Lithium.” BBC Future. February 28. <https://www.bbc.com/future/article/20201124-how-geothermal-lithium-could-revolutionise-green-energy>.

ENDE. 2022. “Bolivia Busca Ser El Centro Energético De Sudamérica.” ENDE Corporation. April 11. <https://www.endesyc.bo/2022/04/11/bolivia-busca-ser-el-centro-energetico-de-sudamerica/>.

ENDE. 2016. “Proyecto Hidroeléctrico ‘El Bala’ Garantizaría la Soberanía Energética del País.” ENDE Corporation. <https://www.ende.bo/noticia/noticia/57>

Estado Plurinacional de Bolivia, Asamblea Legislativa. 2010. “Ley De Derechos De La Madre Tierra, Ley N° 71 Del 21 De Diciembre Del 2010.” Bivica. December 21. <https://web.archive.org/web/20220208182349/https://www.bivica.org/file/view/id/2370>.

Estado Plurinacional de Bolivia, Asamblea Legislativa. 2012. “Ley Marco de la Madre Tierra y Desarrollo Integral para Vivir Bien.” October 15. <http://www.planificacion.gob.bo/uploads/marco-legal/Ley%20N%20n%20300%20MARCO%20DE%20LA%20MADRE%20TIERRA.pdf>

Estado Plurinacional de Bolivia. 2009. “Constitución Política del Estado.” February 7. https://www.oas.org/dil/esp/constitucion_bolivia.pdf

Estado Plurinacional de Bolivia, Ministerio de Comunicación. 2018. “Seremos el corazón energético de Sudamérica.”

August. <http://comunicacion.gob.bo/sites/default/files/media/publicaciones/CARTILLA%20ENERGIA%20nuevo%20corregida.pdf>

Estado Plurinacional, Ministerio de Planificación. 2013. “Agenda Patriótica 2025.” http://www.planificacion.gob.bo/uploads/AGENDA_PATRIOTICA2025_MPD.pdf

Estado Plurinacional de Bolivia, Ministerio de Minería y Metalurgia. 2014. “Ley No. 535 de Minería y Metalurgia.” May 28. http://www.autoridadminera.gob.bo/public/uploads/LEY_535_DE_MINERIA_Y_METALURGIA.pdf

Estado Plurinacional, Viceministerio de Comunicación. 2016. “Represa Hidroeléctrica de “El Bala” generará energía y evitará inundaciones.” November 15. <https://comunicacion.gob.bo/?q=20161115/22469>

European Commission. 2019. “The European Green Deal”. December. https://ec.europa.eu/info/sites/default/files/european-green-deal-communication_en.pdf

Fearnside, Philip M. 1989. “Brazil’s Balbina Dam: Environment Versus the Legacy of the Pharaohs in Amazonia.” *Environmental Management* 13 (4): 401–23. doi:10.1007/bf01867675.

Ganchev, Ivo. 2020. “China Pushed the Pink Tide and the Pink Tide Pulled China: Intertwining Economic Interests and Ideology in Ecuador and Bolivia (2005–2014).” *World Affairs*. November 17. <https://doi.org/10.1177/0043820020965968>

Geodata Engineering. 2016. “Estudio de Identificación Proyecto Hidroeléctrico El Bala. Tomo 4.2 Estudios de Evaluación Socioeconómica y Financiera”. ENDE Corporation. July 8. <https://funsolon.files.wordpress.com/2017/06/ef02evaluaciocc81n-econocc81mico-financiera02-1.pdf>

- Gudynas, Eduardo. 2018. "An exchange on the essay Vivir Bien: Old Cosmovisions and New Paradigms." Great Transition Initiative. February. <https://greattransition.org/roundtable/vivir-bien-eduardo-gudynas>
- Haarstad, Håvard., and Vibeke Andersson. 2009. "Backlash Reconsidered: Neoliberalism and Popular Mobilization in Bolivia." *Latin American Politics and Society* 51 (4): 1-28. Winter. <https://www.jstor.org/stable/20622757>
- Harris, Michael. 2018. "Bolivia's 55-MW San Jose 1 now complete." *Hydro Review*. February 22. <https://www.hydroreview.com/world-regions/bolivia-s-55-mw-san-jose-1-now-complete/#gref>
- Hindery, Derrick. 2013. *From Enron to Evo*. The University of Arizona Press. <https://uapress.arizona.edu/book/from-enron-to-evo>
- IEA. 2021. "An energy sector roadmap to carbon neutrality in China." International Energy Agency. September. <https://www.iea.org/reports/an-energy-sector-roadmap-to-carbon-neutrality-in-china>
- Inter-American Dialogue. 2021. "China's Renewable Energy Investment in Latin America." Inter-American Dialogue. September 8. <https://www.thedialogue.org/blogs/2021/09/chinas-renewable-energy-investment-in-latin-america/>
- IPCC. 2018. "Global Warming of 1.5 °C." The Intergovernmental Panel on Climate Change. <https://www.ipcc.ch/sr15/Jarrín,Sofia>. 2022. "Bolivia: The Hostile Takeover of Indigenous Organizations." *Awasqa*. February 2. <https://web.archive.org/web/20220205125922/https://awasqa.org/en/2022/02/02/bolivia-the-hostile-takeover-of-indigenous-organizations/>
- Jemio, Miriam T. 2019. "The controversial referendum to revive Bolivia's Rositas dam." *Diálogo Chino*. February 20. <https://>

dialogochino.net/en/climate-energy/23572-the-controversial-referendum-to-revive-bolivias-rositas-dam/

Katwala, Amit. 2018. "The spiralling environmental cost of our lithium battery addiction." *Wired*. August 5. <https://www.wired.co.uk/article/lithium-batteries-environment-impact>

Layme, Beatriz. 2016. "Morales: Debemos hacer más represas para que no falte agua" *Página Siete*. November 28. <https://www.paginasiete.bo/nacional/2016/11/28/morales-debemos-hacer-represas-para-falte-agua-118526.html>

Lowy, Maxine. 2022. "In Chile, a Major Vote Looms Over the Rights of Nature" *Sierra*. August 18. <https://www.sierraclub.org/sierra/chile-major-vote-looms-over-rights-nature>

Méndez, Carolina. 2020. "Reconsideran obra Rositas, la polémica 'represa de la muerte.'" *Página Siete*. January 5. <https://web.archive.org/web/20210707155115/https://www.paginasiete.bo/economia/2020/1/5/reconsideran-obra-rositas-la-polemica-represa-de-la-muerte-242492.html>

Muñoz, Milenka., Bufete Aguirre, Quintanilla, Soria, and Nishizawa. 2019. "Electricity regulation in Bolivia: overview." Thomson Reuters. [https://uk.practicallaw.thomsonreuters.com/w-013-5362?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-013-5362?transitionType=Default&contextData=(sc.Default)&firstPage=true)

Página Siete. 2015. "Bolivia quiere exportar 8.000 megavatios de electricidad en 2025." *Página Siete*. June 20. <https://www.paginasiete.bo/economia/bolivia-quiere-exportar-8000-megavatios-de-electricidad-en-2025-YKPS60634>

Página Siete. 2016. "García Linera a quienes se oponen a las represas: 'No les vamos a hacer caso'" *Página Siete*. December 9. <https://www.paginasiete.bo/economia/2016/12/9/garcialinera-quienes-oponen-represas-vamos-hacer-caso-119832.html>

- Pretty, Jules N. 1995. "Participatory Learning for Sustainable Agriculture." *World Development* 23 (8): 1247–63. doi:10.1016/0305-750x(95)00046-f.
- Punys, Petras., Ingo Ball, Janusz Steller, Miroslav Marenc, Bernhard Pelikan, Luigi Papetti, Carlos Velasquez, Dan Marlone Nabutsabi, Joseph Kenfack, Veronica Minaya, Mauricio Villazon, and Andres Gonzales. 2020. "Hydropower solutions for developing and emerging countries". European Union. April. https://www.hyposo.eu/HYPOSO_Publications/Framework_conditions_report.pdf
- Sempértégui, Angela Cuenca. 2014. "Resisting the mining law in Bolivia." *War Resisters' International*. August 19. <https://wri-irg.org/en/story/2014/resisting-mining-law-bolivia>
- Ramos, Daniel. 2019. "Bolivia picks Chinese partner for \$2.3 billion lithium projects." *Reuters*. February 6. <https://www.reuters.com/article/us-bolivia-lithium-china/bolivia-picks-chinese-partner-for-2-3-billion-lithium-projects-idUSKCN1PV2F7>
- Ramos, Daniel. 2023. "Bolivia taps Chinese battery giant CATL to help develop lithium riches." *Reuters*. January 20. <https://www.reuters.com/technology/bolivia-taps-chinese-battery-giant-catl-help-develop-lithium-riches-2023-01-20/>
- Rawls, John. 2020. "The Principles of Justice." *A Theory of Justice*, 47–101. doi:10.2307/j.ctvkjb25m.6.
- Revette, Anna C. 2016. "This Time It's Different: Lithium Extraction, Cultural Politics and Development in Bolivia." *Third World Quarterly* 38 (1): 149–68. doi:10.1080/01436597.2015.1131118.
- Romero, Simon. 2009. "In Bolivia, Untapped Bounty Meets Nationalism." *The New York Times*. February 2. <https://www>.

[nytimes.com/2009/02/03/world/americas/03lithium.html](https://www.nytimes.com/2009/02/03/world/americas/03lithium.html)

Sanchez-Lopez, Maria Daniela. 2021. "Territory and Lithium Extraction: The Great Land of Lipez and the Uyuni Salt Flat in Bolivia." *Political Geography* 90 (October): 102–456. doi:10.1016/j.polgeo.2021.102456.

Schilling-Vacaflor, Almut. 2016. "‘If the Company Belongs to You, How Can You Be against It?’ Limiting Participation and Taming Dissent in Neo-Extractivist Bolivia." *The Journal of Peasant Studies* 44 (3): 658–76. doi:10.1080/03066150.2016.1216984.

Seetao. 2021. "Power China signed the Bolivian Hydropower Station Diversion Tunnel Project." Seetao. July 12. <https://www.seetao.com/details/95777.html>

Sehlke, David. 2017. "Harnessing Lithium: Managing its Extraction in Bolivia for the Common Good." The University of Texas at Austin. May 9. https://repositories.lib.utexas.edu/bitstream/handle/2152/75304/sehlkebryon_Thesis.pdf?sequence=1

Solón, Pablo. 2018. "Vivir Bien: Old Cosmovisions and New Paradigms." Great Transition Initiative. February. https://greattransition.org/publication/vivir-bien#endnote_1

Sparrow, Josie. 2019. "There's More to Life than This! An argument for joy, against economism." *New Socialist*. June 19. <https://newsocialist.org.uk/theres-more-life-argument-joy-against-economism/>

Stone, Maddie. 2020. "The world needs lithium. Can Bolivia's new president deliver it?." *Grist*. November 12. <https://grist.org/energy/the-world-needs-lithium-can-bolivias-new-president-deliver-it/>

Tamayo, Ivan P. 2021. "Bolivia: temor en seis pueblos indígenas por la reactivación del proyecto hidroeléctrico Chepete-El

- Bala” Mongabay. Sept 7. <https://es.mongabay.com/2021/09/bolivia-pueblos-indigenas-hidroelectricas-chepete-el-bala/>
- UCSUSA. 2013. “Environmental Impacts of Hydroelectric Power.” Union of Concerned Scientists. March 5. <https://www.ucsusa.org/resources/environmental-impacts-hydroelectric-power>
- UN Humanitarian. 2021. “Why the climate crisis is a humanitarian emergency.” United Nations. Jan 27. <https://unocha.exposure.co/why-the-climate-crisis-is-a-humanitarian-emergency>
- United States, Department of Energy. 2021. “U.S. Hydropower Market Report.” Energy.gov. January 15. <https://www.energy.gov/eere/water/downloads/us-hydropower-market-report>
- United States Geological Survey. 2022. “Lithium.” Mineral Commodity Summaries, Jan. <https://pubs.usgs.gov/periodicals/mcs2022/mcs2022-lithium.pdf>
- Véliz, Juan C. 2016. “Indígenas piden consulta previa para el proyecto hidroeléctrico El Bala.” Página Siete. Oct 2. <https://www.paginasiete.bo/nacional/indigenas-piden-consulta-previa-para-el-proyecto-hidroelectrico-el-bala-MDPS111940>
- Wanger, Thomas C. 2011. “The Lithium future—resources, recycling, and the environment.” Conservation Letters. <https://doi.org/10.1111/j.1755-263X.2011.00166.x>
- World Energy Council. 2016. “Bolivia at the Heart of Regional Integration.” World Energy Council, Nov 24. <https://www.worldenergy.org/news-views/entry/bolivia-at-the-heart-of-regional-integration>
- Zhan, James., Richard Bolwijn, Bruno Casella, Arslan Chaudhary, Joseph Clements, Hamed El Kady, Kumi Endo, Joachim Karl, Isya Kresnadi, Oktawian Kuc, et al. 2020. “Investing in

SDGs.” World Investment Report 2020. July. https://unctad.org/system/files/official-document/WIR2020_CH5.pdf.

Zissis, Carin. 2006. “Bolivia’s Nationalization of Oil and Gas.” Council on Foreign Relations. May. <https://www.cfr.org/backgroundunder/bolivias-nationalization-oil-and-gas>.

Zuazo, Moira. 2010. “¿Los Movimientos Sociales En El Poder? El Gobierno Del Mas En Bolivia: Nueva Sociedad.” Nueva Sociedad. May 1. <https://nuso.org/articulo/los-movimientos-sociales-en-el-poder-el-gobierno-del-mas-en-bolivia/>.