iied

Human Settlements Working Paper Series

Rural-Urban Interactions and Livelihood Strategies - 31

Rural migration in Bolivia: the impact of climate change, economic crisis and state policy

Carlos Balderrama Mariscal

Nico Tassi

Ana Rubena Miranda

Lucía Aramayo Canedo

Iván Cazorla

April 2011

ABOUT THE AUTHORS

Carlos Balderrama Mariscal is a sociologist and researcher in agricultural and rural issues. He is also a consultant in public policy design and state authority and was in the portfolios of Director General of Environment and Natural Resources Vice-Minister of Lands. (cbm@mainumby.org.bo/ce.balderrama@gmail.com).

Nico Tassi is a researcher and anthropologist. He has dedicated most his work to the study of Bolivia's indigenous highlanders, specializing in religion and political economy. He is author of several articles and a monograph on urban Aymaras of Bolivia. (altoplanico@gmail.com).

Ana Rubena Miranda Lopez is Bachelor in Foreign Trade and researcher on gender issues. She is a member of the Latin American Network of Women Transforming the Economy. She is currently Coordinator of Fair Trading, Responsible Consumption and Citizen Participation in Center PROPUESTA. (anarubena@gmail.com).

Lucia Aramayo Canedo was awarded a Political Science major at the Catholic University of Bolivia. She conducted research on Bolivian democracy and social movements. She participated in the formation of the School of Public Administration of Plurinational State. She has been an MA student of the Teresa Lozano Long Institute of Latin American Studies (LLILAS). Her research interest is focused on the connections between social movements, democracy and decolonization of society in South America. (luciaac@gmail.com).

Ivan Cazorla Martinez is originally from the Uma Uma Ayllu, Jatun Ayllu Pocoata, Alasaya partiality of Qhara Qhara nation. He is an Agricultural Technician of the Senior Technical Agricultural Institute Simon Bolivar and Municipal Management Technician in the Autonomous University of Potosí Tomás Frías. He is currrently Amauta of the Federation of Native Indigenous Ayllus from Northern Potosí (FAOI-NP) and advises the organization on issues related to the reconstitution of the Ayllus and recovery of ancestral knowledge for proper land management. (icmhqq@yahoo.es).

ACKNOWLEDGEMENTS

This paper and the research on which it draws were prepared with financial support from the German Federal Ministry for Economic Cooperation and Development (BMZ). Additional funding was provided by the Swedish International Development Cooperation (Sida) and the Ministry of Foreign Affairs of Denmark (Danida). Technical support from the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) is also gratefully acknowledged. The opinions expressed in this paper are the sole responsibility of the author and do not necessarily reflect those of the funding agencies.

On 1 January 2011, GIZ was formed. It brings together the long-standing expertise of DED, GTZ and Inwent. For further information, go to www.giz.de.

Human Settlements Group
International Institute for Environment and Development (IIED)
3 Endsleigh Street
London WC1H 0DD, UK
Tel: 44 20 7388 2117 (international); 020 7388 2117 (UK)
Fax: 44 20 7388 2826 (international); 020 7388 2826 (UK)

ISBN: 978-1-84369-812-8

This paper can be downloaded free of charge from http://pubs.iied.org/10568IIED.html.
A printed version of this paper is also available from Earthprint for USD20
(www.earthprint.com)

giz Climate Protection Programme

On behalf of
Federal Ministry
for Economic Cooperation
and Development

CONTENTS

INTRODUCTION....1
METHODOLOGY....3
1. TRANSHUMANCE, MIGRATION AND SOCIAL MOBILITY....6
2. GEOGRAPHICAL AND CLIMATE CONTEXT....12
3. THE CASE STUDY AREAS....15
3.1 The Northern Potosí Region....15
3.2 The municipality of San Julián....18
4. MIGRATION FROM NORTHERN POTOSI TODAY....19
4.1 The 1980s....20
4.2 Destinations....22
4.3 Who migrates....23
4.4 The causes of migration....24
4.5 Impacts of migration....25
5. MIGRATION IN THE MUNICIPALITY OF SAN JULIAN TODAY....26
5.1 The Urbanisation Process....29
5.2 Mapping migration to San Julián and away from San Julián....29
6. PUBLIC POLICIES, MIGRATION AND CLIMATE CHANGE....31
6.1 Politics and Public Policy....31
6.2 Public Policy in Bolivia....32
6.3 Policies on Migration....36
6.4 Policies on Climate Change....38
7. FINAL REFLECTIONS....39
BIBLIOGRAPHY....41
RECENT PUBLICATIONS BY IIED'S HUMAN SETTLEMENTS GROUP....44

Rural migration in Bolivia: the impact of climate change, economic crisis and state policy

Introduction

This case study analyses current migration dynamics in two regions of Bolivia: Northern Potosí, one of the main areas of outmigration in Bolivia, and the municipality of San Julián in the Department of Santa Cruz, a major destination for internal migrants, some of whom come from Northern Potosí.

The research was qualitative in nature, with specific attention to breadth and accuracy in the information and analysis. The methods used were participative and the research was done in collaboration with the rural and indigenous organisations in the two selected areas: the Federation of Indigenous Ayllus of Northern Potosí (Federación de Ayllus Originarios Indígenas del Norte de Potosí Charka Qhara Qhara - FAOI-NP) and the Federation of Intercultural Communities of San Julián (Federación de Comunidades Interculturales de San Julián).

The information gathering process examined a wide range of factors that may trigger migration, including the possible influence of climate change and public policies on migration.

The key challenge was to understand current patterns of migration, the processes involved and the social, cultural, economic and political causes and effects, taking into account issues that are increasing in importance, such as climate change, and seeking to discover the extent of their influence in the midst of other factors that drive migration. It is well known that migration is not a simple occurrence. In fact, it involves a series of processes, motivations, causes and decisions. Because it is a collective rather than an individual process, it takes on the character of a “social phenomenon” that is historically and geographically determined.

In many cases, there are cultural practices of transhumance, such as agriculture on different ecological levels or the use of winter and summer pastures. This involves people moving from one place to another, sometimes travelling long distances and crossing districts for several months at a time. These transhumance practices add a further layer of complexity to the analysis of migration.

In general terms, migration may be related to state policy stimuli such as the drive to settle the country’s territory, reduce pressure on the land or improve living conditions, or it may be a spontaneous social response of adaptation to political, socio-economic or environmental changes.

This paper analyses migration dynamics in two rural contexts that may be considered diametrically opposed. The first location is the region of Northern Potosí on the high plateau, with a cold climate and an altitude of more than 3,000 metres, whose inhabitants are highland indigenous people who have lived there for thousands of years: the Charka Qhara Qhara Nation. Since colonial times, this region has been affected by economic crises and the environmental phenomena of desertification and drought; excluded from state policies, it is considered the poorest region of Bolivia and has the highest rate of out-migration in the country. The second location is the municipality of

San Julián in the Amazon lowlands, with a tropical climate and an altitude of less than 300 metres, whose inhabitants are indigenous and non-indigenous migrants. In recent years, this region has been favoured by state policies and it is currently considered one of the main destinations for migrants due to the agro-export economy based on soya.

Section one analyses migration in the historical context of the pre-Hispanic, colonial and republican eras. The study analyses the impact of the colonial era, starting with the imposition of slave labour arrangements in the silver mines and servitude in the agricultural estates. In the republican era, it analyses the historic milestones which influenced migration by indigenous people and giving rise to new forms of migration.

Section two describes the geographical characteristics of Bolivia, taking its latitudinal location and topography into account as relevant aspects that determine the country's varied ecology and climate. This section also looks at the influence of environmental and climate change processes, giving an idea of the country's ecological vulnerability.

Section three describes the current environmental and socio-economic features of the two regions studied. On the environmental side, the diversity of ecological levels and climate variability are described in greater detail. On the socio-economic side, the description includes the characteristics of each region's population, its particular history and levels of poverty.

Section four addresses the issue of migration in Northern Potosí, incorporating the information gathered during the fieldwork. The analysis looks at the causes, destinations, objectives and effects of migration and the characteristics of the migrants themselves.

Section five looks at migration in the municipality of San Julián from two perspectives: in-migration and out-migration. In both cases, the causes, destinations, objectives and effects of migration and the characteristics of the migrants themselves are analysed.

Section six addresses the subject of public policies. As well as looking at the influence of public policies on migration processes, it analyses how migration and climate change are included in state policies.

Section seven sets out the study's conclusions and offers recommendations on how to address policy issues related to migration, taking into account the influence of the economy, environmental changes and climate change.

Methodology

The research was qualitative in nature. We selected two different rural contexts for our research: Northern Potosí, one of the main areas of outmigration in Bolivia, and San Julián considered a major destination for internal migrants. Our selection was made on the basis of statistics on migration provided by the National Institute of Statistics (INE).

In each area we paid specific attention to the parameters of breadth and precision of information and analysis so that the data collected could be representative of the population of the region as a whole and valid generalisations may be produced.

As we opted for a participative methodology, we worked in close collaboration with peasant and indigenous organisations of the selected areas: the Federation of Indigenous Ayllus of Northern Potosí (Federación de Ayllus Originarios Indígenas del Norte de Potosí Charka Qhara Qhara - FAOI-NP) and the Federation of Intercultural Communities of San Julián (Federación de Comunidades Interculturales de San Julián).

The methodology used was the following:

a) **Induction of the research process**. This early research phase was intended to stimulate participation, generate trust, collect perceptions of migration and produce a participative research plan.

   After a series of preliminary meetings, a workshop was organised to present the research to local indigenous/peasant authorities. Approximately 15 leaders, both male and female, took part in the event. After explaining in detail the origin of the study, the institutions involved, the objectives and the basic research scheme – mapping of migration, focus groups, workshops of reflection and analysis and interviews – the authorities proceeded to deliberate. We then began negotiations which led to the subscription of an interinstitutional agreement.

   In a later reunion together with the leaders of the organisation we discussed the terms of the research. The key issues debated in this meeting were the places and times for the mapping which could guarantee the maximum possible participation. We also agree on where in-depth interviews (life histories) should be conducted.

   Working with indigenous/peasant organisations bore the advantage that in research activities, such as workshops and focus groups, the participants expressed their opinions and recounted their experiences with confidence. However, it also bore the disadvantage of being partly dependent on the rhythms and agendas of the organisation which sometimes resulted in delays in research activities.

b) **Mapping of migration**. We organised several workshops with the participation of communities' representatives – men and women, adults and youngsters – with the intention to identify the types and forms of migration, the destinations and their incidence.

   In the case of Northern Potosí the main themes debated were the destinations and reasons for migrating - such as access to land, education, additional income - and the activities in the new place of residence.

In the case of San Julián, since it is a destination for internal migration, we also mapped the origins of migrants. This made us realise that San Julián too is an area of outmigration.

c) **Focus groups of reflection and analysis of migratory flows.** We organised three types of focus groups: i) adults; ii) young males; iii) young females. The aim was to identify the main characteristics of the migrants such as their age, socio-economic condition, gender and education. We also gathered perceptions of the reasons for migrating and the impact of migration for the family and community.

   The categories of 'adult' and 'youngster' were identified by the participants themselves. The category of 'adult' – *jaqe* in aymara, *runa* in quechua - refers to all married persons who own land and take on communal duties and responsibilities. The category of 'youngster' – *lloqalla* both in aymara and quechua - refers to all unmarried persons, supposedly dependent, who are not allowed to take on communal duties and responsibilities.

d) **Reflection workshops.** We organised workshops with communities' representatives aimed at identifying and analysing the main factors determining migration: economic, social, climatic and environmental factors as well as state policies.
   In such workshops we used historical diagrams which enabled us to decipher the impact of climatic, economic and political events on migratory flows in the last fifty years.

e) **Life histories.** We interviewed men and women, adults and youngsters with the intention to collect concrete experiences of migration.

f) **Other interviews.** We also realised short interviews to members of the municipal governments, local and national institutions with the objective of collecting the different perceptions of migration and comprehend state policies on migration and climate change.

g) **Secondary sources.** We analysed a variety of documents trying to identify relevant aspects of the historical, socio-economic, cultural, demographic and ecological context as well as the consequences of state policies.

   The main challenge was to understand the contemporary migratory phenomena, its flows, causes and effects. We begun with the assumption that migration is a complex phenomenon determined by a concomitance of socio-economic, cultural and environmental factors as well as state policies. The inclusion of these factors in our analysis of migration was key to develop a more precise comprehension of migration, particularly in Northern Potosí.

   Mappings and focus groups reflections showed three 'new' characteristics of migration. First, they revealed that in the case of Northern Potosí contemporary migration is temporary and recurrent – twice a year, every year. The main destination is the city of Cochabamba where men work in construction and women as maids. Given such patterns, migration has become a common and important strategy for the livelihood of families and communities. The second important characteristic was that migration to gain access to land is not anymore so important as it was from the sixties to the beginning of the nineties. The third characteristic is that contemporary migration is a

generational phenomenon which mainly affects youngsters (men and women) due to the scarcity of means of survival, particularly land.

The method of the historical diagram of climatic and economic events and state policies enabled us to identify the decade of the eighties as the moment when the confluence of an extreme drought, the economic crisis of the mining sector and the policies of 'structural adjustment' brought about the migratory phenomenon in the Northern Potosí / San Julián.

In-depth interviews or life histories constituted a crucial instrument to collect information. On the one hand, they allowed us to establish with certain precision how migratory flows develop, how working networks are constituted in the place of destination and how remittances are used. On the other hand, we have been able to comprehend the vulnerability of migrants and their aspirations of social mobility.

In general the methodology has been applied in a reasonable and complete form. The difficulties encountered were either of a logistic nature or related to the coordination with the indigenous/peasant organisations: i) in some occasions we did not have access to suitable spaces for the comfortable realisation of workshops and focus groups; ii) the lack of electricity in the communities made it difficult to use digital video recording; iii) the lack of public transport; and iv) a few times the agenda and the emergencies of the indigenous/peasant authorities forced us to reschedule our research activities.

1. Transhumance, migration and social mobility

Transhumance and migration have always been important practices in the life of rural Andean communities in Bolivia.

The settlement of South America is the result of the migration and movement of peoples going back thousands of years. The great Andean civilisations (Tiwanaku, Pucara, Moche and Inca), the Spanish and Portuguese colonial states and the republican regimes all used migration as a key instrument in their policies of territorial control. However, power and geopolitics are not the only reasons migration took place. For thousands of years, migration has been an adaptive response to significant changes in the climate, the economy or population dynamics.

The territory of what is now Bolivia was inhabited by countless peoples and cultures. The archaeological evidence shows that these lands were inhabited more than 4,000 years ago, by peoples whose identity is no longer remembered. Today, we are only aware of the presence of three great civilisations: Tiwanaku, Inca and Moxo. The Tiwanaku civilisation is generally associated with the Aymara culture, although this is not fully accepted by archaeologists and social scientists. In any case, it is important to mention that the Aymara territory covered the length of the Andean high plateau, from the area near Cuzco to what is today Northern Argentina, and extended from the Pacific coast (southern Peru and northern Chile) to the foothills of the eastern range of the Andes, a region known as the *yungas*. The territory of the Inca empire, which is associated with the Qhechua culture, overlapped with that of the Aymara and also extended northwards to what is today Ecuador. The settlement of these territories was partly due to the migratory movements organised by the Inca state; these migrant populations were known as *mitimaes* and *yanaconas*.

The Andean peoples also practised complex agriculture and livestock farming systems. These enabled to them to subsist for thousands of years and are still used in some places. These farming systems were based on the vertical control of discontinuous “ecological levels,” so that every community had access to a variety of food, ranging from items produced at an altitude of nearly 4,000 metres to products obtained at altitudes of 1,000 metres. This system of vertical control required people to move continuously within this altitudinal range, so they became “transhumant” farmers who moved seasonally from one level to another, depending on the time of year.

Spanish colonisation was in itself a process of migration overseas. It is not this migration that we are interested in analysing here, however; instead, our focus is its effect on the native population, and particularly on population movements. The presence of the Spanish led to the introduction of a system of virtual enslavement of the Aymara and Quechua peoples and others in the Amazon lowlands. The Spanish migrants did not come to work as farmers or labourers. Instead, they took on the role of managing economic processes and dominated all trade. Their priority was to ensure that the silver and gold mines continued to be exploited and that the agricultural surplus went to feed the Spanish population who had settled in the cities of the “new world.”

To work the silver mines in Porco and the Cerro Rico in Potosí, a system of tithes was established in which every community or *ayllu* had to send 10% of its population of young men to work in the mines, where they laboured until they died. Although this

system also existed in the Inca empire, where it was known as the *mit'a*, the work in the mines was temporary rather than until death. In agriculture, the quasi-feudal system called the *encomienda* was set up. This involved distributing the ownership of land – including the "indians" who lived there – to the Spaniards. The landed estates or *haciendas* were likewise established under a system of servitude. These two institutions, but especially the *mit'a*, triggered the movement of indigenous people who wanted to escape death. They migrated in two directions: one was to places far away from the centres and circuits of colonial power, and the other was to the cities, where they sought work as labourers, either in domestic service or in the manufacturing workshops, or as porters in trade. There was a growing demand for such services in the cities: in the 17th century Potosí became the most populous city in the world.

The social structure was simple and rigid. Society was divided into three classes: i) Spaniards and the descendants of Spaniards, who were the dominant, governing class; they had a monopoly on power and controlled the silver mines, the landed estates and overseas trade; ii) the "indian nobles"[1] and *mestizos* who worked in skilled trades or local commerce; and iii) the "indians" subjugated to a regime of servitude in the *haciendas* and cities, as *mit'ayos* in the mines or as tribute-payers in the *ayllus*. This last group had practically no rights at all.

The founding of the Republic of Bolivia (1825) meant political independence from the Spanish crown, but the social structure inherited from the colonial era was kept almost intact throughout the 19th century. Even so, there were some significant changes. The system of the *mit'a* or forced, unpaid labour in the mines was abolished and replaced by a system of wage-labour based on capitalist enterprise. This had little impact at the start of the republican period, as silver mining was in sharp decline. The agrarian system of servitude in the haciendas, in contrast, was not only maintained but expanded, and indigenous communities and *ayllus* were dispossessed of their land.

Toward the end of the 19th century, as the industrial era took hold, mining shifted to tin production. New mines were opened, including those in Uncía, Llallagua, Siglo XX and Huanuni in Northern Potosí. Migrants from rural areas flocked there to work as mine labourers, traders came from the cities and from abroad, and professionals and foreign capitalists all converged on the mining centres. From 1920 onwards, tin mining became the largest sector of the economy.

As a result of this new economy, Bolivian society started to undergo some slight changes. The social structure that emerged was more complex and also more permeable to processes of social mobility. Firstly, mine ownership ceased to be a privilege reserved for the descendants of Spaniards. The so-called "tin barons," for example - Patiño, Aramayo and Hochschild[2] - had very diverse social backgrounds. Secondly, the development of capitalist enterprises required the participation of

[1] The Spanish Crown awarded the title of nobility to the *Curacas* who had occupied the third rung in the power hierarchy during the Inca Empire. As nobles, they enjoyed certain privileges, such as being exempt from paying tributes or providing service in the *haciendas* or the *mit'a*, and being allowed to own land and work in trade.

[2] Simón I. Patiño was a *mestizo* from a poor family. He came to amass one of the largest fortunes in the world and was the most influential businessman in Bolivian politics. Carlos V. Aramayo came from a family originally from Spain, which had arrived in the Americas in the 17th century and had been involved in mining for three generations. Mauricio Hochschild was a middle class German mining engineer who migrated to the Americas in 1919.

professionals and office workers, both Bolivian and foreign. This gave rise to the formation of a middle class. Finally, this period saw the emergence of the mining working class, composed of indigenous and foreign workers.[3] In addition, a set of activities providing services to the mining industry sprang up, including trade in fresh and tinned food, supplies and machinery, transport, skilled crafts and recreational activities. This booming economy also had an impact on the growth of cities such as La Paz, Oruro and Cochabamba, as well as the increase in state bureaucracy.

To a great extent, the racial prejudice inherited from the colonial era was maintained, especially with regard to the exclusion of indigenous people and those with ties to the land in particular. They were considered Bolivians but they had no rights as citizens. With the tin mining industry, however, channels that allowed processes of social mobility opened up. On this point, it is worth mentioning that entry into the working class represented a change in social status, especially for indigenous people. Being a worker meant, firstly, their inclusion as citizens and, secondly, access to education for their children, which would lead to different prospects in terms of employment.

The most important change came in 1952 with the National Revolution. The result of a popular insurrection that ousted the old landowning oligarchy and the tin barons from power, it brought about a democratising structural change. Amongst the most important measures were the universal vote,[4] the agrarian reform, the nationalisation of the tin mines, and universal, free, public education.[5] The state grasped the reins of the country's life with the aim of promoting diversified national industrial development.

One of the most significant changes was the inclusion of indigenous people as citizens with rights and obligations. This, together with their liberation from the yoke of the *hacienda* and access to education, had a major and far-reaching impact on the country's social and demographic structures.

The agrarian reform abolished the *hacienda* regime and distributed land with two objectives: i) to forge a class of independent smallholder farmers producing for the market; and ii) to create an agroindustrial business sector. This process was conflictive for the indigenous communities and *ayllus*, particularly the *ayllus* of Northern Potosí, because it went against their tradition of farming based on the vertical control of discontinuous ecological levels.

As part of the agrarian reform process, the state also designed a resettlement policy. Right from the start of the Republican era, one of the state's main preoccupations was the need to "occupy" the whole of the nation's territory. Bolivia started life as a republic with a territory of 2.4 million km^2 and approximately 2 million inhabitants, concentrated in the Andean region in the west of the country, where the colonial cities linked to mining had been founded. It was assumed that most of the territory (the eastern lowlands, the north and the Chaco region) was uninhabited. Until the mid-20^{th} century, various measures were tried out to promote the settlement of the eastern lowlands, without

[3] Although not much information is available, the foreign workers seem to have come from Europe and Chile. They made up the skilled workforce in the mining industry, as the indigenous workers were illiterate.

[4] Up to that time, the right to vote and to be elected only applied to men who were literate and had a certain level of income.

[5] Up to that time, indigenous people were excluded from school education.

much success. Spontaneous migration to the cities and mining centres continued, however. In time, these migration processes gained a dynamic of their own and, despite the disappearance of the original causes, people continued to migrate with the same idea of escaping exploitation in the countryside, even after the agrarian reform.

A migration policy known as directed and semi-directed "colonisation" or human settlement was designed with the same objective of populating the nation's territory. "Colonisation areas" were identified in the Andean foothills and lowlands in the departments of La Paz, Beni, Cochabamba, Tarija and Santa Cruz.[6] Between 1969 and 1992, people were moved from rural areas in the Andean region (Altiplano, puna and valleys) and from the departments of Potosí, Chuquisaca, La Paz, Oruro and Cochabamba, under state programmes that included the provision of land, tools, food, and health and education services. In time, these colonisation areas became "magnets" for an increasing number of people, leading to waves of spontaneous migration. Although no precise figures are available, it is estimated that the majority of the inhabitants of these areas today are spontaneous migrants. San Julián is one of these areas.

This "colonisation" policy remained in force until 1992, when a moratorium was declared on the agrarian reform process.[7] Although the new agrarian reform law passed in 1996 stipulated that the state would take forward resettlement programmes, implementation of these was weak and so far they have produced no significant results.

But these were not the only migration processes that resulted from the National Revolution. Migration to cities increased sharply and new channels for social mobility opened up. Firstly, the displacement of the dominant classes created a vacuum in the sphere of commerce, especially in the trading of agricultural products, which was filled by new actors. Whereas before the landowner had been the supplier and distributor of agricultural products, after the agrarian reform the suppliers were thousands of rural and indigenous people, and this required the development of storage, transport and distribution capabilities. Secondly, the fact that the state had taken control of the economy and development led to the growth of a middle class that was linked to the state apparatus and, therefore, urban.

The purpose of the National Revolution was to transform Bolivia into an industrial country. The state encouraged the formation of an industrial business sector, which acted as an incentive to migration, as labour was needed for the industries. This industrial development idea was unsuccessful, however, due mainly to the narrowness and segmentation of the domestic market. Despite the state's efforts, the economy continued to be dependent on mining. Nevertheless, this did not discourage rural-urban migration. Migrants began to find new livelihoods in commerce, transport, the

[6] The directed and semi-directed colonisation areas were: Ixiamas and Caranavi-Palos Blancos in Alto Beni (Department of La Paz), Yucumo-Rurrenabaque (Department of Beni), Chimoré (Department of Cochabamba), Yapacaní and San Julián-San Pedro (Department of Santa Cruz) and Bermejo (Department of Tarija).

[7] In 1992 the government decreed a moratorium on the agrarian reform process because it was affected by institutional chaos and corruption as a result of the dictatorships (1964-1983). The consequence of this was legal insecurity in land ownership, inequity in the distribution of land and an increase in social tension and violence in rural areas. Between 1992 and 1996, the agrarian sector remained without a law; Law 1715 was enacted in 1996.

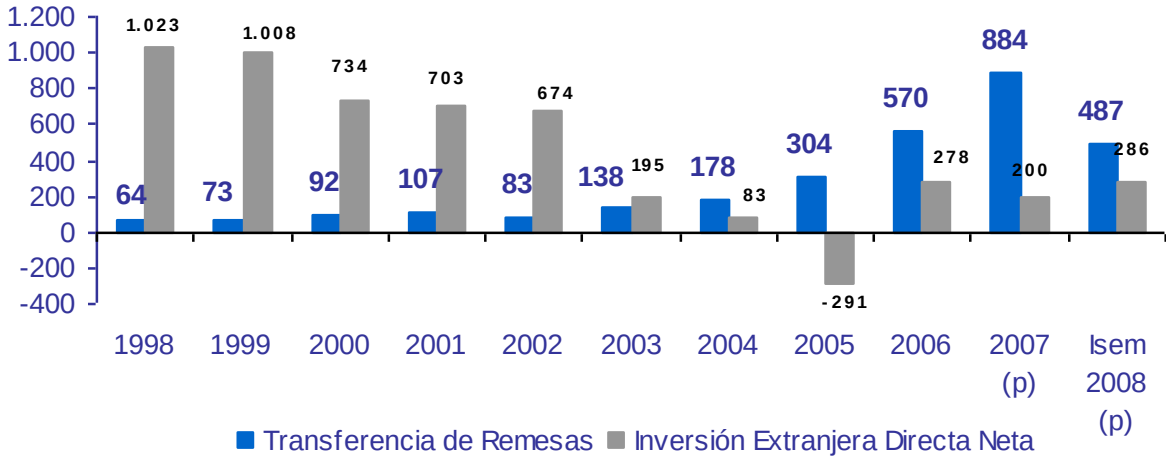
construction sector, the sale of food, artisanal activities and the provision of innumerable services needed in urban areas, collectively known today as the “informal economy.” Nowadays, much of the country’s commerce and transport is controlled by indigenous migrants from rural areas. These activities are the channels for processes of social mobility.

It is necessary to mention another historical moment that is relevant to migration processes. The 1981-1990 ten-year period saw the occurrence of two events that were unprecedented in Bolivian history: i) a prolonged drought from 1983 to 1985, which completely impoverished rural and indigenous people in the valleys and on the high plateau; this may be considered the moment when climate change started to manifest itself; and ii) an economic crisis from 1985 to 1990, which pushed the country’s economy into a deep depression; the most important social consequence of this was the mass layoff of mine workers.

These two events triggered huge waves of migration in different directions: to the largest cities (La Paz, Cochabamba and Santa Cruz), to rural areas in the lowlands, mainly El Chapare (Cochabamba), San Julián (Santa Cruz) and Yucumo-Rurrenabaque (Beni), and abroad (the United States and Argentina). From that moment onwards, migration has become part of life for Andean communities. It could be said that migration has been incorporated in people’s livelihoods.

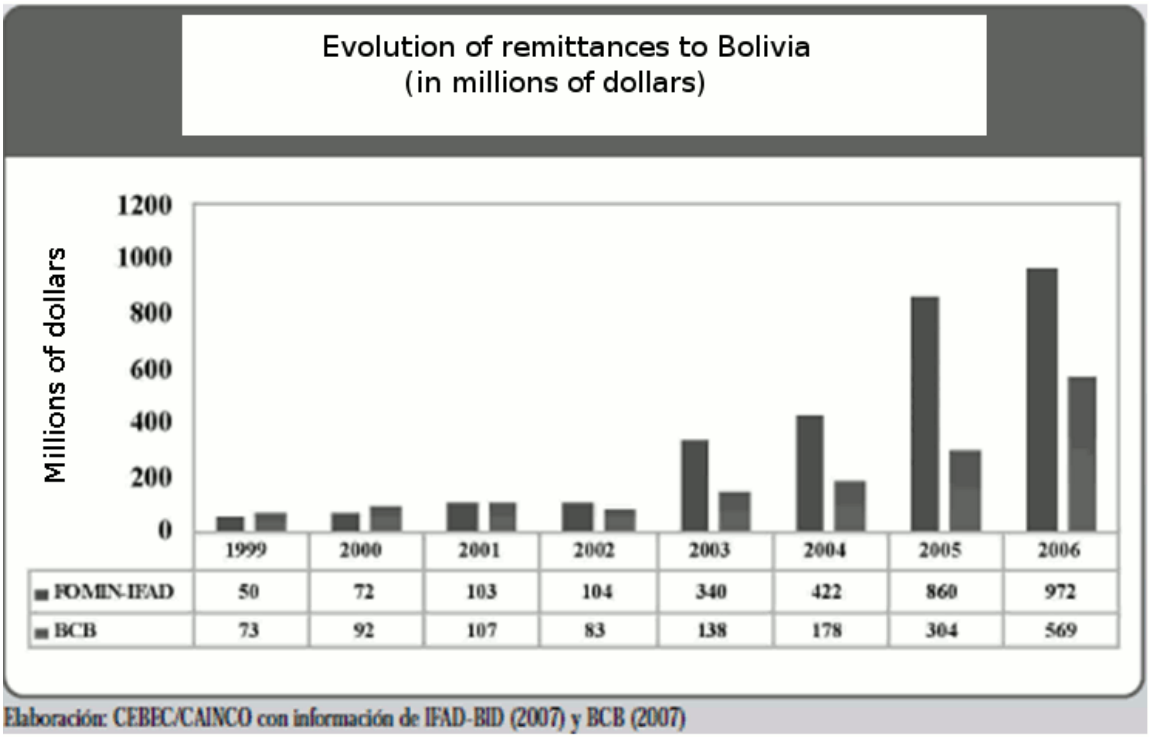
Finally, from the year 2000 onwards there have been significant flows of migration to Europe, mainly to Spain. The causes of this migration have not yet been fully studied. It seems that most of these migrants come from urban areas (large cities and medium-sized towns). This may be a reflection of constraints in the labour market. Other motivating factors include the fact that during this decade the European economy was growing fast and the labour market was expanding, which acted as a magnet for migrants. Furthermore, during this time it was very easy to enter Spain and no visa was required. The distinguishing feature of this type of migration is the sending of remittances.

Bolivia: Direct foreign investment (NET) and remittances



(Millions USD). Central Bank of Bolivia, www.bcb.gob.bo

The global amount of remittances begun increasing in 2003, reached a peak in 2006 and 2007 before falling again in 2009 as a consequence of the global economic crisis.



IBCE. 2008

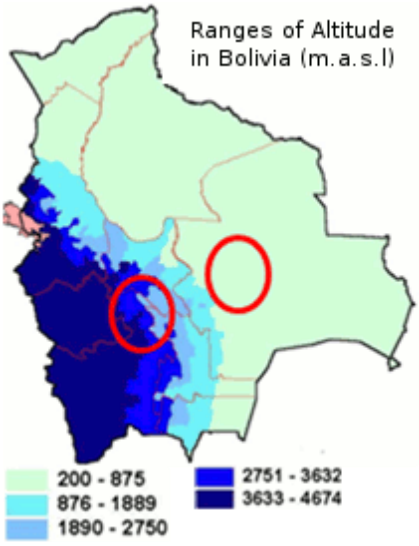
The value of remittances varies significantly depending on the source. According to the calculations of the Central Bank of Bolivia, based on formal sources, in 2006 and 2007 remittances reached the sum of US$ 570 million and US$ 884 million respectively, nearing the public investment of those years. However, according to the calculations of the International Fund for Agricultural Development and the Inter-American Development Bank (IFAD-IDB), based on surveys, the amount of remittances in 2006 was US$ 972 million, almost doubling the public investment of that year.

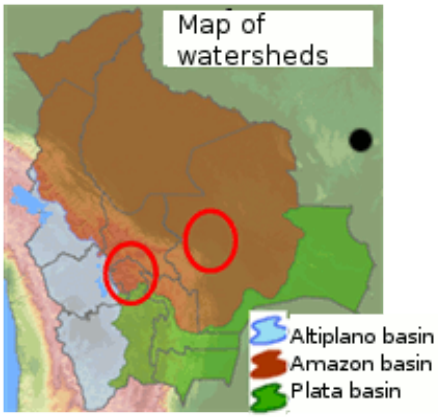
For what concerns the impact of remittances, there are not grounded studies enabling to make general and solid statements. An exploratory study conducted in the regions of Cochabamba and Chuquisaca (Gery Nijehuis 2009) reveals that remittances have contributed to increase non-productive consumption. In general, the money of remittances is used for improving housing, buying vehicles and supporting relatives.

Finally, it is worth pointing out that state institutions (municipal governments) do neither have resources nor power to direct remittances towards investments in the productive sector. The same happens with NGOs with the aggravating circumstances that they have not incorporated into their priorities the use of remittances in sustainable productive activities.

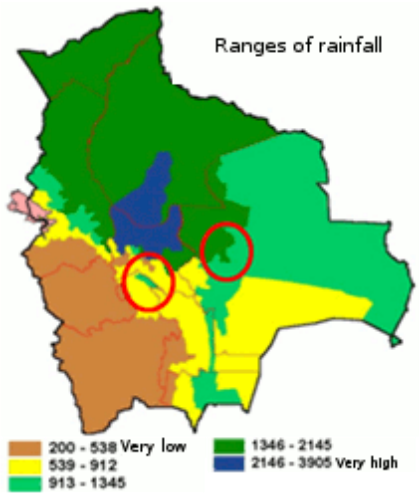
2. Geographical and climate context

Bolivia covers an area of approximately 1.1 million km^2 and is situated in the south-western hemisphere,[8] between the tropical and sub-tropical regions of the world. However, the presence of the Andes mountain range, which crosses the country from North to South, means that the western side of its territory is highly uneven with pronounced elevations and depressions. Altitudes range from more than 6,000 metres above sea level in the extreme west of the country to 100 metres in the eastern lowlands. This gives rise to a diversity of temperature levels. In addition to these characteristics, the country's distance from the Atlantic Ocean determines the presence of dry regions. Furthermore, its location at the centre of South America means that it shares three of the continent's major hydrological systems: the Amazon river basin, the La Plata river basin and the Altiplano closed watershed.



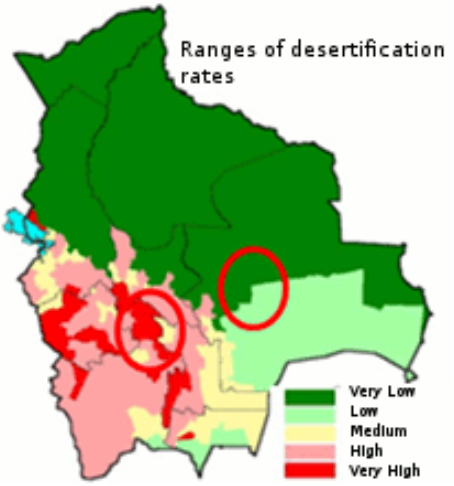


These geographical characteristics have configured a complex variety of climates or "ecological levels": the *macrothermal level* is in the region of the Amazon basin, with an altitude of 100-1,000 metres, an average temperature of 22-24°C, and average annual rainfall of 1,000-2,000mm. Another macrothermal region is the Plata basin, also known as the Chaco, with a hot, dry climate and rainfall of 200-1,000mm. The *subtropical level* is in the last foothills and piedemont of the eastern mountain range, with an altitude of 1,000-1,500 metres, an annual average temperature of about 18°C and average annual rainfall of 1,000-7,000mm near the Amazon basin and wind-borne and orographic rainfall of 500-1,000mm near the Plata basin. The *mesothermal* level is in the foothills of the central and eastern ranges of mountains, an area known as the "inter-Andean valleys", with an altitude of 1,500-2,800 metres, an annual average temperature of 15-20°C and average annual rainfall of 500-800mm. The *microthermal* level also known as Puna, with an altitude of 2,800-4,200 metres, has an annual average temperature of 7-10°C and average rainfall of 200-700mm. Finally, the *glacial level*, is located on the high peaks of the mountains at an altitude higher than 4,000 metres, with temperatures below 0°C and rainfall of less than 500mm.



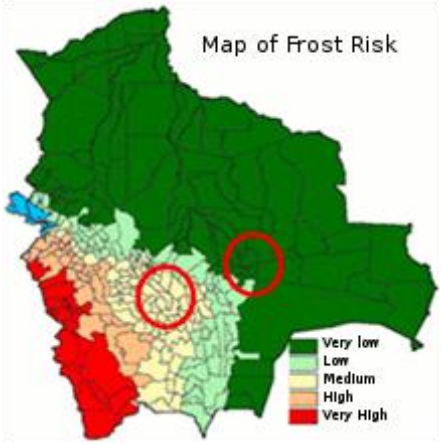
[8] Bolivia is located between meridians of longitude 57º26' and 69º38' west of the Greenwich Meridian and parallels of latitude 9º38' and 22º53' south of the Equator.

Although these are the general features of the different climate zones, inter-seasonal temperature variations and changes in temperature between daytime and night-time may be as much as 15 to 20ºC.



Because of the country's location in the southern hemisphere, at a transitional latitude between tropical and subtropical and with such a range of altitudes, it is more vulnerable to certain factors that alter the environment and climate such as the macroprocesses of desertification and climate change, due mainly to the influence of the phenomena known as El Niño and LaNiña.

Forty-one percent of Bolivia's territory is affected by the process of desertification, and its impact is severe in the mesothermal and microthermal climate zones. Although desertification is an ancient environmental macroprocess, its combination with the more recent process of climate change means that drought and erosion are increasing, producing drastic changes to the landscape.



The macroprocess of climate change manifests itself mainly in changes to the wind-borne and orographic rainfall system: an increase in the length of dry periods, a decrease in the number of days of rain, and the appearance of torrential downpours. The temperature of the land is also increasing, bringing with it changes to periods of frost and hail and the melting of the mountain glaciers.

It is well known that climate change does not in itself generate new climate phenomena and that it acts by inhibiting or stimulating climate variability. Accordingly, scientists and the IPCC use the exacerbation of extreme climate events – heat and rain – as indicators of climate change.

The El Niño/La Niña Southern Oscillation, commonly known as the El Niño/La Niña phenomenon, is a naturally-occurring climate pattern whose effects are felt on a global scale. In the case of El Niño, the main effect is an increase in temperatures and a decrease in rainfall due to the weakening of the trade winds. In the case of La Niña, the effect is a fall in temperatures and an increase in rainfall due to the stimulation of the trade winds. El Niño occurs more frequently than La Niña.

Under normal conditions, this cyclically-recurring phenomenon is estimated to manifest itself strongly every 9 years and moderately every 3 to 6 years. However, since 1982/1983, when an unprecedentedly harsh El Niño occurred, changes in both the intensity and the duration of the phenomenon have been observed. In the last few decades, warm events (El Niño) have predominated over cold ones (La Niña), and have been more frequent and more intense. The 1982-83 El Niño was the strongest on record, that of 1990-95 the longest, and 1998 (El Niño 1997-98) was the hottest year since 1860. Although scientists do not maintain that these changes are directly

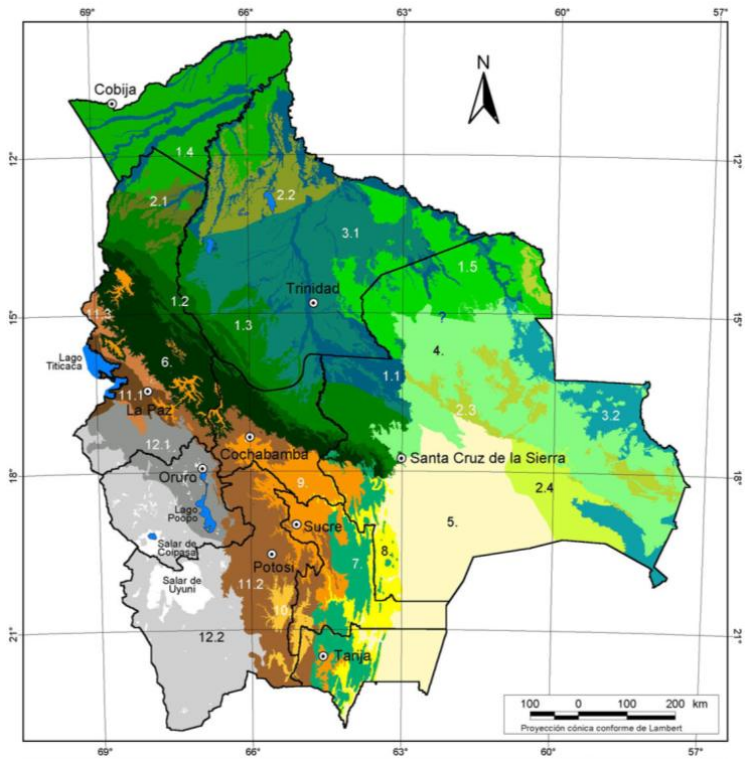
influenced by global warming, there is growing suspicion that climate change could increase the frequency, intensity, length and development pattern of El Niño.
In any case, the important point is that the two phenomena are acting in a complementary manner. On the one hand, climate change is causing a gradual reduction in the amount of rainfall and the number of days of rain, increasing the periods of drought within any one annual climate cycle. On the other, El Niño causes the whole of the annual climate cycle to be hit by drought.

The 1982/1983 El Niño was an important climate milestone worldwide. Its effects were felt from east to west and from south to north. It affected Indonesia, the Philippines, North-Eastern Australia, the North-East of Brazil, India, southern and central Africa, Spain, South America, Central America and North America.

In the case of Bolivia, this El Niño caused two contradictory phenomena: prolonged drought in the Altiplano, Inter-Andean Valleys and Chaco regions, and an excess of rain in the Amazon forest, causing flooding. The drought was undoubtedly the effect that had the greatest impact. The consequences of the 1982/1983 El Niño can be summarised as follows:

- It affected 38% of the country's territory: almost the whole of the high plateau, 70% of the inter-Andean valleys and 10% of the lowlands, mainly the Chaco region.
- It caused deterioration in the living conditions of 1.6 million people in rural areas, 60% of whom lived in the departments of Potosí, Cochabamba and Oruro.
- 85% of the potato crop and 50% of quinoa and broad bean crops were lost.
- It was impossible to quantify the number of livestock that died.
- National average calorie consumption, which stood at 2,100 calories per day before the drought, fell dramatically to 1,200 calories per day.
- Water sources dried up, causing shortages in rural areas.
- Total losses were estimated to amount to US$400 million.
- It caused a reduction of 8% in GDP, while national farm income fell by 22%.
- For the first time, the government had to import basic foodstuffs at a cost of US$150 million.
- The drastic reduction in the food supply contributed to unchain an epoch of hyperinflation.
- Rural out-migration increased drastically.

It was starting with this major drought that the country began to feel the effects of climate change, such as alterations in rainfall patterns. In many cases this generated a change in farming practices leading to a delay of the planting season and a fall in the yields of some crops. The reduction in the number of days of rain and the appearance of dry periods at any time of the year is having a major impact by speeding up processes of soil erosion, changing the landscape.



Ecoregions

Lowlands

1. Southwestern Amazon
1.1 Amazon flooded forest
1.2 Sub-Andean Amazon forest
1.3 Pre-Andean Amazon forest
1.4 Pando Amazon forest
1.5 Beni and Santa Cruz Amazon forest
2. Cerrado
2.1 La Paz Cerrado
2.2 Beni Cerrado
2.3 Cerrado Chiquitano
2.4 Chaco Cerrado
3. Savanna Floodplains
3.1 Llanos de Moxos savanna floodplains
3.2 Pantanal savanna floodplains
4. Chiquitano Dry Forest
5. Gran Chaco

Eastern Mountain Range and Inter-Andean Valleys

6. Yungas
7. Tucuman-Bolivian forest
8. Chaco Serrano woodland
9. Inter-Andean dry forest
10. Prepuna

High Mountains and Altiplano

11. Northern Puna
11.1 Humid Puna
11.2 Semi-humid Puna
11.3 High Andean vegetation on the eastern mountain range, including peaks above the snowline
12. Southern Puna
12.1 Dry Puna
12.2 Desert Puna on the western mountain range, including peaks above the snowline

3. The case study areas

3.1 The Northern Potosí Region

The Northern Potosí region is composed of 5 provinces and 13 municipalities and covers an area of approximately 13,600 km^2. It is in the centre-south of the country, at a tropical to subtropical latitude, but the climate is determined by the eastern branch of the Andes mountain range, with depressions and peaks that vary in altitude from 1,600 to 4,200 metres. Almost all of its hydrological system forms part of the larger Amazon and La Plata river basins. To a lesser extent, its rivers contribute to the Altiplano closed watershed in the Lake Poopó area.

The region's climate levels are mesothermic and microthermic, with an average temperature of 7ºC and a minimum of below 0ºC in winter. Average annual rainfall is 532

mm, with a maximum of 720 mm and a minimum of less than 400 mm. In the last 20 years annual rainfall has diminished in quantity but the rains are more intense.[9] Climate phenomena such as hailstorms, which in normal years have little impact on crops, have also become more frequent. The same is the case with frost in winter, which the Charka Qhara Qhara people take advantage of to turn certain varieties of potato into the *ch'uño*[10] that is essential for their food security.

The ecological levels are classified as follows:

Ecological level		**Altitude (m.a.s.l)**	**Aptitude for farming**
Summits and slopes	Peaks	> 4,200	Natural grassland with extensive rocky outcrops, eroded and steep slopes.
Puna	High	3,800-4,200	Pasture for camelid livestock and sheep. Agriculture is limited to bitter potatoes and barley.
	Low	3,400-3,800	Andean tubers (potato, oca, lisa), grains (wheat, barley and oats), legumes (broad beans and tarwi) and traditional livestock farming.
High valley	High	3,200-3,400	Puna crops and, to a lesser extent, valley crops (potato, oca, lisa, isaño, maize, barley, wheat, broad beans, tarwi, cactus fruit, alfalfa) and traditional livestock farming.
	Low	3,000-3,200	Valley crops and, to a lesser extent, puna crops (maize, potato, broad beans, peas, wheat, alfalfa, peaches, cactus fruit), sheep, goats, cows and small livestock farming.
Valley	High	2,800-3,000	Non-irrigated wheat, maize, potato and peas, alfalfa, vegetables, peaches. Traditional valley livestock farming (goats and cattle).
	Intermediate	2,400-2,800	Non-irrigated maize and wheat, vegetables, potato, irrigated valley fruit crops. Livestock is mainly goats and cows.
	Low	1,640-2,400	Irrigated areas in the lower stretches of the Caine, San Pedro and Chayanta rivers. Corn, citrus fruit and sub-tropical crops (sweet potato, sugar cane, peanuts, vegetables, custard apple and guava). Cattle and goat farming.

Source: Description of the economy and ecology of Northern Potosí, Espinoza et al, 2000.

As the table shows, this classification identifies eight levels of altitude that imply small differences in temperature and rainfall. These, however, are decisive for the different types of crops. In other words, minimal variations in the climate can lead to major changes in agriculture and livestock production.

The region is also severely affected by the desertification and erosion process. It is estimated that the average amount of soil lost is between 51 and 100 tons per hectare

[9] PROAGRO-GTZ. 2008
[10] Freeze-dried potato that can be stored for several years.

per year.[11] This causes the gradual loss of cultivable land and changes to the landscape, mainly in the ecological levels of the valleys and high valleys, and constitutes one of the region's most significant problems.

The region's inhabitants have historically been the Charka Qhara Qhara people, an indigenous nation with Aymara origins. The language most commonly spoken today is Quechua, which spread during the Inca Empire and the Spanish colonial period, together with Spanish. A little over half the population is trilingual.

For these peoples, the Spanish colonial regime brought about profound changes in their social, political and economic structures. The mining enclaves that were established implied not just forced labour in the mines for the members of local communities but also the seizure of their land by the large agricultural estates. This broke up their ancestral system of farming on different ecological levels.

During the republican period, although obligatory unpaid labour in the mines was abolished, it was replaced by the development of capitalist enterprises, particularly from 1900 onwards. Mining enclaves were established in Colquechaca, Uncía, Llallagua and Siglo XX in Northern Potosí, and mining towns sprang up around them. This enabled part of the rural population to get involved in wage labour (through rural-urban migration) and become consumers in the local market for agricultural and manufactured products. From this time onwards, the economy of Northern Potosí has revolved around mining booms and bust cycles. In addition, mining led to widespread deforestation and the large-scale use and pollution of water, and this speeded up the erosion process.

The mining enclaves brought with them an expansion of the haciendas or large agricultural estates, mainly in the ecological levels of the valleys and high valleys. They also gave rise to the emergence of local oligarchs who, together with the state, imposed a new political-administrative division of the region based on the haciendas. Both factors forced the break-up of the indigenous people's territories, limiting their access to different ecological levels. This laid the structural foundations for poverty among the Charka Qhara Qhara indigenous nation.

It is important to point out that the mining economy is based on the extraction and export of raw materials, so the profits are not reinvested in the region. This has kept the region isolated and underdeveloped.

In 2001,[12] Northern Potosí had a population of 243,000 and a population density of 18 inhabitants per km^2. With only three urban settlements – Llallagua, Uncía and Chayanta – the population was mostly concentrated in the countryside making it the most densely populated rural area of Bolivia. At the same time, it is the region with the highest rate of out-migration. The net annual migration rate in 2001 was negative in the 13 municipalities of Northern Potosí. Llallagua, Ravelo, Ocurí, Pocoata and Uncía were the municipalities with the highest rates of negative migration or out-migration in 2001. In the municipalities of Caripuyo, Sacaca, San Pedro and Acasio the net annual migration rate was lower but still negative (Prefectura del Departamento de Potosí, 2004).

[11] Bolivia: Atlas Estadístico de Municipios. INE, MDSP, COSUDE, 1999.

[12] The year of the last National Population and Housing Census. The next census will take place in 2011. Statistical projections exist but they are not trustworthy given the region's population movements.

According to the Poverty Map (UDAPE 2001), the region has a poverty rate of 98%, with the exception of the municipalities of Llallagua and Uncía which have a large urban population and where the poverty rate is slightly lower: 94% and 96%, respectively (quoted in GTZ 2008).

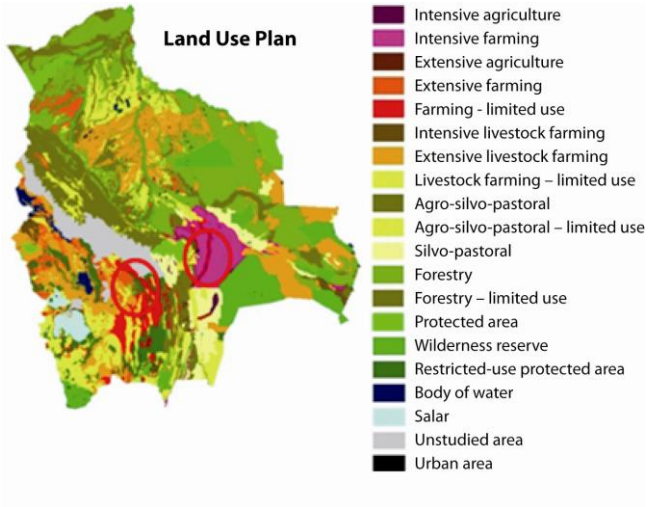
According to the same source, the region has very low levels of formal schooling, especially among women. With the exception of Llallagua, Uncía and Chayanta (urban municipalities), the percentage of people who complete the third grade of primary school ranges between 22% and 72%, while for secondary school it is between 0 and 41%.

The rates of infant mortality in the municipalities of Northern Potosí are the highest in the country; they are also much higher than the national average of 66 deaths per thousand live births. The infant mortality rate in the region's municipalities ranges from 95 to 170 deaths of babies under a year old for every 1,000 live births. The region also has high fertility rates, as women have an average of 6 or 7 children during their fertile lives.

Despite the high levels of migration and mortality, most of the municipalities have positive rates of population growth, although they are still the lowest in the country.

3.2 The municipality of San Julián

In contrast to Northern Potosí, the municipality of San Julián is located in the eastern lowlands of the country in a tropical latitude. At an altitude of 250 metres, it has a macrothermal climate, with temperatures higher than 20°C and rainfall of 1,000-2,000mm.



The municipality of San Julián is bordered to the west by the River Grande and to the east by the River San Julián. Both rivers form part of the Amazon basin. For the last ten years, this location has become a problem because of the constant flooding of the River Guapay (Río Grande).

According to the National Land-Use Plan, the whole of the municipality is in the area of the best agricultural land in Bolivia. The land is classified as suitable for "intensive farming",[13] and this means that it has become a magnet for migrants from different social groups.

The settlement of San Julián began at the end of the 1960s[14] with the directed colonisation programmes implemented by the state. Since that time, it has become one

[13] According to the Land Use Plan, only about 3% of the land in the country is suitable for intensive farming.

[14] It is important to clarify that what is today the municipality of San Julián was part of the territory of lowland indigenous peoples, mainly the Guarayo and Chiquitano, since time immemorial. However, as in many other cases, the republican state took decisions that ignored these former

of the main destinations for migrants. To start with, the migrants were small-scale farmers practising family subsistence agriculture, but since the boom in soya production that began in the 1990s, it has become a mechanised agricultural area. There are different types of agrarian property: the family smallholding, with up to 50 hectares of land, and agribusiness holdings ranging from 500 to 20,000 hectares in size.

Until the mid-20th century the municipality was covered in tropical forest with important timber species. However, the constant expansion of land used for agriculture, logging and the clearing of land for oil exploration destroyed half of the forest and caused the impoverishment of the forest that remained.

On average, each colonist was given 50 hectares of land. By 2004, they had each cleared an average of 28 hectares for farming. Fifty-six percent of the land clearing done by this group took place after 1992 as a result of the soya economy. The agribusiness holdings are newer and vary from 500 and 15,000 hectares in size. Between 50% and 90% of this land had been cleared for farming by 2004. For many years, the smallholder farmers were classified among the poorest in the department, but since the end of the 1990s they have joined the soya agroexport sector, and this has enabled them to increase their income many times over.

According to the 2001 census, the municipality of San Julián had a population of 38,027, 9,337 of whom were involved in farming.[15] They had cleared a total area of 515,000 hectares of land for agriculture by 2004, which is equivalent to an average of 42 hectares per person. Sixty percent of this land was cleared after 1992. The Mennonite settlers[16] are among the oldest groups of farmers in the municipality, as they had cleared 63% of their land for agriculture before 1992.

4. Migration from Northern Potosi today

The catalyst for migration from Northern Potosí was the break-up of the vertical control of ecological levels, the economic uncertainty caused by the mining enclave and the devastation of the environment. These historical-structural factors are the cause of the region's impoverishment. The triggers were climate change, with the great drought of 1983-1985, and the (neoliberal) structural adjustment policy.

It may seem curious to explain today's migration from Northern Potosí by citing events that have been taking place for more than three centuries, but the inefficacy of Republican-era governments has maintained the colonial legacy. As explained before, transhumance between ecological levels was one of the cultural practices that constituted the backbone of the economic and social reproduction of the *ayllus*. During

territories. The colonisation programmes served as the "beachhead" for the arrival of other migrants and the indigenous peoples were dispossessed of their territory.

[15] The explanation for this figure is that the definition of the economically active population includes everyone over the age of 10, which in the case of San Julián is 66% of the population. Furthermore, it is possible and almost certain that most of the census respondents under the age of 18 would have stated that they do not work because they are still at school. Nevertheless, it is well known that in the small-scale farming economy all members of the family work.

[16] Several Mennonite colonies fleeing religious persecution were established in the eastern lowlands of Bolivia as early as the 1950s. The Mennonite 'colonization' coincided with the desire of the Bolivian state to found human settlements in the scarcely populated eastern provinces bordering Brazil and Paraguay.

the Spanish colonial and republican periods, a new political-administrative division was imposed and new land tenure systems were introduced (the “feudal” landed estate and agrarian reform). These broke up indigenous territories and fractured the vertical control of ecological levels, laying one of the structural foundations of indigenous impoverishment.

The installation of the mining enclaves made the indigenous peoples dependent on the economic cycles of growth and depression in mining. This generated economic uncertainty, both in the trade of agricultural products and in the local labour market. This was another structural factor in indigenous impoverishment.

Mining, the new land tenure and production systems and the disruption of indigenous production systems, in an area whose ecology was extremely fragile and affected by the desertification process, brought with them the devastation of forests, soil and water pollution and the acceleration of erosion processes. This constantly reduced the amount of land available for farming.

These historical-structural factors causing poverty among indigenous peoples in Northern Potosí constitute the catalyst that triggered contemporary migration. However, this process of impoverishment was immeasurably worsened by the El Niño event which acted as the trigger that set off the migration “explosion.” Since that time, subsequent events such as the crisis in mining, structural adjustment policies (which launched the neoliberal model) and climate change consolidated the migratory “fate” of the members of the Charka Qhara Qhara nation.

4.1 The 1980s

The 1980s was a particularly important decade for Northern Potosí. It might be said that today’s migration took shape during that decade. Whereas migration in the past was motivated by political, social and cultural oppression, from the 1980s onwards migration became eminently economic in nature. Two important events occurred one after the other: the great drought and the mining crisis.

In 1983 an El Niño event caused a drought without precedent in climate history. It seems that it was in Northern Potosí where it was felt most severely. The drought lasted until 1985. Its impact was so devastating that it disrupted the agricultural cycle: not even seeds were left. The unanimous response of the inhabitants of Northern Potosí was mass migration in two directions: i) to the large cities of La Paz, Cochabamba and Santa Cruz, the men to work in whatever jobs they could find and the women to beg in the streets; and ii) to rural areas of the departments of Santa Cruz (to Montero to work in the sugar cane harvest or to San Julián to obtain land), Beni (to the semi-directed colonisation area of Yucumo-Rurrenabaque to obtain land) and Cochabamba, to the Chapare region and Chimoré. The people who migrated to rural areas hoped to solve their problems by gaining access to new land. Many did not manage to adapt to the environment in the tropics. When they heard at the end of 1985 that it was again possible to farm the land in Northern Potosí, many returned there.

The second important event was that in 1985-1986 the country underwent a widespread economic crisis in which inflation rates reached 27,000 per cent, caused to a great extent by the crisis in tin mining. This was unprecedented in the country’s history and

resulted from the catastrophic fall in international tin prices to below the cost of production. In 1986, the government of the day introduced a set of measures known as structural adjustment. These included the closure of the mines – which since 1952 had been in the hands of a state enterprise – and the mass layoff of mine workers. This caused a wave of migration away from the mining centres, which led to depression in the local economy. This happened at the same time as the members of indigenous communities and small-scale farmers were returning to their land after the great drought. In the wake of the miners, a new wave of migration by rural and indigenous people took place. According to the testimonies gathered during our field work, "we have never managed to recover from these blows." It is as though they were shouldering the insolvency of an unknown debtor: Who would enable them to recover from this disaster?

1983 is also identified as a turning-point year in climate variability. This is when temperatures started to increase, frost and hailstorms began to occur when potato crops were flowering, and rainfall patterns changed: "The rain doesn't come at the right time: it rains when it shouldn't, and there is no rain when we need it." The length of the dry season increased and torrential rains started to appear: "Now we get as much rain in a day as we used to get in a month, and in a month what we used to get in a year." Agriculture has therefore become an unstable and uncertain activity. These new features of the climate are an indication that this is the manifestation of the climate change process. This description of changes in climate variability coincides with that of the IPCC[17] on the effects of climate change.

The effects of these manifestations of climate change differ depending on the ecological level. They have a negative impact on the valleys and high valleys levels and a positive impact on the puna. The impacts in the valleys and high valleys are, firstly, acceleration in the erosion process and the consequent loss of cultivable land, and, secondly, a reduction in productivity as a result of changes in the rainfall pattern. The impacts on the puna are the possibility of growing certain crops such as maize and potatoes at altitudes where it used to be impossible due to the cold. Now, with the increase in temperature, maize can be grown at an altitude of 3,900 metres and potatoes above 4,000 metres. This has enabled new land to be used for agriculture at altitudes that used to be destined exclusively to pasturing llamas and sheep. Despite these positive impacts, agriculture is an activity with uncertain results, mainly because of the changes in rainfall and frost patterns.

As mentioned earlier, the response to the great drought was migration that took two forms. For the few who gained access to land, migration was permanent. In the case of those who went to the cities, migration was mainly temporary. This latter type of migration is the one that became widespread. It was repeated in the second wave of migration and became consolidated as a strategy of adaptation to the changes in climate variability. The purpose of this temporary migration is to obtain the money people need to cover family expenditure.

However, as indigenous territories have become fragmented, not every member of the community has access to the puna level and not every community can access the valleys and high valleys levels. This means that the economic constraints are different, as are the migration responses. In the communities that do not have access to puna

[17] The Intergovernmental Group on Climate Change set up as part of the United Nations Framework Convention on Climate Change.

land, the tendency is to consider migrating permanently because of the severity of erosion. In the communities that do have access to the puna, in contrast, the tendency is to migrate temporarily.

In about 2004 mineral prices began to rise. This led to the reactivation of mining, but under different working conditions. During the 10 years of recession, the property of the state enterprise was ceded to mining cooperatives set up by former mine workers. The cooperatives were characterised by very low levels of investment, self-exploitation and very few safety measures. As prices continued to improve, economic activity also started to recover. Trade and construction increased and the towns of Llallagua and Uncía did not merely recover their population but grew in size.

4.2 Destinations

In the migration mapping workshop, the main destinations were identified as:

DESTINATION	**PURPOSE**
City of Cochabamba	Construction work
Llallagua	Mining, construction work, trade and education
Huanuni	Mining
City of Santa Cruz	Construction and other work

As this shows, the migration destinations are urban and there is currently no evidence of migration to rural areas. Participants stated that the waves of migration to rural areas such as the Chapare region (Cochabamba), San Julián (Santa Cruz) and Yucumo (Beni) took place in the 1980s and ’90s.

We also asked about migration abroad. The destinations people mentioned were Argentina, Spain and Chile. However, they said that people do not migrate abroad directly from the *ayllu* or rural community; they go to a city first. The following circuit was identified:

Valleys → Puna (Llallagua, Huanuni, Amayapampa) → City → Abroad

This circuit reflects the process of saving or accumulating enough money to be able to migrate abroad.

4.3 Who migrates

Group 1: Adults	Group 2: Young Men	Group 3: Young Women[18]
Llallagua. Mining. Men aged 25-50.	Young men migrate to the mines. They can work when they reach the age of 15.	Men and women aged 14-18 go to Cochabamba, S. Cruz, Oruro, La Paz, Yungas.
Llallagua. Education. Young people aged 18-20 (mostly men)	They start to migrate at the age of 10.	Adults (with children) go to Cochabamba, Oruro, Yungas
Cochabamba. Young people and men aged 15-45.	Women over the age of ten also migrate to the cities of Cochabamba and Oruro.	Mothers weave blankets, *aguayos*. Llallagua, Oruro, Huanuni.They leave after the planting season and after the harvest.
Cochabamba. Young women aged 15-30. Domestic service.	Most young men go to the cities to work in construction as skilled or semi-skilled workers or labourers.	*Khari Warmi* (women) go to Oruro to pasture llamas for 3-6 months after All Saints Day. They come back before Carnival.
Santa Cruz. Men and women of 18 and older. Mostly men.	In the family, fathers are the ones who migrate more frequently.	Young men work in construction in the holidays.
Oruro. Young people aged 18-45.	People with lower incomes are the ones who migrate.	Young women work in domestic service during the holidays or after the planting season. They come back for the harvest.
	Young people finish secondary school but because there are no opportunities in the community, they leave to work as unskilled labourers in construction (the men), and as vendors or domestic workers (the women)	
	Some get scholarships to continue their studies after secondary school at the university in Llallagua (aged 18-25). Also distance learning.	

[18] The three groups used in the table refer to relevant 'indigenous' categories which have emerged in the ethnographic research. The terms *young men/women* attempt to translate the Quechua and Aymara words *llokalla/imilla* referring to people, generally youngsters, who have never been married and taken on communal duties and responsibilities. The term *adults* intends to translate the Aymara word *jaqe* – *runa* in Quechua – which refers to persons who are or have been engaged in a marital relation and are entitled to hold communal duties and responsibilities.

What is recurrent here is the reference to migration by young people, which could be indicating a new trend in migration differentiated by age-group. This is logical, insofar as the scarcity of land, due mainly to erosion, means that young people are increasingly excluded from access to land.

4.4 The causes of migration

P	Group 1: Adults	Group 2: Young Men	Group 3: Young Women
1	Insufficient land	Lack of income within the family. Farming production is only enough for family consumption. Not enough is produced to be able to sell it or to pay for education or clothes.	Young women leave because there is not enough money to pay for their education.
2	Scarce production	People earn very little from the sale of crops and animals.	Young women need clothes – that's why they migrate
3	Natural disasters Frost Hail Drought Torrential rain	There are years of drought and hailstorms that affect the valleys.	Insufficient land for agriculture
4	Subsistence	Plots of land used to be larger. Now they are smaller and insufficient for the family.	Parents migrate due to a lack of money or clothes.
5	Malnutrition	Sometimes young people are left as orphans. This is due to the lack of money, medical care and food.	Scarce production – only enough for family consumption.
6	Westernisation	Before, irrigation wasn't necessary as it rained at the right time. Now, because of climate change, irrigation is necessary. We also put chemicals on our crops. We are more dependent on the city.	The land is eroded by water and because of how the soil is used.
7			Frost and hailstorms destroy the crops.

The causes of migration mentioned most often by the groups are environmental and climate problems, which reflect the instability of agricultural production. The introduction of the need for money is a result of young people's need to find a livelihood, as they can no longer survive from agriculture.

However, the importance assigned to the causes varies from group to group. In the adult group, the causes are related to agricultural production: land, productivity and climate factors. The groups of young men and women see the lack of income as the priority. This reflects the economic pressure young people are under. On the one hand, their access to land is limited and productivity is low due to climate and environmental factors. On the other, they are saying that agricultural production is not sufficiently profitable to satisfy their needs as consumers: clothes, a radio, an MP3 and education.

4.5 Impacts of migration

Group 1: Adults	Group 2: Young Men	Group 3: Young Women
Children are abandoned Parents are abandoned	When people who migrate come back, they no longer want to eat potatoes and *chuño*, they want other types of food … Their mindset has changed.	Women who migrate for a short time improve their houses.
Children's education is curtailed	People get used to a different lifestyle. Work in the city is easier, cleaner. They only want to earn money to buy fashionable things and clothes. They no longer value their indigenous culture (clothing, music, dance)	After migrating, some young women don't value their family; they lose their culture, their education.
Improvements in food and clothing	They want to reproduce city culture in the rural community.	Some young women don't want to speak their indigenous language. They prefer to speak Spanish.
Improvements in behaviour	They invest their savings in the community, improve houses, buy land.	When parents migrate they bring back money, food and clothes for the family.
Loss of young people (3% of young people do not return)	Children grow up on their own, without being looked after by their parents who have migrated. The children who migrate can't find work and learn to steal. They are left traumatised.	Women who migrate and come back many years later are refined and proud. They no longer respect the structure of the *ayllu*.
Changes in clothes. Increase in the need for money and trips to the city.	There is no discipline. They don't respect the authorities, the hierarchy, the traditional social structure.	They bring back other cultures.
Loss of ancestral knowledge and skills.		Some women abandon their family.

When analysing the impact, people mention both negative and positive effects. The negative ones have to do with the cultural changes caused by migration. Usually, neither the families nor the communities know how to deal with these. Another negative effect is abandonment, in some cases of children and in others of parents. Here it is worth remarking that as a result of the drought of 1983 and the consequent famine and mass migration, certain community ties of solidarity have been broken. This means that whereas in the past the community used to look after abandoned children and older people, this no longer happens.

The perception of migration differs according to gender and generations. The group of adults tends to place emphasis on the care of youngsters, issues of abandonment and education. The groups of young men and women tend to emphasise the changes in

lifestyle and the integration to the urban way of life. It is often the case that women mention the disruptive effects of migration for the family.

Among the positive effects mentioned are improvements in food and housing. During our field work we found that these impacts can be relative. As far as food is concerned, people are referring to the inclusion of processed food in their diet, such as pasta, white rice and tinned fish (sardines and tuna). Although these make the daily diet more varied, they hardly represent an increase in levels of nutrition. With regard to housing, the most significant change is the introduction of corrugated metal roofs, which do not necessarily represent a substantial improvement in housing conditions.

In a similar way, the perception of the positive effects of migration also varies according to gender and generations. In the case of adults, the improvement of the diet is highly valued, although, as explained earlier, this refers more to the availability of food than the actual improvement in the quality of the diet. Young women tend to value the improvement of housing which coincides with their preoccupation for the negative effects of migration for the family. Young men do not encounter any positive effect.

We attempted to prioritise the effects but it proved impossible. Neither was it possible to establish the weight of the positive and negative effects. People's feelings are ambivalent: on the one hand, they are not happy about the changes migration brings to community life, but on the other they feel that migration solves their problems of subsistence.

During our field work, we were told about the presence of the "vinchuca" (*Triatana infestans*) – the carrier of "Chagas Disease" – at both the lower and upper levels of the valleys. Due to the increase in the temperature, this insect is migrating to increasingly higher altitudes.

5. Migration in the municipality of San Julian today

The process of "colonising" these lands was arduous and difficult. The first settlements took place under the state policy of "directed colonisation." This system, promoted and assisted by the state through the National Colonisation Institute, included training, transport in trucks, the provision of food until the first harvest, primary health care, donations of tools and title to the plot of land. Despite this support, many were unable to adapt to the new environmental conditions. It is estimated that about 60% of the colonists abandoned the project in their first year.

Most of the first colonists were Quechuas from the departments of Potosí, Oruro and Cochabamba, who had come from much colder and dryer climates. Their adaptation to the new environment was a torment: "The mosquito bites left us with wounds;" "We would get sick with diarrhoea;" "The water was not clean." Preparing the land for agriculture was a task they were not accustomed to. Most cleared an area of half a hectare, and everyone helped to clear each other's land. They had to cut down hundreds of trees whose trunks were very thick: "We had to keep chopping at them for days and days;" "Afterwards, we had to burn everything." The rice was planted manually.

San Julián in the 1960s was a very inaccessible place, deep in the thick Amazon forest. A dirt road had been cut through the forest but it was only passable in the dry season. A

few tracks had also been opened up by loggers exploiting the forest. To start with, the only means of transport was the lorries that brought out the logs, so the colonists were occasionally able to get in and out by riding on top of the logs. This difficulty prevented many of the migrants from keeping contact with their places of origin and meant that migration would be consolidated as permanent.

In the 1970s, the National Colonisation Institute organised new settlements. In time, the colonists were able to sell their surplus rice and a local market started to operate, attracting traders who bought the produce. Little by little, a local economy started to take shape.

The 1980s was when the waves of spontaneous migrants started to arrive as a result of the drought of 1982/1983. For them the settlement process was even more difficult, as they had no support from the state. Also during this period the government launched the "Eastern Lowlands Project" which sought to expand the amount of land planted with soya, requiring the promotion of an agroindustrial sector. With this project, the road started to be built.

The last wave of migrants arrived in the 1990s and the early years of the 21st century. The settlement process was less difficult for these migrants, as the conditions had improved substantially. The soya economy was beginning to boom, the asphalted road was built, the weekly local market started to operate on a daily basis, and transport was available every day, which meant a constant supply of products. This decade also saw the arrival of the agroindustrial enterprises – both Bolivian and Brazilian – and the Mennonite settlers, factors which opened and dynamised agrarian property commerce. The site of the market had begun to turn into a small town. Shops and branches of financial services institutions moved in, the water cooperative was set up, a teacher training college was established and a higher education institution affiliated to the Gabriel René Moreno Autonomous University was opened. The creation of the Municipality of San Julián in 1999 led to the start of an urbanisation process.
The colonists' economic situation improved substantially with the production of soya. This enabled them to diversify their activities into trade, transport and the sale of food in restaurants.

The Municipality of San Julián has thus become a powerful magnet for different types of migrants. The quality of the soil, which is suitable for intensive farming, was what mainly enabled the growth of the soya agro-export economy.
The area has several different categories of migrants:

Small Farmer Colonists

This category comprises the Bolivian migrants who came from the western highlands (Puna, Altiplano and Inter-Andean Valleys) in the departments of Potosí, Chuquisaca, Oruro and Cochabamba. As well as their origins, this category of migrants is characterised by their form of land ownership. This is usually a collective form of ownership, based on communities known as colonies. In each colony the land is distributed equally in 50-hectare plots. There are two types of colonist: those who came under the state programmes and those who settled there spontaneously. These

settlements took place between 1968 and 1992[19].Many of the small farmer colonists came from Potosí (6,288 people) and Chuquisaca (7,469 people), where their standard of living was even lower. Thus, from the point of view of the colonists, San Julián probably was a better option.

Mennonites

The Mennonites started to arrive in Bolivia in 1956. The policy at that time was aimed at populating the eastern lowlands of Bolivia, especially the department of Santa Cruz. Settlements of migrants from Japan and, later, the Russian Orthodox community were also promoted at that time.

The first Mennonites came from Germany and were followed by migrants from the United States, Mexico, Paraguay, Belize and Brazil. There are currently some 27 Mennonite colonies occupying about 500,000 hectares of land all over the eastern lowlands of Bolivia. There is no exact information about the number of colonies, their population and the amount of land they occupy in San Julián because their rate of immigration is very fast, as is the speed with which they buy up land.

Among several particular features, the Mennonites are characterised by practising intensive agriculture on the whole of their land. This means that they completely deforest their land. They usually exhaust the land quickly, and this drives them to move to new land which they acquire either by buying or by renting it. This practice has meant that the Mennonites have bought or, more usually, rented land from the small farmer colonists in San Julián.

In 1990 the Mennonites were producing 50% of the soya destined for export. Today their share has fallen to 25% due to the entry of other players onto the soya production stage, such as the agribusinesses.

Agribusiness Entrepreneurs

The business sector started to arrive in the San Julián area in 1990. In about 1980, the national government formulated the programme known as the “Eastern Lowlands Project,” part of which involved the design of an agro-export production proposal around the cultivation of soya. The land identified for this was the best land in the country. To start with, the government encouraged the distribution of land to “entrepreneurs” in the municipality of Pailón. The process then continued to expand into the municipalities of Cuatro Cañadas, San Julián, San Ramón, El Puente and Ascensión de Guarayos.

The origins of the business sector are very diverse, but most of it is made up of Bolivian businesspeople from the department of Santa Cruz and other areas of the country. They usually gained access to land for free through the agrarian reform process or by simple

[19] In theory the agrarian reform guaranteed the free access to the land for all categories of land-owners. However, the National institute of Colonisation took the decision to charge a symbolic sum to the beneficiaries since the new human settlements were established with the assistance of the state. In the case of new spontaneous settlements, the settlements were first constituted individually and later legalised. A symbolic sum for the land was also paid. Some settlers gained access to the land through the purchase of another settler; however, such a practice was not common.

de facto appropriation. There are also businesspeople from Brazil and Argentina, who obtained land by buying it from Bolivian entrepreneurs.

The business sector introduced the mechanisation of farming and launched the soya agro-export model. It employs 3,700 farm workers. Its farming systems are intensive and involve large areas of land: plantations ranging from 5,000 to 15,000 hectares can be found. They carry out the wholesale deforestation of thousands of hectares and use large quantities of inputs, including chemical fertilisers, herbicides and pesticides. They have recently introduced genetically modified seeds. Like the Mennonites, these agribusinesses also exhaust the soil in just a few years. They sell the exhausted land or turn it into pasture for cattle farming, and then they buy new land.

From the point of view of the environment and climate change, the farming methods practiced by the agribusinesses and the Mennonites make them the sector responsible for the highest rates of deforestation and greenhouse gas emissions in the region.

5.1 The Urbanisation Process

Starting in the 1990s, the municipality of San Julián began an urbanisation process based on the local market set up by the colonists in 1968. The growing soya economy required increasing amounts of services and trade. Today, San Julián has a town in which small farmer colonist families live side by side with migrants who have no involvement in farming. The small farmer colonists have expanded their economic activities into trade in goods and food, as well as local and inter-provincial transport, both to the city of Santa Cruz and to San Ramón and San Javier, two equally dynamic nearby towns. These activities, especially transport, have offered employment opportunities to young people.

As in the case of any urbanisation process, the town attracts migrants from different parts of the country, many of whom work in independent commercial and service activities. There is also a non-permanent migrant population of seasonal labourers who work on the farms run by the Mennonites and the agribusinesses.

Today, San Julián also has higher education institutions: a teacher training college and a branch of the Gabriel René Moreno Autonomous University of Santa Cruz. This has likewise attracted young students from neighbouring municipalities.

5.2 Mapping migration to San Julián and away from San Julián

Our work to explore migration was done with the small farmer colonists who settled in the area through the state-run programmes of directed colonisation. It was found that two types of migration process are underway in the area: in-migration and out-migration. Consequently, we carried out two migration mapping exercises: one looked at the origin of the inhabitants of San Julián and the other mapped the destinations of the people who migrate away from the area.

Migration to San Julián

With regard to the origin of the migrants who came to San Julián, most of them are from the departments of Potosí and Chuquisaca. Those from Potosí come from – in order of importance – the central area of the department, Southern and Northern Potosí, from the

provinces of Tomás Frías, Cornelio Saavedra, Nor Chichas, Quijarro, Linares, Chayanta and Charcas. Those from Chuquisaca come from the central area of the department, from the provinces of Zudáñez, Yamparáes and Tomina. What all these places have in common is that they are areas affected by the processes of erosion and desertification. Although the flow of migrants to the area began in 1968 with the first settlement organised by the National Colonisation Institute (INC), the largest wave took place from 1974 onwards under the directed colonisation programmes. Spontaneous settlers started to arrive in 1985.

The settlement process under the state-run directed colonisation programmes included food rations until the first harvest, title to a plot of land with an area already cleared for the building of a house and the planting of the first crop, rice seeds and farming tools. Because the colonists came from different communities, the INC played a mediation role to organise the work and encourage mutual cooperation in the new settlement. Even so, many of the colonists were unable to get used to the conditions in the new environment – the heat, mosquitoes and other insects, snakes and other wild animals in the forest – and abandoned their land, some temporarily, some for good.

The spontaneous settlers, in contrast, had no support of any kind, either from the state or from private organisations. The conditions for these colonists were therefore much more difficult and they suffered from higher rates of malnutrition, illness and death. When people were asked about the causes that led to their migration to San Julián, they mentioned environmental factors such as erosion and the lack of land, as well as climate factors such as drought and frost which made agriculture impossible.

On balance, their settlement in San Julián has been positive. They started by solving their subsistence problems, and they are now able to diversify their livelihoods. The negative thing was having left their culture behind. The change to San Julián meant the gradual loss of their cultural values, their music, their food and their community life. Those who migrated under the directed colonisation programme were mainly families. The men went first, and after a time (almost a year later) they were joined by their wives and children. In the case of young single men, after the first harvest they went back to their communities of origin to find a partner.

They used to visit their relatives and their community of origin every year for the annual fiesta. As time went by, however, these visits became increasingly infrequent until in the end contact was definitively severed. These migrants do not send money to their communities of origin. Their children usually visit their grandparents once or twice. Thus, their migration to San Julián has become permanent and caused a rupture with their communities of origin.

Migration away from San Julián

With regard to migration away from San Julián, our mapping exercise identified Argentina and Spain as the most important destinations, with the United States, Brazil, Chile and the city of Santa Cruz de la Sierra (the departmental capital) as less common destinations.

In the case of Argentina, these are temporary migrations. People usually go there once a year to work on the vegetable and fruit harvest or in the construction industry. They state

that sometimes whole families move temporarily to Argentina, but this is usually migration by young men, the sons of small farmer colonists. The expectation of these young men is to save money to buy a motorcycle or car so that they can work in the transport sector, which represents an employment option.

In the case of Spain and the other more distant countries, people migrate for several years to work in various different jobs. These migrants send remittances to their family and their expectation is to save money to start their own business, either in San Julián or in Santa Cruz.

In the case of people who move to the city of Santa Cruz, their migration is likewise long-term. They migrate to find jobs in construction and, in the case of women, domestic service. However, the fact that the city is only a three-hour journey from San Julián means that this migration does not cause any conflict.

Apart from this, young people also move to the city of Santa Cruz de la Sierra to study. Also, thanks to scholarship programmes, several young people are studying in Cuba and Venezuela. Moving in order to study often leads to permanent migration, because people with a university degree do not usually find work in San Julián.

Now, it is curious that young people in search of an income have to migrate away from an area like San Julián, where – at least for now – there are no livelihood problems and subsistence issues have been resolved: they are on an asphalted road, 3 hours away from the departmental capital city, trade takes place daily and they are linked to the soya agro-export industry that provides them with the highest incomes of any rural area of Bolivia.

The problem with the young people seems to be connected to the fact that they have no access to resources or land. The owners of the land are their parents, who live and work there, take the decisions and determine how the income they earn from farming is to be spent. Although their entry into the soya agro-export industry has turned out to be a good way to resolve subsistence problems, it also meant that they had to get into debt to start producing the crop. In the past, in order to grow rice for family consumption, each colonist would farm between 1 and 5 hectares, using family labour. With the change to soya, in contrast, they needed to plant 50 hectares. This meant that they had to invest capital and buy machinery and inputs on a scale they were not prepared for. This implied that they had to get into debt and, at the same time, they needed to expand, because farming with machinery on 50 hectares is inefficient. The colonists say that the ideal area of land for farming soya would be 150 hectares.

6. Public policies, migration and climate change

6.1 Politics and Public Policy

Although the concept of “public policy” is still controversial (see following paragraph), it is usually defined as continuous and progressive action taken by the state with the aim of addressing issues and solving problems related to the provision, distribution and redistribution of “public goods” and resources. Public policies are prioritised on a public agenda, developed in a collaborative or participatory interaction between the state and

society, with the aim of bringing about changes or improvements in the short, medium and long term.

The art of public policy is in building the “space” for state-society deliberation, dialogue and negotiation, also known as the “public sphere.” This is where the public agenda is established, based on initiatives coming from the state or society; the players are government institutions and social organisations. For this to happen, there needs to be an open democratic context, with institutions willing to accept citizen participation and public scrutiny, and the political will on the part of the players, mainly those in the state, to allocate resources to the issues on the public agenda. The public agenda is at the mercy of a dialectical playoff of interests with regard to how to distribute public goods. The destination of public resources is thus a product of history and evolution. The state, whose main interest is the reproduction of its own power, attempts to gain as much autonomy as possible from society, and society in turn attempts to participate as much as possible in the state’s decisions. This playoff is regulated through the political system. The greater or lesser autonomy of the state depends on the strength of the political system, political organisations’ capacity to mediate and the legitimacy of the government. This latter aspect is in turn related to the effectiveness of the government’s actions and the state’s capacity to respond to society’s problems and needs. In this sense, not all the actions taken by the state can be categorised as public policy. The actions the state takes while making use of its autonomy are simply state or government policies.

Once the decision is taken, the public policy must be implemented. Here there is a second level of decision-making which is related to the efficacy of the state. Firstly, the state’s ability to act is constrained because: i) it is subject to rules, laws and procedures; ii) resources (time, money, personnel) are not sufficient to address every problem with the same intensity, which means that priorities must be established. Furthermore, it needs to coordinate and make links in many different directions to achieve its ends. Since the state has institutions with different areas of specialisation (ministries, enterprises, programmes), and various levels (national government, regional and local governments) with different powers and jurisdictions, no one institution works on the whole problem and each only deals with a part of it. Consequently, state action is always collective and involves cooperation between different institutional players. This also creates problems of governance.

6.2 Public Policy in Bolivia

Applied to the Bolivian case, this concept can be located in a moment in history that coincides with the shift from a model of “public administration” to a model of “public management,” which took place from 1985 onwards, starting with the adoption of the neoliberal model. This does not rule out the possibility of applying it also at special moments such as the National Revolution process (1952-1964), an interregnum in which there was a high level of popular participation in the definition of the large and small issues in the life of the country. Before the National Revolution, and after it, until 1983, plutocratic and autocratic governments alternated with military dictatorships.

In 1983, Bolivia recovered its democratic institutional status following a period of military dictatorships (1964-1983). At the same time, a profound economic crisis began to manifest itself as a result of the fall in the international prices of tin, which in those days

was the state's main source of revenue. This, combined with an enormous external debt (inherited from the dictatorships), the servicing of which absorbed 90% of the state's revenue, caused a process of hyper-inflation (27,000%) which deeply affected the national economy. The crisis dragged on unresolved until 1985, when the government introduced a set of shock measures known collectively as the New Economic Policy (NEP). As well as bringing the economic crisis under control, this introduced a new, neoliberal-style economic model and, with it, a new structure for the state, which had hitherto operated in a centralised way and controlled much of the economy. The main and most important features of the NEP were: i) liberalisation of the economy and markets, including the labour market; ii) a change in the role of the state to reduce it to a stewardship and regulatory function, and the shrinking of the state apparatus; iii) stabilisation of the state's revenue through taxes; and iv) the transfer of state enterprises, including public services, to the private sector. Clearly, these strategic guidelines were in tune with an international context that promoted a model of public management based on collaboration and partnership between the state and the private sector.

From society, there also arose a demand for participation which can be read as having three dimensions: i) democratic participation in the election of national, regional and local authorities; ii) participation in decisions on major national issues, especially decisions about non-renewable natural resources[20] and sectoral resources; and iii) the inclusion of indigenous issues, not just in public policy but also in the structure of the state through the recognition of the indigenous peoples' territories and their ancestral forms of government.

The model was implemented vigorously in the 1990s, a decade in which all the state enterprises were privatised. But fundamental changes aimed at administrative decentralisation were also introduced in the structure of the state, and environmental issues were included in the state's agenda.

In the area of decentralisation, one of the most important innovations in the structure of the state was the 1994 "Popular Participation Law,"[21] which took administrative decentralisation down to the level of the municipality[22] and awarded the municipal government the following (and other) powers: i) planning and administration of local development with a formal system of citizen participation in planning and oversight of the use of public resources; and ii) the provision of basic services and infrastructure for education and health services. It was expected that the actions taken by the state would be more effective under this system, especially with regard to poverty reduction. Another objective was to preserve the autonomy of the central or national government in taking forward the privatisation of state enterprises.

[20] One of the most important issues was, as always, the management of natural resources, especially non-renewable ones (minerals and hydrocarbons). This was something that had always caused conflict between the state and society, mainly because the autocratic and plutocratic governments refused to include the management of these resources in the public agenda.

[21] This was the only change introduced by the neoliberal model that was widely supported.

[22] The category of the municipality is important because until that time the only municipal governments were in cities. The municipality, in contrast, is an urban and rural territory that enabled the democratic inclusion of rural and indigenous people, at least formally. Factors such as the lack of identity cards continue to restrict their participation.

The start of decision-making processes based on the public policy system can be located at this time. An inclusive municipal political system was created, which enabled the decentralisation of decision-making and the fair distribution of resources to every corner of the country. This improved the effectiveness of the state - although not necessarily its efficiency. The problems lie instead in the scarcity of resources and at the operational level: i) the participatory methods for linking demands to plans and oversight of the use of resources; ii) the administration of resources has to comply with a set of norms and procedures established not just by the state but also by international cooperation agencies; and iii) the difficulties of coordinating between the central level and the municipal governments, in order to connect policies and provide financial resources. This implied a great deal of negotiation with central government and between central government and international cooperation agencies, in order to achieve joint investment. Also, the central government set up the so-called "national programmes" which worked in a decentralised manner with resources of the international cooperation therefore starting, in many cases, to compete with municipal governments. This last point is important, because it adds an ingredient to the management of public policy: the necessity of consensus-building within the state itself[23].

Another of the aspects that need to be mentioned is that the stabilisation of state revenue by means of taxes turned out to be insufficient, even for financing the state's regular activities. Successive governments resorted to multilateral and bilateral cooperation agencies to finance some of the state's regular activities as well as public investment. All the programmes on the state agenda depended on international cooperation funds to cover about 80% of their budget.[24] This led to a great dependence on external funding and the donors ended up influencing policies, based on their own agendas.

The decentralisation and municipal participation process represented a partial response to social demands, but only at the municipal level. National issues, in contrast, remained outside the public agenda, giving rise to growing social pressure and conflict which led to the formation of social movements that challenged the political power structure. The decline in the "neoliberal" model was due mainly to: i) the congenital weakness of its political system, which increasingly lost legitimacy,[25] essentially because the political parties proved to be unsuitable channels for mediation and the state became vulnerable to social pressure; ii) the dogmatic application of a model of collaboration and partnership in a context in which the national private sector was small and weak, which meant that the state enterprises were transferred to transnational enterprises; iii) the

[23] For instance, municipal governments are supposed to invest in small irrigation projects but in many cases they do not have resources for this. On the contrary, the Programa de Apoyo a la Seguridad Alimentaria (PASA) decided, according to its own objectives and agenda, to finance small irrigation projects without needing to consult or negotiate with the municipal governments. In this way, PASA no only was a competitor to the municipal government but was also detrimental to the municipal planning and financing of local development plans.

[24] The reports produced by the Economic Policy Analysis Unit (UDAPE) estimate that the funds coming from international cooperation reached an average of US$600 million per year over the last 15 years.

[25] Between 1985 and 2004, governments took office with the votes of less than 35% of the electorate. The last government in this period was voted for by just 21% of the electorate. This fragmentation of the vote led to the formation of spurious coalitions with no programmatic agenda, whose priority was to parcel out government jobs.

constraint that the state imposed upon itself with regard to non-intervention in the economy, which meant that it lost effectiveness in the "fight against poverty,"[26] an issue on which great emphasis was placed in the design of public policies; and iv) the lack of political will to develop a public agenda, which led to a scenario of confrontation between society and the state.

The crisis in the political system began in 2004. The social movements were able to come together in an alternative political organisation and in December 2005 they won the election with 54% of the vote, a victory without precedent in the history of Bolivia. A totally new type of government took office: the social movements had gained access to political power. The central themes in this new process are social participation at all levels of the state, the inclusion of indigenous identity as part of the state structure and the key role of the state in the economy, based on the setting up of public enterprises. This implied the reorganisation of the state and bringing the economy under state management in the areas of natural resources and public services. Likewise, all state issues were put on the public agenda and a Constitutional Assembly was held, which redesigned the structure and functions of the state. The new constitution was approved in a referendum held in February 2009, so it is now in the process of being fully implemented.

The characteristics of the new institutional structure are: i) the Plurinational State, which includes all the indigenous nations and peoples in the structure of the state; ii) the Participatory State, which recognises the participation of "organised civil society" in the planning of development and the definition of public policy, at every level and in all institutions; and iii) the Decentralised State, which recognises two levels of government: the central level, composed of four branches (the executive, the legislature, the judiciary and the electoral authority), and the autonomous level, which comprises departmental, municipal, indigenous and regional autonomous bodies, all of which have legislative and executive powers. For this institutional structure to function, a distribution of powers has been established. This whole structure is in the process of being regulated and implemented, so that it will be the institutional framework that governs public policy.

With regard to the environment, the systematic inclusion of environmental issues in the state agenda took place in the 1990s, through the adoption of the concept of "sustainable development." Over the course of this decade, all the legislation in force today was enacted. The principal milestone was the Environment Law (1992). This was followed by the Forestry Law and the National Agrarian Reform Institute Law (1996), which introduced norms for the sustainable use of land and forests. The National Renewable Natural Resources Regulation System and the National System of Protected Areas were set up.

This was also the decade when issues related to climate change became part of the agenda. The National Climate Change Programme was set up in 1994 as part of the Ministry of Sustainable Development and Environment. That same year, the Framework Convention on Climate Change was adopted, the national inventory of greenhouse gas emissions was carried out and found that most CO_2 and methane emissions are produced by the farming sector, and, finally, the Kyoto Protocol was ratified in 1998.

[26] Reports produced by UDAPE and the United Nations Development Programme state that between 1990 and 2005 poverty increased and the gap between rich and poor got wider.

Since 2006, responsibility for environmental issues has been divided up in the government structure. A Ministry of Environment and Water was created separately from the Ministry of Development Planning, which has led to an eternal debate about how to make environmental issues cross-cutting. This institutional arrangement also places constraints on the development of public policies. Likewise, it makes it more difficult to reach consensus within the state and forge links with the decentralised levels for policy implementation. In the institutional structure, the role of the National Climate Change Programme is to advise decision-makers in the national government rather than acting as a policy implementation body.

6.3 Policies on Migration

Practically ever since the Republic of Bolivia was founded in 1825, one of the state's concerns has been how to populate the country's territory. Already in 1826 the foothills of the eastern mountain range was identified as a "colonisation zone" and a system of bonuses or rewards was established for anyone who managed to settle one inhabitant per km^2. However, this policy was not successful. Migrants tended to head for the cities and mining centres. In the second half of the 19^{th} century, migrants went to the department of Pando in the north of the country, motivated by the boom in rubber extraction. This involved an almost forced movement of Chiquitano, Guarayo and Ayoreo indigenous people from the department of Santa Cruz and Tacana people from the department of La Paz, who were treated as semi-slaves. The rubber economy also attracted foreign immigrants, mainly Germans, who dealt with the administrative work and also made some investments in cattle farming and sugar cane production in Santa Cruz. After the rubber economy declined in about the mid-20^{th} century, the area became depopulated.

In 1942 the government contracted an international task-force to formulate a national development plan. Named after the head of the mission, this was known as the Bohan Plan. Its main proposals were import substitution, diversification of the economy and "the march to the east." This involved cutting a road from Cochabamba to Santa Cruz, organising settlements in the eastern lowlands, distributing land and encouraging the formation of an agroindustrial business sector to kick-start a dynamic economy, based principally on the production of sugar.

It is important to understand that at this time Bolivia was a country that had little in the way of a road network. There was one main road that linked the cities of La Paz, Oruro and Cochabamba. There was also a railway which, as well as connecting these three cities, gave the country access to Arica in Chile on the Pacific coast, to facilitate mineral exports. The whole of the road network had been developed to meet the needs of mining, first silver and later tin. In 1950 a national census was carried out and counted 2.7 million inhabitants, 75% of whom lived in rural areas and 80% at altitudes higher than 2,500 metres, in an area that represented just 40% of the country's territory.

1952 was the year of the National Revolution. A popular insurrection by workers and small-scale farmers, this put an end to more than a century of domination by the oligarchy, based on the mining enclaves and the large agricultural estates. The oligarchs failed to (or did not wish to) integrate indigenous people in the life of the country or develop other areas of the economy and trade such as manufacturing industry. In programmatic terms, the National Revolution was based on the universal vote, the

nationalisation of the mines, agrarian reform, the reform of education and industrial development.[27]

In this context, the governments of the National Revolution (1952-1964)[28] took up the Bohan proposals again and put in practice the "march to the east." They built the Cochabamba-Santa Cruz road and, as part of the agrarian reform, took forward the distribution of land and the directed and semi-directed "colonisation" programmes. One of the objectives of the agrarian reform was to prevent rural-urban migration. The attempt was made to replace it by rural-rural migration through land distribution and the colonisation programmes. This policy was effective to some extent, but it did not succeed in diverting the flow of migrants heading for the cities. Paradoxically, the policy of industrial development and economic diversification required increasing amounts of labour. Under the colonisation programmes, about 6,000 families were settled on a total area of 2 million hectares between 1969 and 1992. However, the colonisation projects started to decline in 1986, following the introduction of the neoliberal model. From that year onwards, the work of the INC was limited to dealing with the paperwork submitted to it by the spontaneous settlements.

At the start of the 1990s, the crisis in the agrarian reform process became evident. The land distribution process had become distorted, and the land was once again concentrated in just a few hands. At the same time, the emergence of a market in land acted as a great incentive for speculators to appropriate land and triggered new waves of migration. The agrarian reform institutions had lost control of the land and administrative irregularities were detected. The government decided to call a moratorium on the agrarian reform process until 1996, when a new agrarian law was enacted. This law stipulates that the newly-created National Agrarian Reform Institute has the power to undertake human settlement programmes on state-owned land.

However, the state was mainly concerned about one type of migration: the one that focused on the colonisation areas for the purpose of populating the territory. Migration for other reasons such as education, work or subsistence, and migration abroad were not on the state agenda and were always considered part of the private sphere. It is not that the state was unaware of the situation. In fact, the last three population censuses gathered information about migration and the reports produced by the National Institute of Statistics based on regular surveys provide evidence of the migration that was taking place. The state's inaction is also a political decision and if it took no action this was

[27] Prior to 1952, the only people allowed to vote were men who knew how to read and write and had a certain level of income determined by the state. Women, illiterate and rural and indigenous people did not have the right to vote. The mining and export of tin was controlled by three businessmen: Patiño, Hochschild and Aramayo. Patiño was the most important: he even managed to buy and build up a tin smelting business in England. He was one of the richest men in the world and acquired a title as part of the nobility. The farming sector was dominated by a group of large landowners who made up 4% of the population and controlled 80% of the cultivable land at altitudes higher than 2,000 metres. They kept many of the country's indigenous people in conditions of servitude and unpaid work. Indigenous people in rural areas and many women in urban areas had no access to education. The sole concern of past governments was to keep mining going as a primary industry, to the point where not even smelting or any other related industry was developed.

[28] Although the democratic governments linked to the National Revolution lasted from 1952 to 1964, their programmatic influence continued until 1986. After 1964 there was a long period of military dictatorships which lasted until 1983.

because of: i) the aim of populating the territory: the more people move, the better the population distribution will be and if they move under their own steam there is no cost to the state (although this is relative, as migrants start demanding services in their new place of residence), and ii) the impossibility of providing job opportunities or access to land.

At the same time, from the point of view of society, migration has not been included as an issue on the social agenda. This can be explained in part by the fact that the rural population sees migration as a solution to their problems rather than an additional problem. In the cases of Northern Potosí and San Julián that are the subject of this study, migration plays an important role in enabling people to adapt to changes in the climate and erosion. For young people, it is also a response to the impossibility of gaining access to land.

Recognising migration as a fact of life, an NGO working in Northern Potosí took the initiative of setting up a training programme for young men and women in trades such as building work and cookery, with the aim of enabling them to migrate in a better position, with improved employment options in the places to which they migrate.

Municipal governments and communities are also concerned, because migration may have a negative or constraining impact on local development. On the one hand, by reducing the population, it leads to a fall in the amount of funds coming from the national treasury, as these are allocated on a per capita basis. On the other, the loss of young people implies that many projects with medium- and long-term objectives, such as the provision of basic services and certain types of infrastructure, especially in education, could be left without “beneficiaries” in the medium and long term.

6.4 Policies on Climate Change

Dealing with issues related to climate change used to be almost exclusively the domain of the state, and more particularly the national government. It is only since 2006 that a dialogue has started to open up with civil society organisations. The issues included in this dialogue, however, have focused almost exclusively on the country’s position on the world stage. It has not yet addressed the inclusion of climate change issues in development planning, let alone adaptation programmes. At the municipal government level, the issue is not being addressed practically in any way. It can be said that the action taken by the state has been mainly oriented towards the international arena and little emphasis has so far been placed on domestic climate change issues.
It is worth mentioning that the national government has incorporated a certain degree of formal participation by social movements in the institutional structure of the National Climate Change Programme, by setting up a “liaison” level that facilitates contact and consultation with civil society organisations.

In society, although the effects of climate change are perceived, there is not yet a defined position on issues that could be included in a public agenda. Some initiatives are being taken forward in Northern Potosí by NGOs that are implementing small-scale irrigation systems as an adaptation measure. They are also seeking to include these activities in municipal government plans.

In conclusion, climate change does not yet form part of the public agenda. However, the political and institutional foundations have been laid for it to be included. The challenges for the future concern the institutional arrangements that would enable a genuine dialogue to take place between the state and society, as well as functioning linkages between central government and the autonomous or decentralised level.

7. Final reflections

As will have become clear from the above brief description and analysis of migration processes, both in Northern Potosí and in San Julián, migration is a complex issue, the causes of which cannot be generalised and depend on local realities.
In the case of Northern Potosí, migration is the result of a lengthy process of impoverishment. The rupture of the local tradition of farming on discontinuous ecological levels and the fragmentation of indigenous territories, due to the presence of large landed estates and the imposition of political-administrative divisions by the state, marked the start of a process that weakened the local way of life. Then came the economic crises in the mining enclaves and state economic policies and, finally, the acceleration of soil erosion as a result of the drought caused by El Niño in 1982/1983 - 1985/1986 and climate change.

The region has experienced different types of migration. One involved the search for work in the mining centres and cities, and another the possibility of obtaining new land in San Julián, the Chapare region and Yucumo; in both these cases, migration tended to be permanent. Today, the type of migration tends to be temporary, regular moves to nearby places such as the city of Cochabamba and Llallagua, not with the objective of leaving the region but rather with the aim of sustaining life in the *ayllus*. From this point of view, migration seems to represent an adaptation response to the impoverishment caused by environmental degradation (soil erosion) and climate change. This migration turns out to be an activity that complements people's rural way of life.

In the case of San Julián, it is a destination for migrants and they have settled there permanently. This is firstly because of how difficult it is for migrants to return, and secondly because of the prosperity the region is enjoying due to the growth of the soya agro-export economy. Nevertheless, migration away from San Julián, mainly by young people, is also taking place. This may indicate that migration with the aim of gaining access to land only resolves the problem of one generation: that of the first migrants. Subsequent generations find themselves in the same situation as their predecessors. The aim of the young people who migrate away from San Julián is to provide themselves with the capital they need to obtain work in San Julián.

What both cases have in common is migration by young people, and for similar reasons. This suggests that migration is also age-related, and the underlying issue is young people's access to livelihoods. In Northern Potosí, land is scarce due to erosion problems. Climate variability, affected by climate change, has reduced productivity. In San Julián, young people are excluded from the soya economy.

Furthermore, although we have analysed migration influenced by climate change in the specific context of Northern Potosí, it may well be more widespread in the Bolivian highlands, with varying levels of intensity. The drought of 1983 affected all the altiplano communities, and changes in the climate are equally noticeable everywhere in the region. In the south and centre of the high plateau, the consequences are similar, but

with the disadvantage of not having a large city nearby. In the case of the northern altiplano, the differences are firstly that soil erosion is not a decisive factor and secondly that it is easier to travel from rural communities to the cities of La Paz or El Alto. In El Alto, for example, it is common to find families with dual residence in the city and in their rural community or *ayllu*.

However, population movements may be "adding fuel to the fire" because, in the case of migration to the eastern lowlands motivated by access to land, it leads to an increase in forest clearance and burning, thus contributing to a rise in greenhouse gas emissions. The same can be said of those who migrate to cities such as La Paz, Cochabamba and Santa Cruz and find work in the urban transport sector. This leads to an increase in the number of vehicles and the burning of fossil fuels.

Furthermore, it is evident that little has been done to develop public policies on the issues of migration and climate change. The main difficulties and limitations here have to do with the institutional structure and central government's ability to forge links with the autonomous or decentralised level – a decisive factor in public policy implementation.

In the case of Northern Potosí, public policies should prioritise sustained action to control erosion and enable the land and landscape to recover. Everyone knows this. So why are no measures being taken? The possible answers are, firstly, that activities of this sort require specialist knowledge that is lacking in municipal governments. Secondly, they imply the allocation of significant amounts of funds for a very long time, and governments (both national and municipal) are only in office for five years. Therefore, initiatives of this sort are not "profitable" for politicians, as they would not bear fruit during their time in government.

This implies that some thought must be given to a type of institutional arrangement that brings in specialist knowledge of the issue and is able to transcend government terms. One option is to set up a programme, with its own resources, that would devote itself exclusively to environmental issues and adaptation to climate change.

Finally, the other problem – that of young people and livelihoods – is likewise excluded from public policy, because young people have no possibility of influencing policies. In social organisations, those with the right to speak and to vote are adults, and they are the owners of the land. In the two areas studied, however, young people have started to get organised and are trying to raise awareness in social organisations to include their problems on the agenda. Strengthening and training these organisations could be a very fruitful line of action.

Bibliography

Office of the United Nations High Commissioner for Human Rights (2009) *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, United Nations, New York.

Andersen, Lykke E. (2002) *Migración Rural-Urbana en Bolivia: Ventajas y Desventajas*, Documento de Trabajo No. 12/02, Instituto de Investigaciones Socioeconómicas, La Paz.

Andersen, Lykke. E (2006) *El Impacto de los Cambios en el Uso de Suelo Sobre la Economía en el Departamento de Santa Cruz*, Serie de Documentos de Trabajo sobre Desarrollo No. 11/2006, Instituto de Estudios Avanzados en Desarrollo, La Paz.

Antezana, Oscar y Barragán, Carmen (2000) *Informe Preliminar De Sistematización de Vulnerabilidad por Zona Agroecológica según Planes de Desarrollo Municipal*, PMA, La Paz.

Arias, Omar and Bendini, Magdalena (2006) *Evaluación de la pobreza en Bolivia: sentando las bases para un crecimiento a favor de los pobres,* Revista en Breve. Nº 89, World Bank, Washington DC.

Banco Central de Bolivia (2008) *Lineamientos para la Normativa del Mercado de Remesas Familiares*, Banco Central de Bolivia, La Paz.

Bosque, Hugo (2008) *La degradación de suelos en las Tierras Comunitarias de Origen (TCO) en las Tierras Altas*, Ministerio de Desarrollo Rural y Medio Ambiente, La Paz.

Busso, Gustavo (2007) *Argentina, Bolivia, Brasil y Chile: Pobreza y Efectos Sociodemográficos de la Migración Interna a Inicios del Siglo XXI*, Notas de Población N°84, CEPAL, Santiago.

Calvo Ayaviri, Alfredo (2000) *Análisis de da Situación Demográfica de País*, OPS-OMS, La Paz.

Francou, Bernard y Pizarro, Luis (1985) “El Niño y la Sequía en los Altos Andes Centrales (Perú y Bolivia)”, *Bulletin de l'Institut français d'études andines*, Vol. 14, No. 1-2, pages 1-18.

Fundación TIERRA (2000) *Bolivia: el proceso de aprobación de la nueva ley de tierras* (accessed from: http://www.ftierra.org/ft/index.php?option=com_content&view=article&id=883:rair&catid=130:ft&Itemid=188).

García Tornell, Carlos, Querejazú, María Elena, et al.(1984) “Migración Interna Permanente”, *Tras Nuevas raíces… Migraciones internas y colonización en Bolivia*, Proyecto Políticas de Población, Ministerio de Planeamiento, La Paz.

Instituto Boliviano de Comercio Exterior (2008) *Bolivia: Migración, Remesas y Desempleo*, Comercio Exterior No. 159, IBCE, Santa Cruz de la Sierra.

Instituto Nacional de Colonización (1981) *Compilación de Leyes de Colonización*. Instituto Nacional de Colonización, La Paz.

Instituto Nacional de Estadística (INE) (2003) *Bolivia, características sociodemográficas de su población*, INE, La Paz.

Kauffer Michel, Edith F. (2004) *Las Políticas Públicas: Algunos Apuntes Generales*, ECOSUR.

Ministerio de Desarrollo Sostenible, Viceministerio de Planificación, Secretaría Técnica del Consejo de Población para el Desarrollo Sostenible (CODEPO) (2004) *Estudio de la Migración Interna en Bolivia*, p.12.

Ministerio de Desarrollo Sostenible y Planificación (1999) *Bolivia: Atlas Estadístico de Municipios*, INE, MDSP, COSUDE.

Ministerio del Interior y Justicia (1984) *Seminario interinstitucional sobre la migración interna*, UNFS.

Ministerio de Planificación del Desarrollo, Viceministerio de Planificación Territorial y Ambiental (2007) *Diagnóstico integral de la región Norte del departamento de Potosí*, GTZ, La Paz.

Ministerio de Planificación del Desarrollo, Viceministerio de Planificación Territorial y Ambiental, Programa Nacional de Cambio Climático (2008) *Enfrentemos al cambio climático* (accessed from: http://www.mmaya.gob.bo/webpncc/biblio/entendiendo%20el%20cc.pdf).

Montecinos Montecinos, Egon Elier (2007) *Límites del Enfoque de las Políticas Públicas para Definir un "Problema Público*", Cuadernos de Administración. Pontificia Universidad Javeriana. Colombia.

Ortega, Jose Emilio; Sbarato, Darío; Campos, Manuel Y Tocalli, Sergio Hugo (2005) *Política Ambiental: Políticas Públicas. Universidad Nacional de Córdoba*, Argentina.

Oxfam International, Bolivia (2009) *Cambio climático, pobreza y adaptación*. La Paz.

Parejas, Alcides (2007) "La región progresó con la producción y la vinculación vial", *La Razón*, 4 June.

Paz Estenssoro, Víctor. *D.S. Nº 6244*. October 1962.

Pineda Pablos, Nicolás (2007) El Concepto de Políticas Públicas: Alcances y Limitaciones.

Plataforma Interamericana de Derechos Humanos, Democracia y Desarrollo (2010) *Causas del Cambio Climático y consecuencias sobre las poblaciones de América Latina*, Conference of the world's peoples on climate change and the rights of mother earth, Cochabamba.

Platt T., Harris O., y Bouysse-Cassagne T. (2006) Qaraqara Charka. Mallku, Inca y Rey en la provincia de Charcas. Historia antropológica de una provincia aymara. IFEA, Interamerican Foundation, Fundación Cultural Banco Central.

Programa de Desarrollo Agropecuario Sostenible-PROAGRO (2008) *La Región del Norte de Potosí*, GTZ, La Paz.

Prudencio Bört, Julio (1985) *La Sequía en Bolivia: 1982-1983*, Mimeo.

Romero, Carlos (2009) *La colonización nacional y extranjera* (accessed from: http://www.ftierra.org/ft/index.php?option=com_content&view=article&id=1589:rair&catid=113:lecturas&Itemid=152).

SEMPAS (1991) *Análisis de la Realidad Migratoria en Bolivia.*

Soliz, Lorenzo (2006) *Tierras fiscales y asentamientos humanos en la amazonía boliviana, más allá de la politización* (accessed from: http://cipca.org.bo/index.php?option=com_docman&task=doc_view&gid=241&Itemid=33).

Urioste, Miguel (2002) *Desarrollo Rural con Participación Popular*, Fundación Taller de Iniciativas en Estudios Rurales y Reforma Agraria, La Paz.

Vacaflores, Víctor (2003) “Migración interna e intraregional en Bolivia. La mano visible de Adam Smith”. In: *Conferencia Regional Globalización, Migración y Derechos Humanos*. Universidad Andina Simón Bolívar, Quito.

Recent Publications by IIED's Human Settlements Group

WORKING PAPER SERIES

All working papers can be downloaded at no charge. For a complete list, see http://www.iied.org/human-settlements/group-publications/publications

URBAN POVERTY

Interrogating Urban Poverty Lines – the Case of Zambia - Miniva Chibuye (2011)

Assessing the Scale and Nature of Urban Poverty in Buenos Aires – Jorgelina Hardoy with Florencia Almansi (2011)

Broadening Poverty Definitions in India: Basic Needs in Urban Housing - S. Chandrasekhar and Mark R. Montgomery (2010)

Poverty lines in Greater Cairo: Underestimating and Misrepresenting Poverty –Sarah Sabry (2009)

Poverty Lines and Lives of the Poor: Underestimation of Urban Poverty, the case of India –Meera Bapat (2009)

Community Finance: the News from Asia and Africa. Report of a workshop held in November 2007 – Asian Coalition for Housing Rights (2008)

Urban Poor Funds; Development by the People for the People – Diana Mitlin (2008)

Building Homes, Changing Official Approaches: the Work of Urban Poor Federations and their Contributions to Meeting the Millennium Development Goals in Urban Areas – Celine D'Cruz and David Satterthwaite (2005)

Catalysing Pro-Poor Development; the Role of Savings and Savings Organizations: Key Issues arising from an International Workshop on Housing Finance and Poverty – Diana Mitlin (2005)

The Under-estimation of Urban Poverty in Low- and Middle-income Nations – David Satterthwaite (2004)

RURAL–URBAN

Climate change, adaptation strategies and mobility: evidence from four settlements in Senegal - Mohamadou Sall, Serigne Mansour Tall and Aly Tandian (due March 2011, also available in French)

Rural migration in Bolivia: the impact of climate change, economic crisis and state policy - Carlos Balderrama Mariscal, Nico Tassi, Ana Rubena Miranda, Lucía Aramayo Canedo, Iván Cazorla (2011)

Not only climate change: mobility, vulnerability and socio-economic transformations in environmentally fragile areas in Bolivia, Senegal and Tanzania – Cecilia Tacoli (2011)

International Migration, Social Change and Local Governance in Ourossogui and Louga, Two Small Urban Centres in Senegal – Mohamadou Sall, Serigne Mansour Tall, Aly Tandian, Al Assane Samb, Abdou Khadre Sano and Souleymane Sylla (2010)

Migration, Local Development and Governance in Small Towns: Two Examples from the Philippines – Charito Basa and Lorna Villamil with Violeta de Guzman (2009)

Migration and Small Towns in China: Power Hierarchy and Resource Allocation – Bingqin Li and Xiangsheng An (2009)

Migration and Small Towns in Pakistan – Arif Hasan and Mansoor Raza (2009)

Urbanization and Rural Development in Viet Nam's Mekong Delta: Livelihood Transformations in Three Fruit Growing Settlements - Hoang Xuan Thanh, Thi Thu Phuong Dinh, Thu Huong Nguyen and Cecilia Tacoli (2008)

Toward Synergistic Rural–Urban Development: the Experience of the Rural–Urban Partnership Programme (RUPP) in Nepal – S.F. Momen (2006)

Rural-Urban Migration in China: Policy Options for Economic Growth, Environmental Sustainability and Equity – Gordon McGranahan and Cecilia Tacoli (2006)

Livelihood Diversification and Rural–Urban Linkages in Vietnam's Red River Delta – Anh, Dang Nguyen, Hoang Xuan Thanh and Cecilia Tacoli (2005)

Rural–Urban Change, Boundary Problems and Environmental Burdens – Gordon McGranahan,
David Satterthwaite and Cecilia Tacoli (2004)

WATER AND SANITATION

Groundwater, Self-supply and Poor Urban Dwellers: A Review with Case studies of Bangalore and Lusaka – Jenny T. Gronwall, Martin Mulenga and Gordon McGranahan (2010)

Urban Water and Sanitation in Ghana: How Local Action is Making a Difference - Kanton I. Osumanu, Lukman Abdul-Rahim, Jacob Songsore and Farouk R. Braimah with Martin Mulenga (2010)

Improving Water and Sanitation Provision in Buenos Aires: What can a Research-oriented NGO do? – Florencia Almansi, Ana Hardoy and Jorgelina Hardoy (2010)

Water Service Provision for the Peri-urban Poor in Post-conflict Angola – Allan Cain and Martin Mulenga (2009)

Water and Sanitation in Urban Malawi: can the Millennium Development Goals be Met? A Study of Informal Settlements in Three Cities – Mtafu A. Zeleza Manda (2009)

Lessons from Karachi: The role of Demonstration, Documentation, Mapping and Relationship Building in Advocacy for Improved Urban Sanitation and Water Services – Arif Pervaiz, Perween Rahman and Arif Hasan (2008)

Local Water and Sanitation Companies and the Urban Poor – Gordon McGranahan and David Lloyd Owen (2006)

Informal Water Vendors and the Urban Poor – Marianne Kjellén and Gordon McGranahan (2006)

Governance and Getting the Private Sector to Provide Better Water and Sanitation Services to the Urban Poor – Gordon McGranahan and David Satterthwaite (2006)

URBAN CHANGE

Africa's Urban Transition and the Role of Regional Collaboration – Gordon McGranahan, Diana Mitlin, David Satterthwaite, Cecilia Tacoli and Ivan Turok (2009)

The Transition to a Predominantly Urban World and its Underpinnings – David Satterthwaite (2007)

Urban Environments, Wealth and Health: Shifting Burdens and Possible Responses in Low and Middle-income Nations – Gordon McGranahan (2007)

Outside the Large Cities: the Demographic Importance of Small Urban Centres and Large Villages in Africa, Asia and Latin America – David Satterthwaite (2006)

A Pro-poor Urban Agenda for Africa; Clarifying Ecological and Development Issues for Poor and Vulnerable Populations. A Report for the Ford Foundation - Joel Bolnick, Happy M Kayuni , Richard Mabala, Gordon McGranahan, Diana Mitlin, Sikhulile Nkhoma, John Oucho, Amal Sabri, Sarah Sabry, David Satterthwaite, Mark Swilling, Cecilia Tacoli, Richard I C Tambulasi and Mirjam van Donk (2006)

CLIMATE CHANGE AND CITIES

Community-driven Disaster Intervention: Experiences of the Homeless People's Federation Philippines, Incorporated (HPFPI) – Jason Christopher Rayos Co (2010)

Towards Pro-poor Adaptation to Climate Change in the Urban Centres of Low and Middle-income Countries – Caroline Moser and David Satterthwaite (2008)

Climate Change and Urban Children: Impacts and Implications for Adaptation in Low and Middle-Income Nations – Sheridan Bartlett (2008)

Adapting to Climate Change in Urban Areas: the Possibilities and Constraints in Low- and Middle-income Nations – David Satterthwaite, Saleemul Huq, Hannah Reid, Mark Pelling and Patricia Romero Lankao (2007)

URBANIZATION & EMERGING POPULATION (Joint series with the United Nations Population Fund)

China's Post-Reform Urbanization: Retrospect, Policies and Trends - Anthony G.O. Yeh, Jiang Xu and Kaizhi Liu (due May 2011)

Brazil's Early Urban Transition: What can it Teach Urbanizing Countries? – George Martine and Gordon McGranahan (2010)

Planning for High Density in Low-income Settlements: Four Case Studies from Karachi – Arif Hasan, Asiya Sadiq and Suneela Ahmed (2010)

The Food Price Crisis and Urban Food (in)security – Marc J. Cohen and James L. Garrett (2009)

Is Urbanization Contributing to Higher Food Prices? – Jesper Stage, Jørn Stage and Gordon McGranahan (2009)

OTHER HUMAN SETTLEMENTS PUBLICATIONS

Assessing the Costs of Adaptation to Climate Change. A Review of the UNFCCC and Other Estimates - Martin Parry, Nigel Arnell, Pam Berry, David Dodman, Samuel Fankhauser, Chris Hope, Sari Kovats, Robert Nicholls, David Satterthwaite, Richard Tiffin and Tim Wheeler (2009)

Population Dynamics and Climate Change edited by José Miguel Guzmán, George Martine, Gordon McGranahan, Daniel Schensul and Cecilia Tacoli (2009) (A joint UNFPA-IIED publication)

EARTHSCAN BOOKS

Adapting Cities to Climate Change: Understanding and Addressing the Development Challenges, edited by Jane Bicknell, David Dodman and David Satterthwaite (2009)

The New Global Frontier: Urbanization, Poverty and Environment in the 21st Century, edited by George Martine, Gordon McGranahan, Mark Montgomery and Rogelio Fernández-Castilla (2008)

Scaling Urban Environmental Challenges; From Local to Global and Back, edited by Peter J Marcotullio and Gordon McGranahan (2007)

The Earthscan Reader on Rural–Urban Linkages, edited by Cecilia Tacoli (2006)

Water and Sanitation in the World's Cities 2006; Meeting Development Goals in Small Urban Centres, prepared for UN–Habitat by IIED (2006)

Empowering Squatter Citizen: Local Government, Civil Society and Urban Poverty Reduction, edited by Diana Mitlin and David Satterthwaite (2004)

Water and Sanitation in the World's Cities: Local Action for Global Goals, UN–Habitat Report prepared by Gordon McGranahan and David Satterthwaite (2003)

Air Pollution and Health in Rapidly Developing Countries, edited by Gordon McGranahan and Frank Murray (2003)

The Citizens at Risk: From Urban Sanitation to Sustainable Cities – Gordon McGranahan, Pedro Jacobi, Jacob Songsore, Charles Surjadi and Marianne Kjellén (2001)

Environmental Problems in an Urbanizing World: Finding Solutions for Cities in Africa, Asia and Latin America – Jorge E Hardoy, Diana Mitlin and David Satterthwaite (2001)

Cities for Children: Children's Rights, Poverty and Urban Management – Sheridan Bartlett, Roger Hart, David Satterthwaite, Ximena de la Barra and Alfredo Missair (1999)

The Earthscan Reader in Sustainable Cities, edited by David Satterthwaite (1999)

The Environment for Children – David Satterthwaite, Roger Hart, Caren Levy, Diana Mitlin, David Ross, Jac Smit and Carolyn Stephens (1996)

Squatter Citizen: Life in the Urban Third World – Jorge E Hardoy and David Satterthwaite (1989)

ENVIRONMENT AND URBANIZATION

A twice-yearly journal published since 1989, this is one of the most cited and widely distributed international journals on urban issues. Each issue has a special theme and includes 9–14 papers and some include a guide to the literature on that theme. It also has a special section of papers on climate change and cities (since 2007), profiles of innovative NGOs (in some issues) and Book Notes – which includes summaries of new books, research reports and newsletters and how these can be obtained (including those in Spanish, French and Portuguese).

For more details, see http://www.environmentandurbanization.org/

The on-line edition is at http://eandu.sagepub.com/ The full text of all papers in all issues (from the first issue in 1989) are available on-line at this site and all but the issues from the last two years are available at no charge. From this site, subscriptions and back issues can be purchased and searches made. There is also a list with the theme of each issue.

Environment and Urbanization Briefs: A five page summary of each issue of Environment and Urbanization is available in print and electronically; to receive this, e-mail Candice.sly@iied.org. All Briefs can be downloaded from http://pubs.iied.org/search.php?s=EUB

HOW TO OBTAIN WORKING PAPERS: Printed versions can be obtained from Earthprint Ltd, PO Box 119, Stevenage, Hertfordshire SG1 4TP, UK; T: +44 1438 748 111; F: +44 1438 748 844; E-mail: customerservices@earthprint.com; Web: www.earthprint.com for US$ 20 each plus postage and packing. All working papers are free to download at www.iied.org.

HOW TO OBTAIN BOOKS: These are available from Earthscan Publications, 8–12 Camden High Street, London NW1 0JH, UK; E-mail: earthinfo@earthscan.co.uk; Web: www.earthscan.co.uk; also available in bookstores. In the USA, available from Earthscan, 22883 Quicksilver Drive, Sterling, VA 20166-2012, USA. The Earthscan website also has details of Earthscan representatives and agents in all other countries.

HOW TO OBTAIN ENVIRONMENT AND URBANIZATION: Since 2006, *Environment and Urbanization* has been published by Sage Publications, and subscriptions and back issues can be ordered from them at: http://eau.sagepub.com/

Order on-line for:
The Americas: http://www.sagepub.com/journalsSubscribe.nav?prodId=Journal201733
Rest of the world: http://www.sagepub.co.uk/journalsSubscribe.nav?prodId=Journal201733

Free subscriptions are available to NGOs and teaching/training institutions in Africa and in low- and middle-income countries in Asia and Latin America that have difficulty obtaining foreign exchange; contact IIED (eandu@iied.org).