

# Floods and displacement in Bolivia

In Bolivia, floods are not a new phenomenon. Nearly every year, this type of disaster occurs during the rainy season. Despite this seasonality, the socio-economic consequences are still impressive. To make matters worst, the effects of climate change are expected to increase further the intensity and frequency of extreme weather events in the poorest country of South America.

In late 2013, torrential rains started earlier than usual and became a matter of national concern in January 2014, after several casualties and increasing displacement. The high precipitation induced landslides and led rivers to overflow, causing widespread flooding in the country's low lands and plains. By late April 2014 the floods had almost ended. According to national authorities, the floods were the worst disaster in 40 years, killing at least 59 people and affecting more than 60,000 households. The departments of Beni, in Amazon's region, La Paz, Cochabamba and Santa Cruz were the most affected.

Apart from higher rainfall, there are allegations that dams built in the Amazon basin on the Brazilian territory contributed to amplifying the disaster, especially in Beni. The topic is controversial and refused by Brazilian authorities and experts. However, both countries have agreed to investigate the impacts of the dams in Bolivia.

Disaster management, amid an electoral year, was highly marked by political interests, compromising evacuation processes and humanitarian aid.

This paper will assess the causes of the recent disaster, the consequent displacement and the related policy responses. Particular attention will be given to Beni, the most affected department, which concentrates the most significant portion of internally displaced persons (IDPs), here understood as the people who were forced to flee from their homes due to the floods but remained in Bolivian territory. Finally, the paper will be concluded with policy recommendations aimed at reducing the vulnerability of Bolivian local communities to floods.

## **1. CAUSES AND CONSEQUENCES OF NATURAL DISASTERS IN BOLIVIA**

### **1.1. Socio-economic and environmental issues**

Located in a region with climate extremes and diverse ecosystems, ranging from Andean mountains to the lowlands plains of Amazon Basin, Bolivia is highly exposed to natural hazards (Oxfam, 2009). This condition is exacerbated by socio-economic vulnerabilities, as Bolivia is one of the least developed countries in Latin America, with high levels of inequality (Central Intelligence Agency, 2014). About half of the

population (49.6%) of the 10.6 million inhabitants live below the poverty line, which means with less than the international standard of \$2 per day (Central Intelligence Agency, 2014). Poverty affects mainly indigenous people, which represent roughly 66% of Bolivia's population (Oxfam, 2009).

Bolivia is one of the most affected countries by extreme weather events in the world, ranking 39<sup>th</sup> in the Global Climate Risk Index for 1993–2012 (Kreft et al., 2013). Since 2006, when President Evo Morales was elected, the country has declared at least eight national states of emergency due to natural disasters, especially floods (World Bank, 2013 and El Diario, 2014a).

The inauguration of President Morales brought dramatic changes to the Bolivian political landscape. The left-wing head of state raised minimum wage, promoted land reform and increased state control over companies acting on hydrocarbons, mining and energy sectors (World Bank, 2014). These measures succeeded in improving living standards of the poor but at same time increased tensions among social and political groups (World Bank, 2014). In 2009, a new Constitution was approved, establishing the Plurinational State of Bolivia. In the same year, Morales was reelected and his party, Movement for Socialism (MAS), held, and still hold, the majority in the Congress (Central Intelligence Agency, 2014). In 2013, the legislative branch of the government passed a law modifying the Constitution and allowing Morales to run for a third term in the next presidential elections, which will be held at the end of 2014 (Folha de S.Paulo, 2013).

Throughout the past five years, Bolivia has sustained rapid economic growth mainly due to high commodity prices (Central Intelligence Agency, 2014). A historically high level of gas production and a rise of consumption drove an economic growth of 6.4% in 2013 (Cepalstat, 2014).

## 1.2. Higher precipitation

In 2013, the torrential rains are considered to have started earlier than usual. The starting date varies in the press; with some articles stating that the rains began in late September while others affirm that the beginning was in October (AFP, 2014 and Aljazeera, 2014). However, normally, the rainy season starts in November. The National Meteorology and Hydrology Service (SENAMHI) of Bolivia was contacted both by phone and email but did not provide any information. According to an assessment conducted by a Bolivian institution on SENAMHI data, from December 2013 to February 2014, in Beni it rained twice as much as it rained in the previous period (Fundación Milenio, 2014).

The alteration on precipitation patterns could be a consequence of climate change. Indeed, global warming impacts are expected to highly affect Bolivia, with changes in the water cycle and more frequent and intense floods being projected to have major consequences for the country (World Bank, 2013 and Oxfam, 2009).

The diversity of Bolivia's biomes also implies that the country is exposed to different climate change impacts, including more frequent droughts, diminishing water availability due to the melting of glaciers, food insecurity, higher incidence of rainforest fires and mosquito-borne diseases (Oxfam, 2009).

The torrential rains led many rivers to overflow causing widespread flooding in the country's low lands. The socio-economic consequences of the disaster, including several casualties and high displacements, led President Morales to declare a national state of emergency in late January. Such an instrument allows local authorities at different levels to make budget reallocations in order to assist the disaster's victims (Al Jazeera, 2014).

More than 140 municipalities, or about one third of the country, were affected by the large-scale floods, which in some areas persisted until April (Bolivia 2014). Even towns that had not been hit by the rains were inundated by the overrun of rivers (interview conducted on 4 April 2014).

**Map 1.** Bolivia's departments and rivers.



Map No. 3875 Rev. 3 UNITED NATIONS  
August 2004

Department of Peacekeeping Operations  
Cartographic Section

Source: UN

The heavy rains and flooding destroyed houses and undermined agriculture and livestock activities, hampering the livelihoods of thousands of households. The disaster also damaged infrastructure, including bridges and roads, cutting off several communities from the rest of the country and compromising their access to food and drinking water (Gouel, 2014).

According to official data, the recent floods killed at least 59 people and have affected more than 60,000 households (EFE, 2014). In Beni, seven out of eight provinces were largely flooded due to the overflow of the Mamore and Beni rivers, affecting more than 22,000 households (El Dia, 2014).

The resulting damages and losses are still being estimated. According to the General Secretary of the government, Raúl Roca, the total number of cattle killed in the country could reach 900,000 (Azcuí, 2014c). Preliminary data suggests that only in Beni more than 450,000 heads of cattle were killed or about 14 percent of the total cattle population of this region. Overall, Beni's economic losses could reach higher than 270 million dollars (Acevedo Luna, 2014).

National authorities have classified the recent disaster as the worst in the past 40 years (Infobae, 2014). Morales stated that the recent rains were much more intense than those in the first three years of his mandate and the consequences, especially in Beni, were without precedent in Bolivia's history (EFE, 2014).

In Morales' first term, Bolivia faced exceptional precipitation due to the phenomena of El Niño in 2006/2007 and La Niña in 2007/2008. Coupled with inappropriate infrastructure, the extreme weather events led to catastrophic floods and landslides. It is estimated that El Niño affected 258,460 persons and resulted in an economic impact equivalent to 443 million dollars or 4 percent of Bolivia's GDP in 2007 (ECLAC/World Bank, 2014). The consequences of La Niña in the following year were considered even worse: 618,740 individuals affected and economic damages and losses equivalent to 511 million dollars (ECLAC/World Bank, 2014). Bolivian economists believe that the aggregated economic losses and damages of the recent floods could overpass the 2008 impacts, especially due to impacts on the livestock sector (Acevedo Luna, 2014).

### **1.3. Human-induced environmental changes**

Bolivia has high rates of deforestation, which increases the intensity of floods due to the removal of the natural protection of the soil. It is estimated that deforestation reaches about 300,000 hectares per year in the country, mainly driven by the expansion of soybean crops and cattle livestock in Santa Cruz and Beni departments (Oxfam, 2009). Furthermore agricultural activities in Beni rely on slash and burn techniques that also reinforce the risk and intensity of floods (Acevedo Luna, 2014).

Another factor that Bolivian experts affirm to have contributed to the floods' intensity in Beni is the building of two Brazilian dams in Madeira River, the latter being the border between both countries. The hydroelectric power plants of Santo Antonio and Jirau, which are under construction, are said to have slowed down the river flow upstream, increasing the deposit of sediments into the river and thus augmenting the level of overflow during the rainy season (Azcuí, 2014b and Chávez, 2014).

Brazilian authorities and experts reject such allegations. They state that the reservoirs are small and that the dams are located far from the border (Chávez, 2014). It is worth noting that on the Brazilian side of the Amazon basin, the states of Rondonia and Acre have faced intense floods due to the unprecedented level of Madeira River – the river rose more than 17.5 meters, the historical record. At least 12,500 Brazilians have been displaced (Damasceno, 2014). Currently there are no conclusive studies showing that the dams are responsible for the floods in the Amazon region. In March 2014, the governments of both countries agreed to start investigations on the possible link between the dam construction and the resulting floods (Azcuí, 2014b).

## 2. ANALYSIS OF THE DISPLACEMENT

### 2.1. Patterns of displacement

The recent torrential rains and long lasting floods played a crucial role in the displacements incurred in Bolivia. Socio-economic issues were also significant drivers of such forced displacement. According to Walter Arce, IOM Chief of Mission in Bolivia, the most affected households by the natural disaster were the low-income population, highly dependent on subsistence agricultural activities (interview conducted on 4 April 2014). The majority of victims lived in lowlands situated in riverbanks and thus flood-prone zones. Arce affirms that 250 households which were resettled in highland zones in the wake of the 2008 catastrophic floods were not affected by the 2013/2014 inundations. This suggests that broader resettlement programs could enhance the Bolivian communities' resilience in the event of future floods.

In 2014, the displacement triggered by the floods occurred in various ways; mainly within Bolivia's borders. In most cases people were forced to flee, sometimes without governmental assistance (AFP, 2014). When the assisted evacuation occurred, it was typically made post-disaster. Both temporary and permanent displacement occurred as a result of floods. The IOM Chief of Mission in Bolivia affirmed that some families would be able to return to their homes within two or three months (interview conducted on 4 April 2014). Other households would need to be resettled.

At the onset of the floods, the communities were unprepared; without options of temporary housing, stocks of food and adequate drinking water (Huañapaco, 2014).

The intermittent rain complicated the rescue and humanitarian aid distribution, which in many cases could only be made through the use of helicopters, airplanes or boats. In Beni, for instance, a joint effort of navy and army officials took a 39-hour-journey by boat to reach isolated communities in Santa Maria in late January. According to the Presidency Minister Juan Ramon Quintana, the boat would provide the local population with staple food, drinking water, medical care and evacuate people voluntarily if they wanted to go to the city of Trinidad, capital of Beni, or other locations in safer conditions. In these cases, the dwellers had the option of taking a ride on the boat in its journey back (Sanchez, 2014).

Unlike the case of Santa Maria, in many communities people were forced to move to high lands, as houses were destroyed or submerged. In Puerto Ballivian, an isolated community near Trinidad, the only dry place was near the village school. When the first humanitarian teams arrived, families were sheltered in the building's patio (Samaritan's Purse, 2014).

According to Bolivia's human rights Ombudsman Rolando Villena, in the Isiboro Secure National Park and Indigenous Territory (TIPNIS), a community-owned land located between the north of Cochabamba and the south of Beni, several indigenous families have left their homes without any type of assistance. In late February, Villena stated that the conditions of isolated indigenous populations were critical, as humanitarian aid was not reaching them. Moreover, there was not adequate information on their living conditions (Erbol, 2014). Morales' second term has been marked by conflicts with TIPNIS communities who oppose the building of a controversial highway, which would divide their territory (Usi, 2013).

In late February, the Mayor of Santa Ana (a municipality of Beni), Gustavo Antelo, affirmed that all the local communities of Santa Ana were underwater and the population had been evacuated to disaster shelters. The local authorities also launched a health warning aimed at avoiding fish consumption after floods reached the sewage treatment pounds (Azcuí, 2014a).

In early March 2014, populations in vulnerable neighborhoods of Guayaramerín, one of the most affected municipalities in Beni, were evacuated to camps, as the mounting level of Mamore River, the largest in Bolivia, became an increasing threat to a structure aimed at detaining the river's overflow (Cartagena 2014). On the border



with Brazil, Guayaramerín is located in a region where all the accumulated water of Bolivia's rivers flows towards them from the Andes towards the Atlantic Ocean. Mamore unites with Beni River to form the Madeira River.

In early April 2014, Mamore flows continued to increase, flooding both urban and rural areas of Guayaramerín. By that time, the evacuation process was still ongoing and some displaced people had to cross international borders. Approximately 120 families had to be sheltered in Brazil, as the level of Mamore River hindered their transfer to Bolivian shelters. Preliminary data estimated more than 2,500 households affected. In the city of Guayaramerín, although the inundation hampered the access to houses, some owners resisted to go to shelters trying to protect the remainder of their belongings (*El Diario*, 2014e).

According to the Emergency Operations Center (COE), nearly all the public facilities in Guayaramerín were used as shelters and school classes were suspended until mid-April, when the water level started to decline, in order to accommodate the displaced people (*El Diario*, 2014d).

## 2.2. Disaster shelters and camps

Internally displaced persons - henceforth referred to as "IDPs" - were sheltered in educational and sport facilities, exhibition venues and improvised camps. The federal and local governments, with support of international organizations, such as the United Nations, distributed tents for thousands of households. Governments of other countries such as Italy, Argentina, Brazil, Venezuela and the United States also assisted with humanitarian aid (*Economía Bolivia*, 2014b).

In Trinidad, Beni's capital, three generations inhabited the same tent. Rosa, Graciela and Cibeles, grandmother, mother and daughter, shared a 16-square-meter tent with five other members of their family (*World Food Program*, 2014). One of the evacuees, Cristina Moye, from Puerto Geralda, stated that in her shelter the food provided consisted only of rice, noodles and chicken innards (*Pérez*, 2014).

Besides food issues and poor water and sanitation services, IDPs also faced the risk of disease exposure. By the beginning of April, there were more than 100 thousands registered cases of health problems among the affected population in approximately 150 disaster shelters, including respiratory infection, mycosis and acute diarrheal disease. In Riberalta, at least two cases of dengue were recorded in shelters. In this municipality, located in Beni, at least 90 communities were affected by the floods and 29 shelters were set (*Agencia Boliviana de Información*, 2014).

The International Organization for Migration (IOM) in Bolivia has worked to transform improvised shelters into "model camps" aimed at improving the living conditions of the displaced persons. In these camps the families were sheltered in tents and had access to electricity. In addition, the organization has worked jointly with the NGO 'Action Against Hunger' to provide water and sewage treatment for the camps as well as transportation for displaced children to attend school. In partnership with the federal and local governments and supported by the Spanish Agency for International Cooperation and Development (AECID), IOM established a camp with 250 family-size tents in Trinidad, where even the shelters had been flooded (*IOM*, 2014; *Economía Bolivia*, 2014b). Another camp with tents for 500 families was set-up in Guayaramerín (*IOM*, 2014).

## 2.3. Divergent numbers

As common in many cases of internal displacement, it is difficult to obtain a reliable total figure of IDPs in Bolivia. Bolivian official data from late February 2014 reports that approximately 60,000 households were affected by the flooding (*EFE*, 2014). This number is probably higher as floods lasted until April 2014 and there is no data on isolated communities. Official reports only inform aggregated data regards to the number of IDPs, meaning that it is not possible to determine the total number of

people affected or displaced. This could be regarded as a way of reducing public perception with regards to the social consequences of the flooding. The World Food Program, in turn, estimates that floods have affected 325,000 people (El Diario, 2014j).

Press coverage, especially foreign reported articles, use the Figure for families affected as the number of households displaced. This also seems to be the case in IOM reports, which mention 68,000 homeless families (IOM, 2014). The Spanish newspaper El País reported that there were some 200,000 people displaced and 75,000 households affected (Azcuí, 2014c) without providing the data source. The IOM Chief of Mission in Bolivia, Walter Arce, however, highlights that the official Figure of households affected by the floods does not only refer to IDPs but also, for instance, to families who lost agricultural production and remained in their lands (interview conducted on 4 April 2014). According to Arce the number of displaced households by early April was 7,000. This estimation does not take into account the indigenous communities of TIPINIS, from which there is a lack of accurate data.

In Beni, floods affected more than 22,000 households in several municipalities and indigenous communities according to the governor of this region, Carmelo Lens (El Diario, 2014i).

### **3. DISASTER RISK MANAGEMENT AND POLICY RESPONSES**

#### **3.1. Lack of disaster prevention**

Socio-economic damages due to the recent floods can be considered, at least to some extent, as a consequence of the lack of appropriate disaster risk management at both the local and national level. Precipitation in the last season have exceeded records of past years and floods are expected to occur in Bolivia on a yearly basis and are becoming increasingly severe. The rise of floods intensity can be perceived, for instance, by reading news from the past seven years. Press articles from 2007/2008, for example, considered the floods at that time the worst in Bolivia. Four years later, national authorities classified the 2012 floods as the worst. In 2014, the floods reached a new record, being considered even more severe (Stephanes, 2012).

In spite of past disasters and the projections that floods might become more frequent due to climate change, little has been done to reduce the vulnerability of communities. Many affected households were living in flood-prone zones and the authorities do not rely on early warning systems or a logistic instrument for risk management (Acevedo Luna, 2014). In addition, deforestation and some agricultural practices increased the intensity of floods (Acevedo Luna, 2014).

Marcelo Higuera, a Bolivian expert in natural resources, states that although Bolivia has several laws in place concerning the environment and risk management, they are often not effective in practice. An example of this is the 2000 law for risk reduction and disaster response aimed at establishing a legal landscape to encourage a reduction of socio-economic vulnerabilities of Bolivia and an appropriate management of natural, technological and man-made disasters. Higuera affirms that Bolivian policies concerning disaster management adopt a post-event approach rather than a prevention perspective. The expert points out, however, that the government of Santa Cruz as well as some municipal governments, including the city of La Paz, has been implementing climate change adaptation programs (Acevedo Luna, 2014).

Moreover, public investments on disaster risk management are low and are not encouraged by Bolivian law. According to the public spending specialist economist Jimmy Osorio, the public expenditure from the departments and municipal governments on disaster risk management is less than 2% of total investment as such expenditure is optional (Acevedo Luna, 2014). Furthermore, he highlights that the spending on risk management is related to rehabilitation and rebuilding, confirming the small investment in prevention.

Economist Armando Méndez, economic policy specialist and former president of Bolivia's Central Bank, considers that the Bolivian government could have carried out infrastructure work, such as the channeling of rivers and the building of retaining walls during the dry seasons in order to avoid socio-economic damages (El Diario, 2014b). These types of initiatives would have possibly spared authorities from urgent measures such as to build retaining walls in the face of rivers' overflows. This can be illustrated by the case of Santa Ana, in Beni, where the federal and local governments with Venezuela's support, worked to build a retaining wall to protect the urban center as the level of Mamore River was dramatically increasing. According to official reports, helicopters had to transport the sand required for this civil work (Azcui, 2014a). A similar situation occurred in San Joaquin, also in Beni, where municipal authorities attempted to build a structure to detain the flooding after 70 percent of the town's population had been already affected by the flood and 70 households were evacuated (Peredo, 2014).

It is worth noting that in 2007 the World Bank approved a 12.5 million dollar project aimed at helping Bolivia to implement its National Plan for Sustainable Rehabilitation and Reconstruction, launched in the wake of the natural disaster due to El Niño 2006/2007. The project was also aimed at strengthening Bolivia's ability to respond to future adverse natural hazards (World Bank, 2014). In 2008, following La Niña, the budget of the Emergency Recovery and Disaster Management Project was increased to 16.5 million dollars (World Bank, 2014).

The World Bank's project focused on rebuilding infrastructure including roads, bridges and river flood walls, as well as on fostering instruments and tools to be incorporated in disaster risk management (World Bank, 2013). For example, the initiative encouraged the improvement of SENAMHI's forecasting capability and carried out institutional capacity building trainings on risk management (World Bank, 2014). The Bank considered the project's results, which ended on September 2013, as satisfactory, despite several difficulties regarding its implementation. The volatile political situation, high turnover of government officers and disagreement between national and departments governments over responsibility for prevention efforts are among the main challenges identified against the project's effectiveness (World Bank, 2014). The World Bank considers that, in spite of recent progress on Bolivia's legislative framework, there are currently still significant legislative gaps and lack of operational capability with regard to disaster risk management (World Bank, 2014).

### **3.2. Political schisms and consequences on humanitarian efforts**

The assistance to the victims of floods was highly poisoned by political schisms. Tensions, disagreements and exchanged accusations between the federal and departments government resulted in a lack of coordination, duplication of efforts and inequality in the distribution of humanitarian aid. There are also allegations that public assistance was politically driven at different levels, leading to an unequal assistance between communities that supported the governments and their opponents.

According to Bolivia's human rights Ombudsman Rolando Villena, certain areas were provided with food and drinking water more frequently than others. Certain households received support from the federal, state and municipal governments while others received no assistance whatsoever (Pérez, 2014). The situation is said to be particularly prevalent in Beni, where Morales's MAS party never won elections. Indigenous populations in TIPINIS have also been considered as the least assisted groups (El Diario, 2014c). The Ombudsman Villena was elected in 2010 by the Plurinational Legislative Assembly for representing the interests of the Bolivian people through investigating and addressing complaints of human rights violation.

However, federal authorities refused these allegations. The Ministry of Defense Rubén Saavedra, for example, accused the Ombudsman Rolando Villena of allowing politics to influence his statements following the natural disaster and affected



households. Saavedra stated that the federal government provided more than 900 tons of humanitarian aid (Pérez, 2014).

On the other hand Bolivia's human rights Ombudsman, the governor of Beni and representatives of the Catholic Church affirmed that humanitarian aid was insufficient to meet the affected households' needs. They insisted that the federal government should have declared a state of disaster in the departments of Beni, Pando and La Paz (Economía Bolivia, 2014a). According to Bolivian Law 2140 on emergencies and disasters, this mechanism facilitates the receiving of international aid (Pérez, 2014).

President Morales refused to declare a state of disaster affirming that the government had sufficient conditions to help Bolivians (Agencia Boliviana de Información, 2014). The opposition accused the President of taking this stance due to political motivations (El Diario, 2014h).

Members of the government, in turn, alleged that Beni's request of declaring a state of disaster had political motivations. The Bolivian Vice President, Álvaro García Linera, said that the governor of Beni and the mayors of such department wanted to save money for electoral campaigns (Pérez, 2014).

### **3.3. Rebuilding plan and recommendations**

In the wake of the 2014 natural disasters, the Morales government presented the Plan Patujú, aimed at rebuilding and rehabilitating the zones impacted by the rains and floods as well as preventing future disasters. According to Morales, 476 million dollars will be invested in disaster risk management, both in rehabilitation and prevention (Los Tiempos, 2014).

The Bolivian president states that the Plan will focus on enhancing infrastructure, including road rehabilitation, the building of dikes and rebuilding of damaged houses. The strategy focuses on investments in sanitation, cash transfers for small farmers and a program to foster cattle herd repopulation. In addition, Morales pledged to allocate 2.6 million dollars in new resettlement programs (Los Tiempos, 2014). A policy to assist the affected households to overcome economic losses is essential and could help to reduce the risk of migration to urban areas as a mean to escape poverty.

Before the announcement of the Plan Patujú, federal authorities affirmed that 30,000 hectares of state owned lands would be used for the resettlement of 600 affected households in the province of Santa Cruz (Agencia Boliviana de Información, 2014). According to the Vice Minister of Land Jorge Barahona, the resettlement process would be voluntary, meaning that the families would choose whether to move or not. (Agencia Boliviana de Información, 2014).

In order to prevent further displacement and other severe consequences due to floods, Bolivia has to implement measures to reduce communities' vulnerability. High priority should be given to improving the livelihoods of those affected, enabling them to escape poverty and move to safer areas with increased job opportunities. Resettlement programs should aim at significantly reducing the number of people living in flood-prone zones. This could also be an important adaptation strategy against the impacts of climate change. Apart from reducing environmental vulnerabilities, it is essential to foster the economic inclusion of the resettled people, since with the resettlement they tend to lose their means of livelihood thus increasing their economic vulnerability. However, in order for these programs to succeed, they have to be based on sound science data and to be designed jointly with communities.

Another crucial measure is to build appropriate infrastructure aimed at diminishing the risk of inundation, such as the channeling of rivers and retaining walls. It is also necessary to put in place effective early warning systems to enable people to evacuate before a natural disaster strikes. This could reduce the number of victims and cases in which people are cut off geographically from the rest of the country, losing access to essential provisions. Moreover, the communities have to

be educated on how to react in emergency situations. Policies should also target the reduction of deforestation rates and agriculture practices that increase the risk of floods as well as to foster reforestation programs.

In addition, disaster risk management in Bolivia should focus on prevention and be carried out in coordination with different levels of the government. The views of various stakeholders, including the local communities, should be taken into account during the design of these policies. It could be made, for instance, through public consultations.

#### **4. CONCLUSION**

The recent natural disasters in Bolivia can be considered partially as man-made disasters. Human activities have not only contributed to increasing the communities' vulnerability to natural hazards but are also likely to have augmented their intensity. A large portion of the population affected were socially vulnerable and lived in flood-prone zones, being forced to flee when the disaster occurred.

Besides the lack of risk prevention, crisis management, including the distribution of humanitarian aid and the evacuation process, was negatively affected by political rivalries. As a result, many families were forced to flee without assistance. Even those families relying on public support were accommodated in improvised shelters, with poor services.

Climate change is expected to further increase the frequency and intensity of extreme weather events in Bolivia. In order to cope with these impacts, disaster risk management is needed. Such strategies should focus on prevention, reducing the population's exposure to disasters and the resulting effects. Resettlement programs may be a crucial strategy to adapt to climate change, if well designed.

At the same time, it is necessary to take appropriate measures to reduce the factors that increase the risk and intensity of floods. The impacts of Brazilian dams in Bolivia have yet to be investigated, and if proven, appropriate actions would be required to lower their effects.

As natural hazards are likely to continue to take place in Bolivia, the government should take advantage of the recent economic growth and implement comprehensive policies in order to prevent the country from facing major disasters and consequent displacement on a yearly basis. Better coordination among the different levels of government is also needed to guarantee that the country's population will be equally and more efficiently assisted in the event of natural disasters. ♦

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