

**Bolivia Climate Primers:  
Northern Fixes and Southern Realities**

**PRIMER TWO**

**ADAPTATION AND BOLIVIA**



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 **GLOSSARY OF TERMS**

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## ABOUT THE SERIES

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The Democracy Center has a long history of working to help citizens understand and influence the issues that affect their lives. As we have deepened our work on climate over the last few years, we have focused our efforts on three key areas: supporting climate activists to be more strategic, lifting up narratives on climate from ground zero, and providing reports and analysis on the climate crisis.

While our strategy work aims to help groups have more impact when they take action, we also recognize that it is vital for activists and others to be informed of the issues they wish to influence in order to build effective strategies.

The policy debates around climate change can often seem overwhelming, especially to newcomers to the subject. Its all-permeating nature as an issue which affects everything and everyone is matched by the exceptional depth of complexity and technicality of the debates around it. Getting to grips with the different issues, dynamics and perspectives at play in terms of the 'global North'/'global South' (or 'developed/developing world', or 'rich/poor nations') is also crucial to understanding these debates, and can be especially daunting. Bolivia, as a resource-limited country on the coalface of climate impacts, which has also taken quite a strong, often alternative, public stance in climate negotiations, makes an interesting and instructive test case for exploring this nexus of issues further.

To help citizens to understand the key debates and what they look like from a global Southern perspective, former Democracy Center researcher and climate negotiator Rebecca Hollender has written this set of three Bolivia Climate Primers. These '101s' seek to help anyone who is interested get a better grasp of the basics of current policies and proposals on the table around mitigation, adaptation and climate finance, and what implications they have for Bolivia. We hope that you will find these useful, whether you are an activist, a student, a researcher, or just generally interested in the subject.

*This second primer – Adaptation and Bolivia – looks at the current policy conversations around adaptation issues, including on how to prioritise and fund adaptation, and at the pressures to adapt which Bolivia is facing and how those intersect with these policy discussions.*

*(To see the Democracy Center's full range of work on climate issues visit the [Climate and Democracy](#) pages of our website.)*

## INTRODUCTION

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While mitigation takes precedence in actions to stop the impacts of climate change in the long term, the impacts of climate change are already being felt at different scales across the world, resulting in the need for countries and communities to respond and adapt. The longer the world's biggest emitters delay mitigation, the direr the adaptation needs around the world. Proposals like Bolivia's, Joint Mitigation and Adaptation Mechanism for the Integral and Sustainable Management of Forests, (see Primer One on mitigation in this series) show the overlap between mitigation and adaptation, and provide concrete alternatives for North-South collaboration in climate activism. The following section will examine the North-South debate around adaptation as well as some of the challenges and opportunities provided by the Bolivian context.

As one of the most vulnerable countries to the impacts of climate change, Bolivia has an important voice in the numerous debates that surround the current and future adaptation actions that need to take place. Bolivia's voice in pressuring the North to meet its urgent mitigation responsibilities becomes most compelling when describing the reality of climate change's impacts on the country. According to a recently published book, the scenario that Bolivia faces in 2030 and 2060 in the event of a 4° temperature increase is startling (some aspects of this scenario are outlined below).<sup>1</sup> However, adaptation is not a cut-and-dried science. Even with well-planned, appropriate adaptation measures, many impacts will be unavoidable. Far from merely a technical process, adaptation can be seen as a process of social transformation which requires changes in power structures, politics and cultures. Yet, most solutions do not address these interrelated causes. As Northern countries focus more on their own adaptation priorities, Bolivia cannot afford to take an invisible back-seat in the adaptation debates that will determine its future.

## ADAPTATION: THREE TALKING POINTS

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» Whose adaptation to prioritize?

### **Impacts/vulnerability/capacity to respond vs. Responsibility for the problem**

The countries with historical responsibility for climate change are the countries with the least immediate vulnerability to its impacts. They are also the countries with the highest capacity to adapt. The arrival of Hurricane Sandy, extreme droughts, and unseasonal weather patterns in the global North have been a wake-up call to Northern governments about the resources, coordination, and capacity required to respond to climate disasters. As these countries focus on their own adaptation needs, this must not distract from their responsibility to support and fund adaptation in the global South. The countries that caused climate change have a moral obligation to the hardest-hit

victims to clean up the mess they made beyond their borders.<sup>1</sup>

All countries are not created equal under climate change. The different magnitudes between the gravity of the impacts that countries will face, as well as their ability to adapt to changing climates, are as vast as global inequality itself. Take the Alliance of Small Island States ([AOSIS](#)), comprised of 43 countries, some of which, under worst-case climate scenarios, are slated to disappear completely.<sup>ii</sup> Compared with wealthy governments like New York City, which proposes to build a sea wall to protect itself from future Hurricane Sandys, in AOSIS countries such elite adaptation measures are simply not an option. Without the necessary data, technology, and funding, the adaptation options available to island states only delay the eventual migration of the entire populations of these countries.

It has been shown that a country's vulnerability to natural disasters and changing weather is directly linked to internal poverty and inequality. Also, the poorest areas of any country are often exposed to much higher levels of risk from flooding, droughts, etc. Just as the impacts of Hurricane Katrina disproportionately hit poor and black communities, poor countries and their poorest populations stand to lose the most from climate change.<sup>iii</sup> The problem is cyclical: climate disasters push vulnerable people further into poverty and make them more exposed to future risks.

What is the point of these comparisons? Given the already limited resources for adaptation, for which need will continue to grow as the effects of climate change accumulate, adaptation priority must go to the poorest of the poor. This presents yet another essential area for North-South climate movements to support each other.

### Impacts and Vulnerability in Bolivia

Bolivia is one of the most vulnerable countries to climate change. A 2009 publication by Oxfam cites the combination of extreme poverty and inequality, geographical location, and diverse ecosystems as the main factors for this vulnerability.<sup>iv</sup> The study highlights that the impacts of climate change in Bolivia will not be felt uniformly, but will fall disproportionately on women, small holder farmers, and poor communities. The unjust sentence placed upon these marginalized populations in Bolivia mirrors the injustice that befalls the entire country, in being forced to pay the price for a problem it did not contribute to.

In Bolivia, despite a near total absence of meteorological data for climate modeling, five main impacts are predicted to result from climate change: less food security; glacial retreat affecting water availability; more frequent and more intense 'natural' disasters; an increase in mosquito-borne diseases; and more forest fires.<sup>v</sup> The severity of these impacts must not be underestimated. Some features of Bolivia's future climate scenario include: conflict over scarce vital resources (like water)

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<sup>1</sup> As mentioned in Primer 1 – Mitigation, the emissions from BRICS countries are among the highest in the world and on the rise, putting more impacts in the long-term pipeline. Hence, while BRICS countries are currently dealing with their own need to adapt to the impacts from climate change that they are not historically responsible for, they are quickly accumulating future climate debt to other low emitting countries.

and access to deteriorated basic services, the emergence and spread of new insect-borne diseases, massive rural-urban migration accompanied by poverty, unemployment and the unraveling of traditional social fabric, infrastructure collapse, complete alteration and lower productivity of agricultural systems, economic and political instability, and a general reduction in the quality of life for the majority of the population.<sup>vi</sup> Indeed, some of these impacts are already being felt in Bolivia, coming at a high cost to local communities and the country as a whole.<sup>vii</sup>

### Campaigns around climate debt and common but differentiated responsibilities

The dismal outlook faced by the Bolivian population is the result of the historical emissions that allowed industrialized countries to reach their current levels of opulence, a situation fraught with contradiction and injustice. This harsh reality is faced by many countries around the world, which has led to the emergence of hundreds of campaigns based on the principle of climate debt.

Climate debt has been a powerful concept in uniting climate change activists around the world. The Bolivian government has been an active proponent of climate debt as a way for Southern countries to place demands on the Global North in the face of climate change. The Bolivian government refers to five types of debt encompassed in climate debt, showing that it is not just about finance, but greater systemic injustices that must be compensated. These five debts include adaptation, mitigation, emissions, migration, and debt to Mother Earth<sup>2</sup>.<sup>viii</sup>

However, the Bolivian government recognizes that climate debt is “impossible to compensate completely, because the atrocities committed by humanity have been too terrible.” Indeed, climate debt is not only about the current state of the planet, but stems from 500 years of unequal relationships between Northern and Southern countries, resulting in incalculable damages.

In the face of the impossible compensation for climate debt, Bolivia also calls for an end to historical power relationships and the exploitation of the planet which caused the climate crisis in the first place: “the minimum compensation of this debt consists in recognizing the damage done, and adopting a United Nations Declaration on the Mother Earth’s Rights, to ensure that the same abuses will never be repeated in future.”

However, Northern countries employ a series of tactics to avoid paying their climate debt or compensating in any way for their past and current behavior. For example, and as we will see below, by dominating the [UNFCCC](#) negotiations and prioritizing market-based mechanisms for mitigation and revenue generation, these countries create technical stipulations to avoid paying their fair share. Instead, their strategy for debt avoidance involves transferring responsibility to new high emitters and other countries of the Global South.

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2 Briefly summarized: Adaptation debt refers to covering adaptation costs; Mitigation debt refers to compensating the costs that developing countries will incur by not being able to follow the same emissions-heavy development model as the North; Emissions debt is the responsibility that Northern countries have to drastically cut their own emissions; Migration debt calls for the removal of restrictive migration policies; Debt to Mother Earth calls for universal rights to be given to the Planet.

» What kind of adaptation are we talking about?

### What adaptation in Bolivia looks like now vs. Planning for adaptation in Bolivia

The adaptation measures that Bolivia must take to prepare for the scenarios it faces under climate change are far beyond its current means. For years, poor Bolivian communities have found ways to adapt to climate change, as a matter of survival. There are hundreds of local-level projects that showcase different adaptation and resilience strategies<sup>ix</sup>. However, when the impacts of climate change become more drastic, adaptation will require more than local innovation. For example, efficient irrigation systems or urban water rationing will be irrelevant when the primary water source, the Andean glaciers, no longer exists. A 2010 in-depth review of adaptation capacity in Bolivia revealed that the country does not have the necessary institutional and human resource capacity to address climate change adaptation.<sup>x</sup>

That being said, a major effort will be required to scale up the institutional, financial, and technical capacity to address the climate challenge. Currently, most adaptation measures in Bolivia happen on a local or regional scale through NGO or development agency initiative and support. Some typical examples include: working with agricultural communities to identify and promote new, climate resistant crop varieties; fomenting the production and consumption of organic crops; reforestation and protecting springs and river basins to protect non-glacial water sources; water capture and storage combined with water efficiency measures in rural and urban communities.

The Bolivian government is involved in supporting some of these measures, but with less reach than NGO and development cooperation agency involvement. Bolivia has also enacted a number of laws which decentralize power to departments, municipalities and regions, giving local governments more power over decisions affecting adaptation investments.<sup>xi</sup> Such investments include roads and schools as adaptation projects like irrigation, water storage etc. Ideas are proposed and then voted on by the local community.<sup>xii</sup> However, there is some concern that the lack of information available to Bolivian communities on climate change will lead to a non-adequate prioritization of funds, failing to address real adaptation needs. Also, there is some evidence that certain local governance institutions are being sidelined with funds being channeled according to political favoritism. This undermines the democratic control of funds and, subsequently, the effectiveness of those funds.

The two largest adaptation projects in Bolivia are funded by the World Bank's international Pilot Program in Climate Resilience (PPCR) via a global funding mechanism called the Climate Investment Fund (CIF). The target of the projects is to increase the resilience of two of Bolivia's largest cities to water scarcity through combined dam, reservoir, and glacial water capture. While public critique of the PPCR projects in Bolivia is limited, this funding model has fallen under extensive criticism in a number of countries for being anti-democratic.<sup>xiii</sup> PPCR projects are accused of lacking civil society engagement and transparency. Also, they are primarily driven and designed by the World Bank, with little leadership or ownership given to national governments, a clear contradiction to effective aid principles. The result is that PPCR projects often fail to build national-level

capacity and are not consistent with national adaptation planning. In Bolivia, there is also some question as to how many civil society groups even know about the projects' existence. Other controversial funding issues related to World Bank adaptation projects are examined below.

The current face of adaptation in Bolivia, as seen in the above examples, is not adequate, neither in the near nor long term. The current measures mentioned above are limited to technical responses, concentrated in a few sectors and leaving many others unaddressed. For example, most of the measures are focused on agricultural and water infrastructure adaptations, but very little is being done in preparation for the impacts of rural-urban massive migration, investment in renewable energy resources, or capacity building to improve governance, planning, and popular participation. Also, measures to address the chronically weak institutional capacity to respond to climate change are nonexistent.

Although new adaptation-prevention measures and responses are continuously emerging in response to need, as well as increasing funding and programmatic prioritization by NGOs and agencies, larger scale institutional capacity building and resource generation are also required in Bolivia. This possibility is directly linked to the outcome of UNFCCC negotiations. In their book, 'Bolivia in a Four Degree Warmer World', Hoffman and Requena (2012) outline detailed recommendations for strategic climate change adaptation in Bolivia. These recommendations stress the importance of country-wide education and leadership training, planning for unpredictability, building bottom-up, democratic responses, and implementing sustainable policies with a long-term vision.<sup>xiv</sup>

### **Adaptation as technical response vs. structural change and the importance of Resilience**

The current model of adaptation in Bolivia demonstrates the most significant failure of adaptation around the world: the failure to make the necessary systemic changes to truly reduce vulnerability to the effects of climate change. While country-specific adaptation approaches are necessary to confront diverse regional needs, their isolated nature allows for the continuance of the wider systems that sustain current patterns of global inequality, which entrenches vulnerability.

In order to truly reduce vulnerability to the effects of climate change, it is important that resilience be built across societies, globally.<sup>3</sup> The goal of resilience is to allow communities to cope, and even thrive, despite the uncertainty, shocks, and stresses that accompany climate change. However, in the face of global inequality, technical resilience is not enough. As long as adaptation fails to challenge the underlying structural causes that exposes poor people to far more risk than the rich it will be insufficient.

A recent publication by Oxfam emphasizes the need to "redistribute the risk" of climate change as a way to break down current power and wealth inequalities.<sup>xv</sup> Powerful corporations and countries currently dump all of the risk onto poor communities and the global South using tactics that lock in their own security regardless of the greater impacts of doing so. Such tactics include a series of

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<sup>3</sup> For a glimpse at community level approaches to resilience in Bolivia, see the Democracy Center series "[Seeds of Resilience](#)."



policies and priorities designed to maximize profit or economic growth instead of social justice and sustainability, evade climate debt responsibility, and maintain current, exclusive power and wealth structures.

Until the social, economic, and political institutions that maintain global inequality are challenged, the world's poorest countries and communities will continue to bear the brunt of climate change. Therefore, beyond short-term technical fixes, national level adaptation must prioritize building skills and capacity, insuring free access and improved quality of basic services, and augmenting civil society participation in decision-making. On an international level, Oxfam recommends a number of measures to begin redistributing the risk that offloads the costs of climate change onto the poor. For example, they call for the reform of international institutions and frameworks, elimination of political exclusion policies, payment of climate debt by historical emitters, use of progressive taxes for adaptation funding in the global South, and prioritizing support for the most vulnerable countries.

### » Funding for Adaptation

Despite the fact that Bolivia did not participate in causing the problems that are now resulting in significant damages to the country's agricultural, infrastructure, and housing sectors, Bolivia only receives formal international funding for two World Bank PPCR adaptation projects, and none for climate-change specific disaster relief. All other support for adaptation comes in the form of NGO and development cooperation agency projects, as mentioned above.

How much money is enough for Bolivia to adequately address its adaptation needs? While the exact figure is difficult to predict, some numbers can be revealing. During the period from 2004-2010, damages to Bolivia's agricultural sector alone amounted to US\$825m.<sup>xvi</sup> A study that conducted predictive modeling of climate change-induced natural disasters estimates that damages to agriculture and infrastructure in Bolivia will increase exponentially, climbing to approximately US\$6bn per year by 2071.<sup>xvii</sup> These are scary predictions for a country whose GDP was US\$23.95bn in 2011. Compare with the US\$60.4bn that was spent for relief and repair after 3-day Hurricane Sandy hit New York City, a city with a \$1.2 trillion dollar GDP.<sup>xviii</sup>

Note that the above numbers only refer to the economic loss and damage resulting from climate change, but do not take into account the cost of preventative adaptation or resilience measures. The World Bank estimates that, given current climate predictions, annual adaptation costs for developing countries will be around US\$70bn by 2020 and US\$100bn by 2050.<sup>xix</sup> However, other sources claim that these amounts are conservative.<sup>xx</sup>

Preventative adaptation measures are essential to keeping economic losses from climate disasters low. A number of studies cite that investing in preventative adaptation drastically reduces the losses and damages that result from natural disasters. One striking figure estimates US\$7 of savings in disaster response for every \$1 spent on risk reduction.<sup>xxi</sup> Nicholas Stern predicts that

countries will be required to devote 2% of their GDP to climate change adaptation versus 20% of GDP if no adaptation measures are taken. These costs are predicted to increase as climate change advances.<sup>xxii</sup>

It also goes without saying that the effectiveness of climate change adaptation funding is conditioned on a wide range of variables from the amounts of funds available through to democracy in funding decisions. The current World Bank-administered adaptation projects in Bolivia (as well as globally) have fallen under scrutiny, as mentioned above. In addition to the complaints that PPCR projects follow a non-participatory design and implementation structure, there are also critiques of the funding model. The projects involve a \$50 million dollar donation grant in addition to \$36 million dollars in loans from the World Bank. On the basis of the previously outlined climate debt argument, the loan component of PPCR projects is unjust and contradictory: not only is Bolivia ultimately paying for its own adaptation infrastructure, it is paying interest to a Bank that is primarily controlled by Northern governments (a detailed critique of this type of conditioned funding for climate change adaptation is examined in Primer Three - Climate Finance). Also, the politically controversial history of the World Bank has made it a questionable institution for channeling the globally generated Climate Investment Funds. An institution that has been accused of manipulating national governments and pushing policies through its projects and funding offers, its role as principal provider of adaptation funds is rejected by most developing nations. The more independent UNFCCC-anchored Green Climate Fund is preferred, but is not without its own weaknesses.

## CONCLUSION

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The complex adaptation needs of the Global South are challenging, to say the least. However, without a significant funding push, they are also impossible to address. Given the predicted climate change impact trajectory for countries like Bolivia, which will bring more severe and rapid impacts, adaptation resources (financial, human, technological, and informational) must be received immediately in order to avoid immense recovery expenses in the future. Even then, the limited resources available for adaptation will not reach everyone who needs them, most often excluding the poorest countries and communities. Also, the structural changes that are necessary to reduce vulnerability and inequality are generally beyond the reach of fundable projects, but rather require efforts of a different scale and nature. Finally, adaptation alone is limited, given that many climate change disasters are unavoidable and additional funds will be required for loss and damage. The complexities surrounding wider climate finance issues are outlined in detail in the following section, on Climate Change Finance.

## ENDNOTES

- i Hoffman, Dirk and Cecilia Requena, “Bolivia en un mundo 4 grados más caliente: Escenarios sociopolíticos ante el cambio climático para los años 2030 y 2060 en el altiplano norte,” -- La Paz: Instituto Boliviano de la Montaña; Fundación PIEB, 2012.
- ii <http://germanwatch.org/download/klak/fb-tuv-e.pdf>
- iii <http://understandingkatrina.ssrc.org/Cutter/>
- iv <http://www.cakex.org/sites/default/files/bolivia.pdf>
- v Ibid.
- vi Hoffman, Dirk and Cecilia Requena, “Bolivia en un mundo 4 grados más caliente: Escenarios sociopolíticos ante el cambio climático para los años 2030 y 2060 en el altiplano norte,” -- La Paz: Instituto Boliviano de la Montaña; Fundación PIEB, 2012.
- vii See the Democracy Center’s education resource [Climate Change is About...Water](#) for more on these topics arising from climate impacts.
- viii Bullard, Nicola Climate Debt: A Subversive Political Strategy, Published in *América Latina en Movimiento* No 454 abril 2010, “[Por un nuevo amanecer para la Madre Tierra](#)”
- ix [http://www.theecologist.org/blogs\\_and\\_comments/Blogs/2201335/bolivia\\_harshening\\_climate\\_meets\\_traditional\\_knowledge.html](http://www.theecologist.org/blogs_and_comments/Blogs/2201335/bolivia_harshening_climate_meets_traditional_knowledge.html)
- x Teresa Flores, “[Análisis Rápido Institucional para la Adaptación al Cambio Climático en Bolivia Una evaluación de la sociedad civil y recomendaciones para la acción](#),” La Paz, PRODENA, 2010. <http://prodena.org/web/archives/category/calentamiento-global>
- xi [http://www.lostiempos.com/diario/opiniones/columnistas/20120818/estatutos-autonomicos-y-cartas-organicas\\_182474\\_386358.html](http://www.lostiempos.com/diario/opiniones/columnistas/20120818/estatutos-autonomicos-y-cartas-organicas_182474_386358.html)
- xii Daniel Cruz at Gaia Pacha ‘Cambio Climatico Y Politicas Municipales’
- xiii ‘Owning Adaptation’ by Oxfam
- xiv Hoffman, Dirk and Cecilia Requena, “Bolivia en un mundo 4 grados más caliente: Escenarios sociopolíticos ante el cambio climático para los años 2030 y 2060 en el altiplano norte,” -- La Paz: Instituto Boliviano de la Montaña; Fundación PIEB, 2012.
- xv <http://www.oxfam.ca/sites/default/files/imce/no-accident-resilience-inequality-risk.pdf>
- xvi <http://plataformaenergetica.org/obie/content/13531>
- xvii <http://ideas.repec.org/p/adv/wpaper/200915.html>
- xviii [http://www.huffingtonpost.com/2012/12/28/sandy-aid-bill-senate\\_n\\_2378457.html](http://www.huffingtonpost.com/2012/12/28/sandy-aid-bill-senate_n_2378457.html)
- xix World Bank (2009) The costs to developing countries of adapting to climate change: new methods and estimates, page 1: <http://siteresources.worldbank.org/INTCC/Resources/EACCRReport0928Final.pdf>
- xx Parry M. et al (2009) Assessing the Costs of Adaptation to Climate Change: A Review of the UNFCCC and Other Recent Estimates, International Institute for Environment and Development and Grantham Institute for Climate Change, London, page 14: [https://workspace.imperial.ac.uk/climatechange/public/Martin%20Parry%20Book%20art\(web\).pdf](https://workspace.imperial.ac.uk/climatechange/public/Martin%20Parry%20Book%20art(web).pdf)
- xxi World Bank and USGS
- xxii Stern Review (2006) The economics of climate change, page 1: [http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/d/Summary\\_of\\_Conclusions.pdf](http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/d/Summary_of_Conclusions.pdf) and The Guardian, 26 June 2008, Cost of tackling climate change has doubled, warns Stern: <http://www.guardian.co.uk/environment/2008/jun/26/climatechange.scienceofclimatechange>

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