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Bolivia, Water shortage

How lithium mining leads to water shortages around Bolivia's Salar de Uyuni

As the global demand for lithium increases, lithium extraction is requiring large numbers of freshwater, having already caused damages like local water shortages. A way to prevent these water shortages is necessary to support local communities. This essay will examine the problem and provide a solution to these water shortages and how this will be financed.

Background information on Bolivia
Bolivia is a landlocked country in South America, and is home to the Andes mountains, the Amazon rainforest and the distinctive dry forests of the Chaco (BioDB, 2023). The country only has two seasons: the wet summer season and the dry winter season (Goway, n.d).
Bolivia is a democracy, with Rodrigo Paz from the Christian Democratic Party as the president. Bolivian politics are very unstable, the 51 coups that took place from 1945 to early 2026 clarify this (Cline center, n.d).
Unfortunately, Bolivia struggles with food insecurity: in 2024 13,1% of the Bolivian population experienced food insecurity (Statista, n.d).

The average Bolivian family consists of two to four children. Most Bolivian families are strongly religious and mostly define themselves as conservative or traditional (AFS-USA, n.d).
The minimum wage in Bolivia contains 2500 Bolivianos per month (Wagecentre, 2025). For comparison, 1 Euro equals 7,94 Bolivianos (Currencyrate, n.d).

In 2023, 35,83% of Bolivian land area was agricultural land (Trading economics, n.d). Bolivia's most important goods are coffee, potatoes, soybeans, corn, quinoa, wheat, alfalfa, and oca (Fao, 2006). Agriculture plays a big role in the Bolivian industry, contributing about 13% of Gross Domestic Product (GDP) (Worldbank, 2017). Other big Bolivian industries are the mining industry and the manufacturing industry (Brittanica, 2026).

In Bolivia, family agriculture makes up more than 80% of Bolivia's essential food basket (Ifad, n.d), and 98% of Bolivian fresh food comes from small-scale, family agriculture (Ojala, 2023). The latest research on the size of a Bolivian farm was in 2005, that said that nationally, the average size of a Bolivian farm is 1,81 hectares (Fao, 2005), making an average sized Bolivian farm equivalent to approximately 27 tennis courts (Boughton, n.d).

Bolivian cuisine varies by region: the people from the highlands mainly eat potatoes, quinoa, and dried meat, while in the valleys and lowlands, fruits, vegetables, rice and fish are prevalent foods (Allthingsbolivia, n.d). Small-scale farmers often keep part of their harvest for personal use (Tandfonline, 2022), while further necessary food is bought in supermarkets by wealthier people and at open markets by lower-income residents (Britannica, 2026).

Over the past twenty years, Bolivia has made significant progress in extending access to safe drinking water in urban areas. In 2024, nationwide coverage reached 88% for drinking water and 65.1% for

basic sanitation. In urban areas coverage of drinking water and basic sanitation is higher than in rural areas, since urban infrastructure is more developed (Thesourcemagazine, 2025).

Bolivia's healthcare system covers about 70% of the Bolivian population. Working residents of Bolivia are required to be part of the public social system. Everybody pays 10% of their income to contribute to the health care system. The people that are part of this system, have the right to subsidised healthcare. The quality of healthcare in Bolivia varies, with better services in large cities (Worldsupporter, n.d).

Primary education for children from the ages six to thirteen is free and compulsory. Secondary education, which takes a maximum of four years, is not mandatory. It is difficult to enforce school attendance in some areas (Brittanica, 2026). In rural areas, only an average of 4.2 years of education is completed by students before leaving school to support their family, while students in urban areas complete an average of 9.4 years of schooling (Brokenchalk, n.d).

A quarter of the electricity in Bolivia is coming from renewable sources. On the other hand, 12% of the Bolivian population still does not have access to electricity (IEA, n.d).
Bolivia is experiencing a mass inflation that affects families. At the start of 2025, prices had risen by 9.81% (The Rio Times, 2025). The mass inflation creates uncertainty for Bolivian families about what the value of their future income will be like.
Another factor that affects Bolivian families is the shortage of fossil fuels. Resulting in Bolivians having to wait for a long time, in long lines for fuel (Economics observatory, 2025).

Lithium extraction
Bolivia has many lakes, both freshwater and saltwater lakes. Salar de Uyuni, for example, is the highest and largest salt lake in the world (Bluegreenatlas, n.d). The salt flat is located in the Potosí department (Salar De Uyuni info, n.d), in southwest Bolivia. Potosí is a predominantly indigenous region (Sos children's villages, n.d).
Salar de Uyuni is home to most of Bolivia's lithium (Mongabay, 2025), which totals around 21 million tons (World Economic Forum, 2023).

Lithium is a metal that is mostly incorporated into lithium-ion batteries, which are used in electronics like smartphones and electric cars. In western countries, the demand for electric cars is increasing. It is expected that the worldwide demand for lithium is going to soar up to 500%, as electric cars take over the market (Mongabay, 2025).

Lithium has to be extracted from brines to be won (Chemical engineering uMich, 2025). The role of water in lithium mining is that during extraction, large quantities of water are used to dissolve lithium-rich minerals, creating a brine that can be further processed to obtain lithium carbonate and lithium hydroxide, which are used for lithium-ion batteries and battery cathodes (911metallurgist, 2023). On average, it takes 150 m^3 of freshwater to produce one ton of lithium. More than two thirds of this evaporates in the process, resulting in disproportionate amounts of wasted water and overconsumption (AIDA, 2025).

The issue caused by lithium mining
The water used for lithium mining is the water the residents of the Salar de Uyuni use as drinking water. The water is also pumped away from indigenous territory, such as the Nor Lípez Native

Community Land for example, causing the local community to struggle to care for their cattle and harvest their crops (Mongabay, 2025).
This is the reason a lot of indigenous people that live in Potosí are against lithium mining: the indigenous communities still rely on farming for their livelihoods, and for that, a larger amount of water is required.

Just north of the Salar de Uyuni Salt Flats border, thirteen different indigenous communities have already united, strongly opposing the lithium mining. They are called the Marka Tahua (Cultural survival, 2024).
Not only the rural- but also the urban population is affected by lithium mining. For example, in 2019, the government secretly closed a deal with a German lithium-mining company. Furious Bolivians went on the streets to angrily protest against this. This caused a lot of chaos in the city of Potosí (MO*, 2024).

Because lithium export is so profitable (Mongabay, 2025), the state owned company Yacimientos de Litio Bolivianos (YLB), that mines lithium and signs agreements with foreign companies, directly benefits from support provided by the Bolivian government (LatinoAmérica Sustentable, 2025). The government's response to the ongoing concern about the mining is that lithium mining has the potential to bring jobs and economic development. But in reality, there have only been a few work opportunities for local people. And even if lithium mining brings economic benefits, the environmental concerns remain (Human rights pulse, 2020).

Innovations in lithium mining
Over the years, there have been innovations in lithium mining. A newer, more efficient way to mine lithium has been created, called Direct Lithium Extraction (DLE). DLE still uses a lot of freshwater, it just has not been disclosed (Nature reviews earth & environment, 2023). There is another problem, because DLE makes it possible for lithium to be produced much faster, mines can increase their production. As production increases, the total demand for water also rises, meaning that even if DLE would use less water, the expansion of mining can ultimately lead to a bigger overall water consumption.

The proposed solution against water shortages
The existing problem is water shortage by the residents of Salar de Uyuni, due to lithium mining. That is why I am proposing a way to win water: fog collecting. Collecting fog is possible, by means of so-called 'fog-nets'. These nets work as follows: wind pushes water vapor in the air, through vertical nets, where it condenses into small droplets that trickle down the netting to be gathered in large containers. This allows water to be captured from the air (DW, 2025).

In Bolivia, fog collection is a relatively new technology, but in recent years innovations have been developed. One shortcoming is that the most recent nets were not always able to withstand the strong or permanent winds. To find a solution for this problem, Waterfoundation, Aqualonis and the Technical University of Munich created fog nets that are actually able to endure these circumstances. The result of this program was CloudFisher®, a registered trademark of WaterFoundation.

About CloudFisher®
CloudFisher® has not been used on a large scale in Bolivia and is still in early stages. In 2022 and 2023, the CloudFisher® fog nets were tested and used in two Bolivian communities in the Valles

Cruceños: they were tested in the community of Alto Veladero, where CloudFisher® fog nets caused improvements of the water supply system, benefitting 128 people. The nets were also tested in the community of Sivingalito. The CloudFishers® in this community provide water to the community's main water supply network. Which is a benefit for 32 families (Munich Re-Foundation, 2023).

Bolivia's neighbouring countries have also been introduced to CloudFisher®. In Chile's Atacama desert for example, the fog collectors are used to grow crops (World Economic Forum, n.d). The largest CloudFisher® system in the world has been in operation in the Anti-Atlas Mountains of Morocco since 2018. Providing sixteen villages around this area twelve liters of water per person per day (Wasserstiftung, n.d).

The solution I am recommending is that CloudFishers® will be placed around the Salar de Uyuni. The water these CloudFishers® will collect has to be stored and used only for and by the residents of the Salar de Uyuni, not for lithium mining. In this way, the residents, who are mostly indigenous, will have increased access to enough water to fulfil their basic needs. This also shows the cultural relevance of this project, as the indigenous communities rely on farming for their livelihood. Water is necessary for farming, both to grow crops and to take care of animals. By creating more access to water through these fog nets, indigenous communities will be able to fulfill their basic needs, while there is still water available for farming. Like this, both water and food security are improved.

The costs of a CloudFisher® project

Using the data from ScienceDirect (2023), UNRISD (2004), Smithsonian magazine (2017), CPI Inflation Calculator (n.d), CurrencyRate (n.d), International Development Research Centre (1993) and Wasserstiftung (n.d), I calculated an example for a project:

Three large CloudFisher® fog nets could substantially provide the minimum necessary water usage in Bolivia of 28.8 liters of water per person per day for a community of 125 people. The total investment for this, including fog collectors and water storage tanks, would be approximately 616.099 bolivianos, adjusted for inflation.

How to finance the CloudFishers®

I am proposing humanitarian conditional cash transfer to finance this solution, these are payments given to people affected by crises. On the condition that they carry out a specific activity or achieve agreed outputs (Calp Network, n.d). I would recommend a system in which communities around the Salar de Uyuni, affected by lithium mining, receive a set payment, and that the community would get three years to invest this payment in fog nets. After three years, the community will be checked to see if they have used the payment to invest in those fog nets. If this is the case, the payment has been a great investment. If this is not the case, and there is not any improvement in fog collecting, the community will have to refund the investment.

I am proposing a Public-Private partnership to invest in humanitarian conditional cash transfer. This is a collaborative agreement between the government and private sector companies in order to finance projects (Unesco, n.d). Both the government and the private sector companies, which, in this case, are the foreign lithium companies buying lithium from YLB, would have a few arguments to join this Humanitarian conditional cash transfer idea.

Arguments to join the Public-Private partnership

The government, who could finance the investment with the incomes from the winning of natural resources for example, should join this idea because regional traditions could disappear due to the water shortages. Protecting these regional, indigenous traditions is particularly important, as they play a key role in attracting tourists (Tripadvisor, n.d). By investing in water security, the government can help residents stay, retaining local traditions that attract tourists, and still benefit financially. Besides, the Bolivian government is able to fund this project: during the first half of 2024, an income of 74.2 million bolivianos was already generated by the winning of natural resources, showing the government could easily use part of this income to fund part of this project (Bnamericas, 2024).

Private sector companies, who could finance the investment with part of the yield they made out of lithium trading, should join this idea because these companies are the drivers of the problem. Their demand for lithium causes water shortage, resulting in the fact they have a moral duty to help fund solutions. They should take responsibility instead of shifting the burden onto those affected.

Management for this project

This project should be managed by the government, since they play a role in the investment. An intermediate is necessary in order to check if a community has used the investment well, preventing the government from falsely claiming misuse of investments. That is why I am proposing the project should be led by a non-profit organisation. This organisation could be Wasserstiftung. Since this organisation has worked with CloudFisher® from the beginning, having a lot of experience with CloudFisher® all around the world (WasserStiftung, n.d), this would suit them best.

Limitations and capabilities

Limitations to this approach are that it would be hard to get the private sector lithium companies to join humanitarian conditional cash transfer. If Bolivia makes lithium extraction more expensive, by 'requiring' companies to invest in fog nets, the country could fall behind: other countries offering cheaper lithium and simpler terms for foreign companies results in foreign companies moving to these other lithium countries (The Economics Review, 2024).
To prevent this from happening in Bolivia, other countries should consider working with the same system as the one I am proposing, since they are experiencing the same problems with droughts. Another solution would be that the lithium companies agree with the arguments I have mentioned above, taking responsibility for their actions, engaging in responsible business.

Bolivia is a great candidate for this solution because YLB is the main lithium company around Salar de Uyuni, and it is state-owned, ensuring government support and making conflicts with smaller private mining companies happen less, since there are barely any of those companies.

The solution I am recommending is very sustainable. Collecting fog does not require energy and atmospheric water is generally clean and does not contain harmful micro-organisms (CTCN, n.d.). This solution is also feasible, CloudFishers® earlier small-scale projects show that fog collecting is possible in Bolivia.

In short

While the global demand for lithium is increasing, Bolivia is drying out more and more, lithium mining takes a lot of water, water Bolivia does not have. We need a solution that works for the people that are suffering under the growing lithium demand. That is why I chose to make the water collected

by fog nets available to local communities rather than lithium mining companies, such as YLB, ensuring that the water benefits residents exclusively. Instead of using fog nets to collect more water that could be pumped away for the mining of lithium, those affected should be seen, heard and helped.

References

A traveller's guide to Bolivia | Goway Travel. (n.d.). Goway Travel. https://www.goway.com/destinations/south-america/bolivia/bolivia-travel-guide

Aguirre, M. (n.d.). *Educational challenges in the plurinational state of Bolivia: from educational barriers to a mismatch of skills*. https://brokenchalk.org/educational-challenges-in-the-plurinational-state-of-bolivia-from-educational-barriers-to-a-mismatch-of-skills/#:~:text=Although%20the%20majority%20of%20students,impacted%20enrolment%20into%20public%20schools.

Alexandrapopescu. (2025a, July 3). *Bolivian communities push back against foreign-backed lithium projects*. Conservation News. https://news.mongabay.com/2025/04/bolivian-communities-push-back-against-foreign-backed-lithium-projects/#:~:text=Bolivia's%20Salar%20de%20Uyuni%2C%20the,mining%20methods%20consume%20more%20brine.

Alexandrapopescu. (2025b, July 3). *Bolivian communities push back against foreign-backed lithium projects*. Conservation News. https://news.mongabay.com/2025/04/bolivian-communities-push-back-against-foreign-backed-lithium-projects/#:~:text=For%20local%20residents%2C%20however%2C%20the,the%20end%20of%20our%20community.%E2%80%9D

Baxter, A. (2020, August 29). *Bolivian indigenous people lose out on Lithium — human rights pulse*. Human Rights Pulse. https://www.humanrightspulse.com/mastercontentblog/bolivian-indigenous-people-lose-out-on-lithium#:~:text=The%20prospects%20for%20the%20Indigenous,areas%2C%20serious%20environmental%20concerns%20remain .

Blue Green Atlas - The Geography of Bolivia. (n.d.-a). https://www.bluegreenatlas.com/bolivia.html

Blue Green Atlas - The Geography of Bolivia. (n.d.-b). https://www.bluegreenatlas.com/bolivia.html

BNamericas - Develop your Latin America business. (n.d.). BNamericas.com.

https://www.bnamericas.com/en/news/ylb-generates-income-of-742-million-bolivianos-from-the-sale-of-products-and-by-products-from-the-uyuni-salt-flat#:~:text=News%20in:%20Mining%20&%20Metals%20(,of%20around%20US$44mn.

BNamericas. (2024, 6 juli). YLB generates income of 74.2 million bolivianos from the sale of products and by-products from the Uyuni salt flat. *BNamericas.com*. https://www.bnamericas.com/en/news/ylb-generates-income-of-742-million-bolivianos-from-the-sale-of-products-and-by-products-from-the-uyuni-salt-flat#:~:text=News%20in:%20Mining%20&%20Metals%20%28,of%20around%20US$44mn

Bolivia . (n.d.-a) https://wagecentre.com/salary/south-america/bolivia

Bolivia . (n.d.-b). AFS - USA https://www.afsusa.org/countries/bolivia/#afs-nav-people

Bolivia . (n.d.-c). IEA. https://www.iea.org/countries/bolivia

Bolivia | Global Partnership Initiative for Plant Breeding Capacity Building | Food and Agriculture Organization of the United Nations . (n.d.). https://www.fao.org/in-action/plant-breeding/our-partners/americas/bolivia/en/

Bolivia Biodiversity and Nature Conservation | BIODB . (n.d.). BioDB. https://biodb.com/region/bolivia/

Bolivia Population (2026) - Worldometer . (n.d.). Worldometer. https://www.worldometers.info/world-population/bolivia-population/

Carney, S. (2025). *Bolivia's political chaos puts economy at risk – GIS Reports* . GIS Reports. https://www.gisreportsonline.com/r/bolivia-political-chaos/#:~:text=With%20the%20foreign%20exchange%20reserve,continues%20to%20resist%20these%20steps

Conditional Cash Transfers . (n.d.). Calpnetwork. https://www.calpnetwork.org/cash-and-voucher-assistance/types-of-cva/conditional-cash/

Country details | Family Farming Knowledge Platform | Food and Agriculture Organization of the United Nations . (n.d.).

https://www.fao.org/family-farming/data-sources/dataportrait/country-details/en/?cnt=BOL

Daily life . (2026). Britannica.

https://www.britannica.com/place/Bolivia/Daily-life

David. (2023, June 23). What is the Role of Water in Lithium Mining - 911Metallurgist. *911Metallurgist* .

https://www.911metallurgist.com/blog/the-vital-role-of-water-in-lithium-mining/

Democracy and development . (n.d.). Cline Center.

https://clinecenter.illinois.edu/project/research-themes/democracy-and-development/coup-detat-project/freq-table

Economics Observatory. (2026, January 12). *From crisis to stability: what next for Bolivia's economy? - Economics Observatory*

https://www.economicsobservatory.com/from-crisis-to-stability-what-next-for-bolivias-economy#:~:text=Annual%20inflation%20has%20since%20surged,and%20even%20days%20for%20diesel .

Education, health, and Welfare . (2026). Britannica.

https://www.britannica.com/place/Bolivia/Education-health-and-welfare

Erika, & Erika. (2020, August 9). *Moroccan fog harvesting project relieves water stress and rural poverty* . Field Study of the World.

https://fieldstudyoftheworld.com/moroccan-fog-harvesting-project-relieves-water-stress-rural-poverty/#:~:text=Water%20stress%20is%20making%20life,Baamrane%20region%20of%20Southwest%20Morocco.

Fog as unconventional water resource: Mapping fog occurrence and fog collection potential for food security in Southern Bolivia . (2023). ScienceDirect.

https://www.sciencedirect.com/science/article/abs/pii/S0140196322001793#

Fog harvesting . (n.d.). CTCN.

https://www.ctc-n.org/technologies/fog-harvesting#:~:text=Advantages%20of%20the%20F%20Harvesting,can%20be%20undertaken%20on%20site

Fogwater Collection System . (1993). International Development Research Centre.

https://idl-bnc-idrc.dspacedirect.org/server/api/core/bitstreams/60291fef-d81b-4289-8868-30084cdbf29d/content#:~:text=along%20the%20pipe%20should%20be,cleaning%20of%20the%20conduction%20system.&text=and%20at%20frequent%20intervals%20to,insects%20and%20other%20contaminating%20agents.&text=calcium%20chloride%20to%20prevent%20the,and%20bacteria%20on%20the%20walls.&text=decrease%20in%20the%20amount%20of,development%20of%20any%20pathogenic%20microflora.&text=found%20to%20be%20economically%20impractical%20after%20initial%20calculations.&text=and%20the%20social%20costs%20of%20the%20resources.&text=to%20homes.&text=should%20be%20equal%20to%20the%20marginal%20cost%20of%20supplying%20the%20water.&text=in%20supply.&text=current%20value%20of%20investments%20and,Planning%20to%20evaluate%20public%20projects.&text=people%20will%20obtain%2030%20L,equivalent%20of%209%20days%27%20supply.&text=it%20was%20piped%20to%20individual%20homes

Food . (2025, August 27). All Things Bolivia. https://allthingsbolivia.com/food/#:~:text=Must%2DTry%20Bolivian%20Dishes%20by,game%20meats%20bring%20tropical%20influences.

Freedom House. (n.d.). Bolivia. In *Freedom House* . https://freedomhouse.org/country/bolivia/freedom-world/2023

Gandarillas, M. A., Latinoamérica Sustentable, & Alba Calderón y Padre Luis Garzón. (2025). *The Case of the Hong Kong CBC Contract for Lithium Exploitation in the Salar de Uyuni* . https://latsustentable.org/wp-content/uploads/2025/04/The-Case-of-the-Hong-Kong-CBC-Contract-for-Lithium-Exploitation-in-the-Salar-de-Uyuni.pdf#:~:text=Between%202023%20and%202025%2C%20the%20state%2Downed%20company,Political%20Constitution%20of%20the%20State%20(PCS%2C%20art.

*Hoe verkwansel je je lithiumvoorraad? – MO** . (n.d.). MO* Magazine. https://www.mo.be/reportage/hoe-verkwansel-je-je-lithiumvoorraad

How does healthcare work in Bolivia, and what travel insurance, health insurance or expat insurance do you need? | WorldSupporter . (n.d.).

https://www.worldsupporter.org/en/blog/how-does-healthcare-work-bolivia-and-what-travel-insurance-health-insurance-or-expat-insurance#:~:text=Back%20to%20top-,How%20does%20the%20public%20healthcare%20system%20work%20in%20Bolivia?,facilities%20and%20shorter%20waiting%20times .

How fog-catchers are helping grow lettuce in the world's driest desert . (n.d.). World Economic Forum.

https://www.weforum.org/videos/fog-catchers-desert/#:~:text=In%20Chile%27s%20Atacama%20Desert%20%2D%20the,crops%20like%20lettuce%20and%20lemons

Industry of Bolivia . (2026). Britannica.

https://www.britannica.com/place/Bolivia/Industry

Inflation Rate between 1993-2026 | Inflation Calculator . (n.d.).

https://www.in2013dollars.com/us/inflation/1993?amount=1

Jacobi, J., Vásquez, D. G. T., Alvarez, J. M. S., & Bonanomi, E. B. (2022). "First we eat and then we sell": participatory guarantee systems for alternative sustainability certification of Bolivian agri-food products. *Agroecology and Sustainable Food Systems* , *47* (1), 72–99.

https://doi.org/10.1080/21683565.2022.2131692

Limber Cruz Montaño, Zabalketa Association, & Instituto de Capacitación del Oriente. (2023). FOG WATER COLLECTION IN BOLIVIA. In Monica Denomy (Ed.), *FOG WATER COLLECTION IN BOLIVIA* . Asociación ZABALKETA de Cooperación y Desarrollo.

https://www.munichre-foundation.org/content/dam/munichre/foundation/publications/fog-nets/FOG-WATER-BOLIVIA_eng.pdf/_jcr_content/renditions/original./FOG-WATER-BOLIVIA_eng.pdf

Lithium: Here's why Latin America is key to the global energy transition . (2026, January 5). World Economic Forum.

https://www.weforum.org/stories/2023/01/lithium-latin-america-energy-transition/#:~:text=Sustainability%20challenges%20around%20lithium%20mining,Atacama%20region%2C%20according%20to%20reports .

Lohman, H. S. (2025, March 7). *Traditional foodways nourish millions in Bolivia. Big agro doesn't. — Ojalá*

https://www.ojala.mx/en/ojala-en/bolivia-traditional-foodways

Martinez, J., & Martinez, J. (2025, June 8). Bolivia's inflation crisis in 2025: What's happening and why it matters. *The Rio Times* .

https://www.riotimesonline.com/bolivias-inflation-crisis-in-2025-whats-happening-and-why-it-matters/

More brines could be mined for lithium with counterintuitive method . (2025). Chemical Engineering University of Michigan.

https://che.engin.umich.edu/2025/12/12/more-brines-could-be-mined-for-lithium-with-counterintuitive-method/#:~:text=To%20extract%20lithium%20from%20brines,pull%20out%20the%20remaining%20salt

Navigating the political and economic challenges of global lithium supply . (2024, April 3). The Economics Review.

https://theeconreview.com/2024/04/05/navigating-the-political-and-economic-challenges-of-global-lithium-supply/

Public-private partnerships . (2025, December 3). Digital Transformation Collaborative Finance Toolkit - FactSheets.

https://www.unesco.org/en/dtc-finance-toolkit-factsheets/public-private-partnerships#:~:text=A%20public%2Dprivate%20partnership%20(PPP)%20is%20a%20collaborative,Transportation%20*%20Healthcare%20*%20Education%20*%20Utilities

Quechua Connection 4wd . (n.d.). TripAdvisor.

https://www.tripadvisor.nl/Attraction_Review-g317033-d7625489-Reviews-Quechua_Connection_4wd-Uyuni_Potosi_Department.html

Rebecca. (2024, February 25). International Cooking: Food from Bolivia . *The Flavor Vortex.*

https://www.theflavorvortex.com/international-cooking-food-from-bolivia/#:~:text=The%20meat%20is%20soaked%20in,con%20queso%20might%20be%20second

Salar de Uyuni Info: Everything You Need to Know in 2025! (2025, September 25). Salar De Uyuni.

https://www.salardeuyuni.com/info/#:~:text=Where%20is%20Salar%20de%20Uyuni,Salar%20de%20Uyuni%20click%20here .

Schauenberg, T. (2025, March 24). Where fog is helping against water shortages. *dw.com* .

https://www.dw.com/en/where-fog-is-helping-against-water-shortages/a-71892254

SOS Children's Village Potosí (n.d.). SOS Children's Villages. https://www.sos-childrensvillages.org/where-we-help/americas/bolivia/potosi

Sporting ground dimensions - Boughton . (2019, July 18). Boughton. https://www.boughton.co.uk/useful-information/sporting-ground-dimensions/

Standard Lithium Ltd. - Direct Lithium Extraction . (n.d.). https://www.standardlithium.com/technology/direct-lithium-extraction/#:~:text=Direct%20Lithium%20Extraction%20(DLE)%20represents,efficient%20U.S.%20domestic%20lithium%20supply

Statista. (2025a, November 28). *Bolivia: prevalence of severe food insecurity 2009-2029* . https://www.statista.com/statistics/1473612/food-insecurity-prevalence-in-bolivia/#:~:text=Bolivia:%20prevalence%20of%20severe%20food%20insecurity%202009%2D2029&text=In%202024%2C%20it%20was%20estimated,over%20the%20next%20few%20years .

Sustainability of lithium extraction in Bolivia and Chile. (2021, December 2). *ArcGIS StoryMaps* . https://storymaps.arcgis.com/stories/f7b7f0da9964470f8ddf9296b4c0081c

The road to Tahua: Journeying to heart of the Lithium Triangle via Sacred Salt Flats . (2024, August 7). Cultural Survival. https://www.culturalsurvival.org/news/road-tahua-journeying-heart-lithium-triangle-sacred-salt-flats#:~:text=Efrain%20Quispe%20Juarez%2C%20who%20is,these%20community%20ambitions%20in%20progress.

TRADING ECONOMICS. (n.d.). *Bolivia - Agricultural land (% of land area) - 2026 data 2027 forecast 1961-2023 historical* . https://tradingeconomics.com/bolivia/agricultural-land-percent-of-land-area-wb-data.html#:~:text=Bolivia%20%2D%20Agricultural%20Land%20(%25%20Of,2027%20Forecast%201961%2D2023%20Historical

UNRISD, Ledo, C., United Nations, & Yáñez, C. (2003). Inequality and Access to water in the cities of Cochabamba and La Paz-El Alto. In *UNRISD Project on Commercialization, Privatization and Universal Access to Water* . http://213.219.61.110/80256B3C005BCCF9%2F(httpAuxPages)%2F26E864C81E9E705AC1

257A52005B583C%2F%24file%2FBolivia%20Water.pdf

US dollars to Bolivianos . (n.d.). Currencyrate.

https://usd.currencyrate.today/convert/amount-12000-to-bob.html

Vera, M. L., Torres, W. R., Galli, C. I., Chagnes, A., Victoria Flexer, CIDMEJu, CONICET — Universidad Nacional de Jujuy, Jujuy, Argentina, CEGA-INSUGEO, CONICET — Universidad Nacional de Salta, Salta, Argentina, & CNRS, GeoRessources, Université de Lorraine, Nancy, France. (2023a). Environmental impact of direct lithium extraction from brines [Review article]. Nature Reviews Earth & Environment , 4 , 149–165.

https://doi.org/10.1038/s43017-022-00387-5

Wasserstiftung. (2025a, August 20). CloudFisher – Wasserstiftung .

https://www.wasserstiftung.de/en/our-projects/cloudfisher/

Wasserstiftung. (2025b, August 20). CloudFisher – Wasserstiftung .

https://www.wasserstiftung.de/en/our-projects/cloudfisher/

Wasserstiftung. (2026, January 14). About us – Wasserstiftung .

https://www.wasserstiftung.de/en/about-us/#:~:text=A%20dedicated%20team%20with%20clear,regions%20in%20the%20long%20term .

Wei-Haas, M. (2017, March 29). This device collects water from the clouds. Smithsonian Magazine .

https://www.smithsonianmag.com/innovation/device-collects-water-clouds-180962705/#:~:text=%E2%80%9CIt's%20almost%20new%2C%E2%80%9D%20he,term%20success%20in%20remote%20locations.

What we do . (n.d.). IFAD.

https://www.ifad.org/en/w/countries/bolivia

Why is lithium mining in Andean salt flats also called water mining? | Interamerican Association for Environmental Defense (AIDA) . (n.d.).

https://aida-americas.org/en/blog/why-lithium-mining-andean-salt-flats-also-called-water-mining#:~:text=According%20to%20scientific%20data%2C%20the,per%20ton%20of%20lithium%20produced.

World Bank Group. (2017, October 23). Promoting innovation in Bolivian agriculture . World Bank.

https://www.worldbank.org/en/results/2017/10/23/promoting-innovation-in-bolivian-agriculture

Yarrow-Soden, E. (2025, November 20). Building water security in the Andes of Bolivia . The Source.

https://thesourcemagazine.org/building-water-security-in-the-andes-of-bolivia/