

Environmental Degradation, Climate Change and Migration in Mountain Regions in Bolivia

Contributions to Public Policy in the context of Mother Earth and the Living Well Approach

Working Paper produced at the Workshop entitled
“Reflections on the Links between Migration, Land Degradation, and Climate Risk”
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1. Problem identification between Migration, Land Degradation, and Climate Change

Migratory movements in Bolivia have occurred since we have chronicles (Balderrama 2011) In recent decades, however, the country has seen a significant displacement of population from the highlands and the dry valleys to the East and urban centers. To existing permanent migration, temporary migration is added, which constitutes a life strategy used by most rural populations in the Western area of the country.

Before going deeper into the issue of environmental migration, we need to emphasize that the decision to migrate is multi-causal, i.e. multiple economic, environmental, social, and cultural factors influence the decision of individuals to migrate.

People have a right to relocate, if this brings benefits to them or to stay in a healthy and nurturing environment for their economic activities and livelihoods in general. The first problem, from a human rights perspective, arises when people are forced to relocate due to deterioration of their livelihoods, climate risk, or environmental pollution and, subsequently, they fail to obtain equitable means for dignified integration into their new areas of residence (CEAM, 2012).

Migration driven by environmental causes is not a new phenomenon as there have always been migration movements prompted by changes in the environment in Bolivia (Guélat, Mazurek, 2007; Balderrama, et al. 2011, 2011;).

There is concern, however, that climate change may exacerbate adverse environmental situations and encourage greater migration (either temporary or permanent). Increased frequency of extreme weather events and gradual environmental changes that progressively make an area less habitable often become a decisive factor for expulsion of population (CEAM 2012). Indeed, of 35 study participants (Guélat, 2011), almost half of them (17) cited 14 progressive climate events and extreme weather phenomena as causes for migration.

Although it is difficult to quantify the impact of environmental changes on migration, (CEAM 2012: 53-54), qualitative studies (Balderrama, Mariscal, et al., 2011; Guélat, 2011) indicate that considerations related to environmental changes, both extreme events and progressive deterioration along economic factors, are important factors in making decisions related to migration (CEAM 2012: 10). In the study by Guélat (2011: 101-109), the most often cited factors that induce

migration were lack of water, desertification, progressive weather events, declining revenues due to environmental degradation, inadequate wages, lack of higher education, deficient health system, unsatisfactory ways of life, and their desire to provide financial support to other family members.

Contemplating the issue of migration as connected with environmental considerations helps us to visualize not only the causes of migration, but also to clarify the effects of migration on the environment.

One effect of environmental-motivated migration is that higher migration to lower lands contributes in turn to increased emissions of greenhouse gases (GHG) from deforestation in the lowlands (Balderrama 2014).

As shown in the figure below, there are several factors intertwined in relation to migration and environmental factors; therefore, discussion of this topic must always have a strong contextual basis.

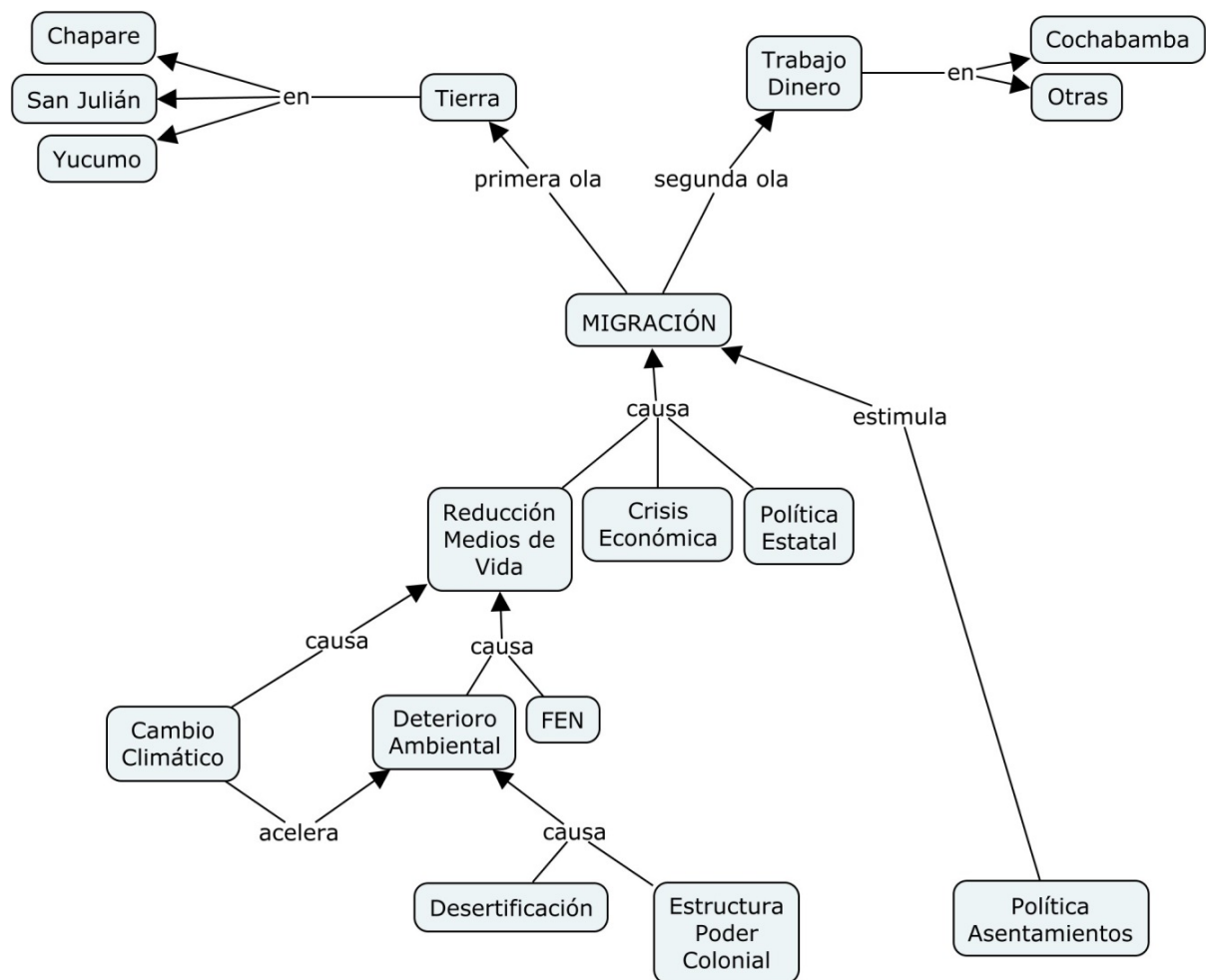


Figure 1: Interaction of Migration and Environmental Factors (Balderrama 2014).

Jimenez (2013) confirms that migration, temporary or permanent, is an adaptive strategy for many people in the highlands. He found that it is mostly the most vulnerable members of society who temporarily migrate to the cities and that ironically this migration often increases their vulnerability; migration generates lack of manpower in the countryside, which often is not compensated by the

meager income made by low-wage and temporary jobs in the city. Additionally, the absence of manpower leads families to use less productive ways of tillage while they increase the use of fertilizers and pesticides, further increasing soil degradation. Studies have demonstrated that temporary migration is indeed a survival strategy sometimes but it does not improve the migrants' quality of living in the long run.

Permanent migration, especially migration abroad, seems to constitute a viable adaptation strategy as it allows greater accumulation of capital (financial and also educational) for reinvestment when the migrant returns. No studies conducted at the nationwide levels are available, but this social dynamics is in fact evident in the high valley of Cochabamba, where returning migrants from Argentina have invested their savings in peach plantations, which allowed them to improve their economic situation compared to that in the period before migration (Saravia 2014). More studies are needed, however, to clarify these differences and other possible similarities within the dynamics of temporary and permanent migration.

As a result of all these migratory movements, there was and there is abandonment of rural lands (partial or complete) mostly located less accessible and less productive lands (Penna et al, forthcoming, Jiménez 2013, Balderrama, et al., 2011). The SNIS study on land degradation and migration in the Jatún Mayu-Pankuruma basin (Sipe Sipe, Cochabamba) preliminarily indicates that abandonment lead to land degradation (negative effect) or to recovery of the ecosystem (positive effect), depending on landscape dynamics and ecosystem capacity to recovery. If land degradation is mainly caused by desertification, which in turn is intensified by climate change as it might be the case in the surveyed area in Northern Potosí (Balderrama, et al., 2011), abandonment of lands causes accelerated desertification of areas that lack human care.

One last point that must be considered in migrations is that of social and gender inequalities. It is mostly the most vulnerable people who are forced to make the decision to migrate (CEAM 2012). because of increased job opportunities or better access to higher education. In turn, it is mostly the elderly, women, and children who remain in their places of origin; therefore, response actions must consider this change in the composition of the populations that remain as residents of areas that originate migration flows.

As analysis shows, a coordinated policy to address this problem is necessary to reverse the negative effects of this phenomenon.

2. Current Policy Regarding Migration and Adaptation to Climate Change

As a result of a lack of public policies related to the overall issue described above, past and current State-led initiatives regarding each one of these two topics will be discussed.

Migration, especially internal migration, which is mostly discussed in this proposal, has never been a priority for the State because migration is usually considered both as a private matter and a decision of individuals (*Observatorio de las migraciones bolivianas*, Balderrama, et al., 2011). On the topic of internal migration, the most important policies were adopted in regards to processes of relocation of rural populations and colonization of the lowlands that started in the 1952 Revolution and lasted until the 90s as part of a plan called "March toward the East," which included the construction of the

road between Santa Cruz and Cochabamba and distribution of approximately 2 million hectares among some 6,000 families (Observatorio de las migraciones bolivianas, Balderrama, et al., 2011: 37).

Regarding other stakeholders in the phenomenon of migration, the International Office of Migration (IOM) attended internal migrants and provided them with awareness campaigns on both negative and positive effects of migration and also explored possible diversification of sources of income for potential migrants.

In terms of environmental public policies, there were two approaches used by the Bolivian State to date, namely general preventive policies and emergency measures (CEAM 2012). Both approaches were focused on the subject of water and, geographically, their higher importance is located in the areas of the highlands and the inter-Andean valleys. General preventive policies were focused on measures related to Integrated Water Resources Management and Integrated Watershed Management (IWRM and IWM). Through the watershed-focused approach, water management operates from a more comprehensive and holistic vision of environmental management; therefore, there was a larger and highly coordinated effort between the Bolivian State and international cooperation agencies on this subject along with the creation of the National Watershed Plan. This approach, however, did not give increased attention to the topic of soil quality at the nationwide level. In the field of soil quality there are efforts, generally not agreed upon, for soil preservation in some regions, such as the initiative by the Department of Oruro called "Recovery, Conservation, and Management of Native Prairies in the Andean Ecosystem as an Adaptation Mechanism for Climate Change" (Gonzaga, Ayala, Flores, 2014).

On the issue of risks and attention to extreme events, there have been actions taken mainly as emergency responses and some activities, at a smaller scale, to prevent extreme events (UNDP, 2011). This approach has been supplemented since 2000 with a focus on decentralized and participatory prevention emphasizing a holistic and comprehensive vision. At the same time, this rationale has permitted a closer approach between the agendas of disaster prevention and adaptation to and mitigation of climate change.

Finally, Law 144 (Community-Based Productive and Agricultural Revolution Policy) has (indirect) effects on migration. Through rural organizational strengthening and incentives for the creation of rural jobs, this policy contributes to keep the countryside as a place attractive for living and developing activities. However, this process focuses mainly on municipalities that were already productive and makes little contribution to increasing the appeal of less productive municipalities.

3. Policy Proposal

Realizing strong linkages between land degradation, climate risk and human migrations, as explained above the three reinforce each other, rural development policies, those that integrate considerations about the increasing climate risk, need to focus on the real motivation and expectations of communities and individuals, in particular the expectations of the new generations, who at the end of the day are central actors for ensuring critical livelihoods and important services for the whole Bolivian society.

Considering that United Nations High Commissioner for Refugees (UNHCR) has stated that climate change and environmental change factors have become a major cause for forced migration in the

world (CEAM, 2012) and upon exploring these assertions for the case of Bolivia, it is appropriate to propose a new policy that includes a vision of integrated development for the entire country, support for sustainable management of the environment, and generation and diversification of livelihoods for rural areas that currently drive people away.

Any migration-related policy in the field of environmental migration must focus its actions on (potential) migrants so that they can exercise their right to a dignified life. This will result in different actions in several areas: assistance to potential migrants so that they obtain a decent living in their places of origin and also assistance to exercise their full rights in their places of destination.

Decent employment is one of the key variables as rural areas lose jobs and are less attractive to young people, thus prompting them to consider migration as an alternative for families to meet their expectations and exercise their rights, a situation that has been exacerbated due to erratic climate in the last decades. Also, Bolivian society needs to appreciate the figure of the *campesino*/farmer and the role they play in food production and protection of land and landscape and in ensuring the bases for any food security policy which considers the potential impacts of climate change. Several measures need to be considered to facilitate adaptation to climate change, improve means of communication, and market access in vulnerable rural areas in order to prevent forced migration and the ensuing negative consequences¹. An important observation is that family farming is still very important to secure rural jobs besides being an important pillar of food security in Bolivia. This reality in the countryside should get greater support by public and State policy leading to the development of rural areas and lands.

The improvement of rural infrastructure, both in roads and water storage and irrigation, is an important step for enhancing climate resilience in rural areas envisaged and also implemented by the Plurinational State of Bolivia. These efforts should be complemented, however, with decided support to the generation rural jobs through innovative rural extension systems that should be able to protect ancient knowledge for adaptation to climate change and sustainable management of natural resources.

The Framework Law of Mother Earth has several mechanisms that can be used to support conservation and restoration of rural livelihoods based on the examples of the Governor's Office of Oruro, which has established recovery and application of ancestral knowledge on handling high Andean grasslands² at the center of departmental policy. As a continuation of existing policies, more efficient water catching and storage techniques for irrigation are being sought. This is another important component for agricultural production in the highlands and an important way of doing things for enhancing climate adaptation.

A second group of initiatives will have to focus on the immigrant. It is important to inform immigrants about the conditions of living in their places of destination, as well as assist newcomers to cities to ensure that they benefit from the full exercise of their rights and reduce their

¹ Forced migration, unlike voluntary migration, promotes inequality and marginalization of the displaced. For more information see the CEAM 2012 report, page 52 f.

² In this project, inventories of local species were created in the communities in order to collect seeds that are subsequently used to grow more intensively native grasses such as thola, añawaya, and q'auchi. Cultivation of those species, combined with better management of water resources in dry zones, has successfully recovered community lands that had been suffering desertification processes around Lake Poopó.

vulnerability as forced migrants. Strengthening support activities for social and labor objectives needs to be considered in this area as well as information provided to migrants on their rights and obligations in their new areas of residence. An important issue here is that censuses fail to include migrants with double residence, thus making it difficult to include this issue consistently on public policies about population, environment, and labor, among others.

Bibliographic references

Balderrama Mariscal, Carlos, et al. (2011). *Rural Migration in Bolivia: the impact of climate change, economic crisis and state policy*. International Institute for Environment and Development – IIED.

Balderrama Mariscal, Carlos. (2014). *Factores Constitutivos de las Migraciones Rurales en Bolivia El impacto del cambio climático, la crisis económica y las políticas estatales*. Presentación para el Taller: Diálogo ciencia – política pública / Explorando los vínculos entre migración, degradación de tierras y riesgo climático (14 de agosto de 2014), La Paz.

CEAM – Centre d'Estudis Amazònics. (2012). *Migración y Cambio Climático: El caso de Bolivia y Colombia*.

Center for American Progress (2013) Cambio Climático, Migración y Conflicto en la Amazonía y los Andes. Aumento de tensiones y opciones para la política en América del Sur

Foro Población Migración y Urbanización. (2010) *KIPUS – Migración y Cambio Climático, Edición Especial*. OIM y UMSA.

Guélat, Jeremie. (2011). *Migration et environnement: Etude de cas sur les flux migratoires à destination de La Paz et El Alto, Bolivie*. Université de Neuchatel.

Ayala Flores, Gonzága. (2014). *PASTUWARANKA: Recuperación , Conservación y Manejo de Praderas Nativas en el Ecosistema Andino como mecanismo de adaptación al Cambio Climático*. Presentación para el Taller: Diálogo ciencia – política pública / Explorando los vínculos entre migración, degradación de tierras y riesgo climático (14 de agosto de 2014), La Paz.

Jiménez Zamora, Elizabeth [ed.]. (2013). *Cambio Climático y Adaptación en el Altiplano boliviano*. CIDES-UMSA y NCCR.

Mazurek, Hubert. (2007). *Three pre-concepts regarding the internal migration in Bolivia*. SciELO, Social Sciences English Edition [trad. Jeremy Jordan]. Sao Paolo.

Observatorio de las migraciones bolivianas. (Año de publicación desconocido). *Elementos para la construcción de políticas públicas migratorias en Bolivia. Reflexiones para el debate*. COBE-AMIBE

Saravia, Roberto. (2014). *Conflictividad y Gobernanza del Agua del Sistema Laka Laka de Uso Múltiple de Agua*.