



Migration, Rural Livelihoods and Natural Resource Management: Lessons from El Salvador

Programa Salvadoreño de Investigación sobre Desarrollo y Medio Ambiente Salvadoran Research Program on Development and Environment



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# Migration, rural livelihoods and natural resource management:

Lessons from El Salvador

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## Introduction

In the last few decades, El Salvador has undergone profound transformations. Migration and remittances play a key role in these transformations, both as a consequence and fundamental pillar of the restructuring of the economy. This in turn, has contributed to emergence of new dynamics in the distinct territories of the country. In fact, those rural territories most affected by the collapse of traditional rural livelihoods in the northern and eastern provinces of the country, are the same territories with the highest incidence of households with migrants and with remittances.

This change reflects the manner in which rural livelihood strategies are modified, with clear implications on the rationale driving natural resource use and management, as well as strong social and territorial repercussions. Indeed, migrations and remittances in rural areas have translated into new sources of social differentiation between families with migrant and families without migrant. Families without migrants, for the most part, are unable to diversify their livelihoods, access non-farming employment nor migrate. This has contributed to new environmental trajectories in El Salvador, such as densification of tree cover, and thus reveals important changes in deforestation and regeneration dynamics in distinct territories of the country. Similarly, migration is driving new territorial dynamics in complex contexts that reframed the challenges for strengthening livelihoods, natural resource management and territorial planning.

This document briefly discusses the relevance and importance of migration and remittances in rural livelihood strategies in El Salvador. Also, it presents a brief summary of the principal findings of diverse case studies carried out by PRISMA in distinct rural territories in the north and east of the country. The case studies contrast territories where migration has taken off more recently as well as territories in which the migration dates back farther. Similarly the territories selected are rural areas that are heavily influenced by the national and regional contexts that are reshaping the challenges associated with strengthening rural livelihoods, territorial management and governance.

Since migration has both direct and differentiated repercussions on natural resources, as well as on social cohesion in ever more complex contexts, there is a clear need for a better understanding of these processes. This is critical, not only for informing policymaking, programs and investments, but also for informing the strategies of territorial actors, who are increasingly influenced by the rise of illicit activities, which has significant implications on territorial governance in the distinct rural territories of the country.

# Migration, remittances and territorial dynamics

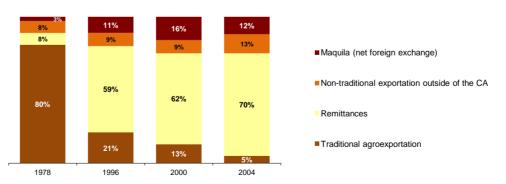
#### From an agroexport economy to an economy based on migration and remittances

El Salvador has substantially transformed.. These transformations are redefining rural territories. In less than three decades, traditional agricultural exports are no longer the principal source of foreign exchange and rural livelihoods collapsed, urban-based economic activities have expanded, the population grew more concentrated, and mass migration to the United States transformed remittances into the principal source of foreign exchange in the country. The growing importances of remittances and economic activities unrelated to agriculture have brought about increased urbanization of rural areas. In the country's northern and western provinces, where traditional rural livelihoods are more prevalent, the percentages of households receiving remittances are even higher. To the extent that migration is increasingly penetrating daily life in El Salvador, social differentiation in rural communities is more apparent and widespread.Indeed, El Salvador has undergone dramatic changes. Given that its economy is both small and open, it relies heavily on the generation of foreign exchange for its

functioning. A look at the country's principal sources of foreign exchange reveals the profound transformations it has undergone in its production structure, with clear implications on forms of social organization and the uses of territories. In just over three decades, the economy of El Salvador has transformed from being predominantly an agro-export based economy to an economy based on remittances that depend heavily on migration (Figure 1), (Rosa 2008).

# Territorial expression of migration and remittances

Given that remittances play such a key role in the Salvadoran economy, it is not surprising that migration is a phenomenon that affects every corner of El Salvador, and indeed, is a defining feature of Salvadoran society. While statistics vary on the topic, it is estimated that approximately 22% of the population has migrated out of the country (UNDP, 2005). However, this aggregated national average hides important differences and complexities associated with the territorial expression of migra-

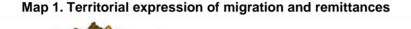


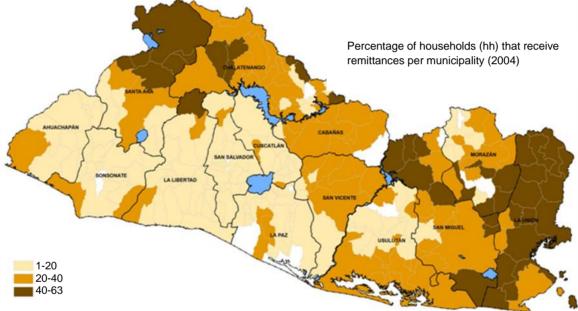
### Figure 1. El Salvador: Relative importance of sector for foreign exchange 1978-2004

Source: Rosa (2008).

tion, such as the tendency towards deepening migration patterns in traditionally rural provinces that are also more distant from the Metropolitan Region of San Salvador.

Map 1 shows the percentage of households receiving remittances by municipality and illustrates territorial differences in migration patterns within the country. In the eastern province of La Unión, for example, almost half of households receive remittances, while those municipalities with less than 20% of households receiving remittances are concentrated in the Metropolitan Region of San Salvador as well as the southwestern part of the country (UNDP 2005).The municipalities with the greatest percentage of households receiving remittances are located in the northern and eastern provinces of El Salvador, provinces with important traditional and historic ties to subsistence farming, basic grains production and cattle ranching.





Source: Elaborated by PRISMA based on UNDP (2005).

With the collapse of traditional rural livelihood strategies, migration has become a principal characteristic of a new rural reality, and plays a key role in the livelihood strategies of many rural households and communities. The collapse of the traditional rural economy has also meant significant changes in rural employment. Indeed, rural employment grew less than urban employment, and the Metropolitan Area of San Salvador (MASS) employs almost as many people as all rural areas put together (Figure 2).

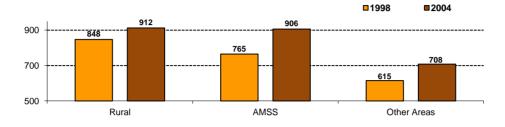
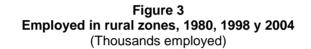
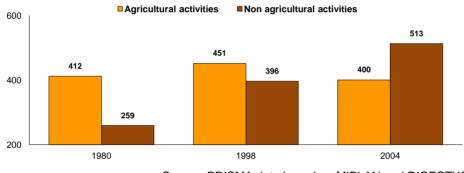


Figure 2 changes in rural employment, urban and MASS, 1998 and 2004 (Thousands employed)

Source: PRISMA data based on DIGESTYC.





Source: PRISMA data based on MIPLAN and DIGESTYC

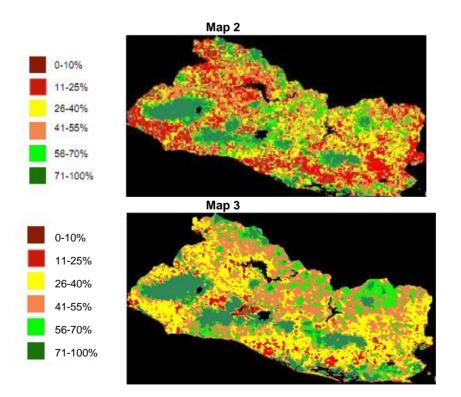
Furthermore, rural areas now have more nonfarming-related employment than farming employment (Figure 3). This reflects the simultaneous crisis in the rural economy, as well as the expansion of an array of new nonfarming-related activities in rural areas, such as industry, commerce and services that are strongly tied to migration and remittances.

# Deforestation, regeneration and tree densification

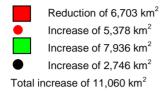
Economic change, migration and the collapse of rural livelihood over the last three decades have also brought about significant changes in land use patterns and tree cover within the country. However, as in the case of migration, land use patterns are not uniform but represent a textured mosaic of distinct processes taking place in rural landscapes throughout country. In some territories, the new land use patterns ongoing processes have exacerbated of ecosystem degradation while in other instances actually spurred it has processes of regeneration and tree densification. These dynamics are have been analyzed by Hecht and Sattchi (2007), based on analysis of satellite

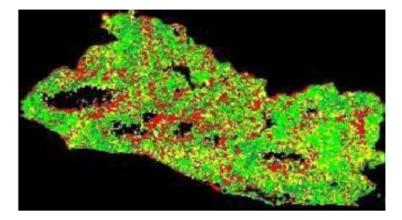
images from 1992-1993, (Advanced Very High Resolution Radiometer – AVHRR – , and from 2000-2001 (Moderate Resolution Imaging Spectroradiometer – MODIS).

Map 2 and Map 3 show tree coverage density at two distinct moments in El Salvador's recent history (1992-1993 and 2000-2001, respectively). The maroon coloring represents areas with little tree coverage density while dark green marks indicates areas with relatively dense tree coverage.. Map 4 shows the change in tree density between the two periods (black is used designate those areas without to anv perceptible change, including bodies of water; the color red represents areas where tree density has decreased; and the other colors indicate areas where tree density has increased).









What is particularly interesting in these findings is that the net balance is positive: Overall there has been more recovery in approximately 11,000 km<sup>2</sup> in comparison to the deforestation that covers approximately 6,700 km<sup>2</sup>. These results are controversial, as they contradict many long standing narratives - as well as forestry inventories - that portray El Salvador as a highly deforested country. These discources attribute high rates of deforestation to El Salvador's relatively high rates of population density enphasizing that El Salvador is one of the most densely populated countries in Latin America.<sup>1</sup> This "conventional wisdom" associating inhabited landscapes as a primary source of deforestation has profoundly shaped conservation policies, strategies and discourses, not only in El Salvador, but throughout the world. However, these findings demonstrate that regeneration and recovery can, and is, occurring in densely populated landscapes. These findings, therefore, require that the assumptions that have been guiding natural resource management over the last several decades be revisited, reexamined and reconceptualized.

In order to have a more thorough understanding of exactly what causes and explains these unexpected results of regeneration, it is critical to have a closer look at the array of underlying factors and the logics behind both processes of regeneration as well as deforestation in specific localities. The map demonstrates that the most prominent processes of deforestation are occurring in the areas associated with urban, industrial and commercial expansion ( the Metropolitan Region of San Salvador, Zapotitán Valley and other urban centers). In contrast, in rural areas, particularly in the east and north-of the country, processes of regeneration and increased tree densification are taking place. These are areas with the highest rates of deepening migration patterns. Given this background, it is particularly relevant to better understand the relationship between migration, natural resource dynamics and rural livelihood strategies.

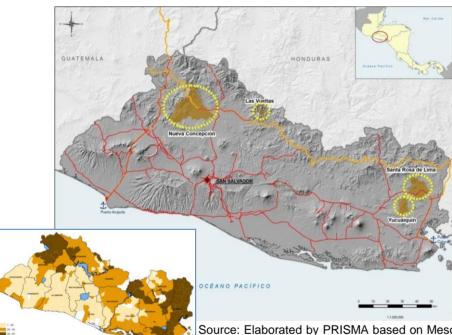
<sup>&</sup>lt;sup>1</sup> According to the World Bank (2005), El Salvador has a population density of more than 340 people per km<sup>2</sup>.

Migration, natural resources and rural livelihood strategies



Four rural municipalities with characteristics mirroring those observed nationally – high rates of out-migration and the collapse of traditional livelihood strategies - were selected for getting a closer look at the relationship between migration, rural livelihood strategies and natural resource management. The municipalities are located in the eastern and northern provinces of the country and are: Las Vueltas, Chalat-

enango; Yucuaiquín, La Unión; Nueva Concepción, Chalatenango; and Santa Rosa de Lima, La Unión (Map 5). While the selected municipalities share common characteristics, the focus of each differs with regards to the variables, as well as methodology used to study them.<sup>2</sup>



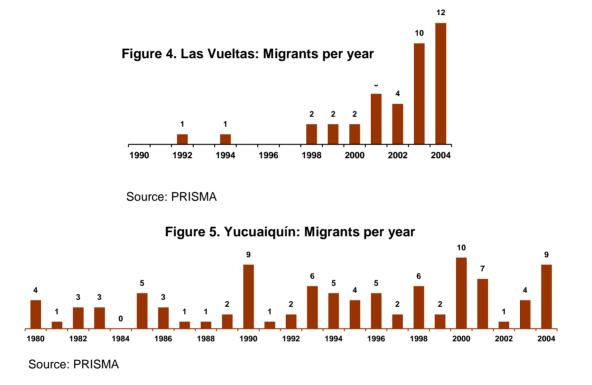
Map 5. Location of study projects on Migration

Source: Elaborated by PRISMA based on Mesoamérica / CCAD-BM GIS data base; Longitudinal del Norte highway and Interoceanic Canal based on CND, PNODT and MOP; and UNDP.

<sup>&</sup>lt;sup>2</sup> The findings are based on distinct case studies that PRISMA conducted over the last few years in these rural communities. While these studies did not share the same focus or methodologies, they were selected because their similar overall characteristics as well as the depth of each study allow for important comparative analysis about the relationship between migration, rural livelihood strategies and natural resource management. For further details on the case studies, please refer to *Dinámica Migratoria, Estrategias de Vida Rurales y Manejo de Recursos Naturales,* by Herman Rosa, Susan Kandel and Nelson Cuéllar; *Megaproyectos, dinámicas migratorias y gestión territorial: El caso de Nueva Concepción,* by Susan Kandel, Xenia Ortiz, Oscar Díaz; and *Las expresiones territoriales de las dinámicas migratorias: Entre la superación y el rezago en Santa Rosa de Lima,* by Xenia Ortiz.

#### Las Vueltas and Yucuaiquín

The municipalities of Las Vueltas in Chalatenango and Yucuaiquín in La Unión depict the differentiated impacts migration has, both in time and space. In Las Vueltas, 30.9% of households surveyed report having at least one relative who migrated abroad; nevertheless the bulk of this emigration is relatively recent (during the first decade of the new millennium) in comparison to Yucuaiquín (Figure 4). This timing probably reflects the deepening agricultural crisis and a significant decline in foreign aid to ex-conflictive zones during this period. In contrast, out-migration in Yucuaiquín is more accentuated, with 45.1% of households surveyed reporting at least one relative who migrated abroad, and much earlier dates- beginning in the 1970s, accelerating in the 1980s and deepening in the 1990s (Figure 5).



In order to understand the impact migration has on the livelihood strategies of households, data from surveys in the communities were analyzed based on comparisons between households with migrants versus households without migrants. The findings revealed substantial differences within the same municipality for incidence of migration (see Table 1). The significant territorial differences, even within the same zone, of the incidence of migration, point to increasing territorial differentiation within rural areas. In Yucuaiquín, for example, where an average of 45% of households have migrants, in the village of Candelaria, 62% of households reported migrants, while in the neighboring village of La Cañada, only 17% of households have migrants.

Las Vueltas, Chalatenango		Yucuaiquín, La Union	
	Hogares of House- holds with migrants		Hogares of Households with migrants
San José de la Montaña	42.8%	Candelaria	62.1%
La Ceiba	34.5%	Las Cruces	55.2%
Los Naranjos	31.3%	Las Cabañas y Las Hojas	46.4%
El Sicahuite	29.2%	Yucuaiquín Centro	44.8%
Las Vueltas Centro	20.5%	La Cañada	17.2%
Tota	l 30.9%	Total	45.1%

Table 1. Households with mig	rants in villages in the munic	ipalities of Las Vueltas and Yucuaiquín

Source: PRISMA

It is evident that the importance of migration in livelihood strategies of rural communities differs significantly among households. In Las Vueltas, agriculture is still, by far, the dominant livelihood strategy, although its importance differs among communities. At the municipal scale, agricultural activities are almost completely dedicated to subsistence farming of basic grain for ensuring food security. According to a household survey conducted in 2002 in Las Vueltas, 89.1% of households grew corn and 77.3% cultivated corn and beans (Barry Shelley: 2004, as cited in Rosa, Kandel and Cuéllar, 2006). In another survey carried out in 2005,<sup>3</sup> results showed that nearly two thirds of the households without migrants depended on subsistence farming as their primary source of sustenance (Rosa, Kandel and Cuéllar, 2006). Moreover, even in households with migrants, over 50% of the households still depended on agriculture (subsistence and commercial farming), while remittances constituted the second source of sustenance for 23% of the families (Rosa, Kandel and Cuéllar, 2006). One of the few forms of agricultural diversification in Las Vueltas is the purchase of animals (cows, chickens and other barnyard animals).

Noteworthy differences exist within Las Vueltas. In El Sicahuite and Los Naranjos, the families depend fundamentally on subsistence farming and do not receive remittances. In contrast, in San José de La Montaña, the village with the greatest number of households with migrants (42.8%), some 58% report depending on remittances as their primary source of sustenance. For those households without migrants in San José de La Montaña, the large majority rely almost exclusively on subsistence farming for their sustenance (81%).

In Yucuaiquín, 34% of households without migrants reported that non-agricultural related activities - such as sewing, carpentry and handyman work - are their principal source of sustenance, while 66% depended primarily on agriculture. In contrast, remittances represent the principal source of sustenance for 62% of households with migrants and 22% report that agriculture is their principal source of sustenance. Nevertheless, the contrast between communities is dramatic: in La Cañada, the majority of the families depend on subsistence farming, while in Las Cruces, Las Cabañas and Candelaria the principal source of sustenance for households with migrants is remittances (75%, 69% and 67%, respectively). In both municipalities, the majority of households without migrants are subsistence farmers.

<sup>&</sup>lt;sup>3</sup> As part of the research carried out in 2005, a random sample survey was conducted in all the villages of the municipality of Las Vueltas and selected villages of Yucuaiquín.

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The differentiated impacts of migration not only reflect deepening levels of social differentiation, but also have significant repercussions on the ties families have to the land and the natural resource base. Las Vueltas is a fundamentally agricultural municipality, despite significant variations in the importance of remittances among the different villages comprising it (as exemplified by San José de La Montaña, where more than 40% of households report migrants). Accordingly, there are more ties to the land in Las Vueltas, where 46% of the households own land, then in Yucuaiquín, where only 28% of households own land.

In Las Vueltas, the average size of the land owned by families with migrants is larger than families without migrants (2.4 manzanas and 1.4 manzanas, respectively).<sup>4</sup> Moreover, very small landholdings (of no more than <sup>1</sup>/<sub>4</sub> manzana) are concentrated among families without migrants. In Yucuaiquín, where renting land is predominant, this form of accessing land is relatively more common for the families without migrants among all the villages analyzed.

The diverse strategies that rural families adopt suppose different levels of dependency on the natural resource base as well as differentiated impacts. In the case of rural families with migrants, there are fewer ties to the land as their livelihoods are more linked to urban activities, depending less on agriculture and more on remittances for their subsistence. Similarly, this has generated changes in consumption patterns, provoking in Yucuaiquín, for example, increasing amounts of trash and greater demand for water.

However, the persistent dependence on subsistence farming for a significant proportion of rural households is striking. The data shows that many rural households depend on subsistence farming as their principal source of sustenance, more so in Las Vueltas than in Yucuaiquín. This dependency is particularly evident among households without migrants, as much so in Yucuaiquín as in Las Vueltas. Ironically, the poorest depend more on agriculture for subsistence farming, but have less land, consequently they form a nucleus of hardcore, entrenched poor who cannot emigrate nor diversify their livelihood options. This is leading to increased social and economic disparities in rural areas as well as the formation of an ever more hardcore group of rural poor.

#### Nueva Concepción

Nueva Concepcion is one of many rural municipalities in the northern part of the country that is located along the projected Longitudinal del Norte Highway (known as the CLN for its Spanish initials). This highway forms part of a larger megaproject which seeks to build a Central American Logistical Corridor and transform the region and El Salvador, in an international logistical hub for commerce. This plan requires massive amounts of public funds for building modern highways that can serve as a "dry canal" for inter-oceanic commerce between the Pacific and Atlantic oceans (see map x). The study in Nueva Concepción draws attention to how megaprojects influence local dynamics, on the relationship between megaprojects, migration and livelihood strategies and thus, inform sustainable rural development initiatives, programs and policies.5

<sup>&</sup>lt;sup>4</sup> One manzana is equivalent to 0.7 hectare

<sup>&</sup>lt;sup>5</sup> The research in Nueva Concepcion was carried out as part of a larger study conducted by FLACSO-Costa Rica and PRISMA entitled "Megaproyectos regionales y mercados de laborales de los trabajadores migrantes en América Central", (to be published) that explores the relationship between the development of megaprojects in Central America subordinated to processes of transnational accumulation and their effects on the formation of regional migrant labor flows, social differentiation and territorial dynamics.



Map 6. Longitudinal del Norte highway with interoceanic canals conecctions

Source: Elaborated by PRISMA based on Mesoamérica / CCAD-BM 2002 GIS data base; Longitudinal del Norte highway and Interoceanic Canal based on CND (2000), PNODT (2004) and MOP (2007).

Despite efforts dating back to the 1950s to construct a highway across the northern frontier, this initiative only got off the ground in 2007 as a result of funding acquired by the Salvadoran government from the UnitedStates Millennium Challenge Corporation (MCC) as part of a 5year program whose objective is to "reduce poverty in the Northern Zone through economic growth", popularly known as the "Northern Zone Project" (el "Proyecto Zona Norte", in Spanish).

The Northern Zone Project includes three components: (1) Human development; (2) Productive development; and, (3) Transportation. The distribution of the funds demonstrates a clear preference towards the construction of the highway (of a total of \$460.94 million, \$233.56 million is designated to the transportation component, \$95.07 million to Human Development and \$87.47 million to Productive Development, the remainder of the funds cover administrative, monitoring and evaluation costs).<sup>6</sup> According to the promoters of the Northern Zone Project, *"the Transportation pro-*

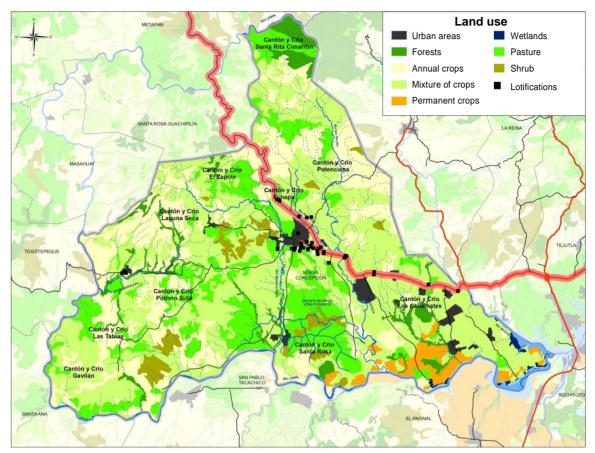
<sup>&</sup>lt;sup>6</sup> The exact distribution of the funds has changed over the course of the implementation of the Project, however the changes have led to more funds going towards the transportation component. (MCC, 2010).

ject, addresses the issue of the Northern Zone's physical isolation. Road infrastructure improvements are expected to lead to new economic opportunities for rural households, lower transportation costs, and decreased travel times to markets and social service delivery points". This is consistent with traditional development paradigms that link poverty reduction solely to economic growth – in this case through enhancing commerce and services through logistical connectivity.

Locally, in contrast, the generalized opinion of Nueva Concepcion residents is one of skepticism given that the bulk of the funds are used for constructing the highway. Indeed, some community members consider the highway a threat, stating that increased connectivity could lead to augmenting the already existing problems in the areas of delinquency and contraband. However, given that Nueva Concepcion is endowed with extension flatlands and irrigation infrastructure that favor both cattle ranching and agricultural production, significant expectations remain for stimulating the depressed local economy as a result of the productive development component of the project.

In Nueva Concepción, as in other municipalities throughout the country, remittances play a key role in facilitating upward socio-economic mobility, or at a minimum, serving as a safety net against poverty. However, as illustrated in the previous cases, remittances are not distributed equally among the population, and accordingly can augment existing conditions of exclusion and differentiation. This appears to be the case in Nueva Conception, where overall poverty levels diminished but inequity levels increased. According to a study by Damianovic, N (2009 - citation), poverty levels fell from 68.23% in 1992 to 51.28% in 2007, however during the same period the Gini index on inequality increased from 0.4 to 0.46. Given that productive activities in the zone were depressed during this same period, and previous to this there was a wave of out migration, remittances contributed to this seemingly contradictory situation of lowered levels of poverty with increased levels of inequality. Indeed, analysis of census data for Nueva Concepcion (MINEC, 2009) indicate that persons receiving remittances have more access to land, housing, as well as basic services such as potable water, electricity and telephones.

Over the past several years, as a result of the crisis in the agricultural sector, grazing lands have been converting into informal housing development lots (known as lotifications in Spanish), particularly in areas close to the center of the town and alongside the Longitudinal del Norte highway. The proliferation of these semi-urbanizations is directed related to migration, as Salvadorans abroad or families that receive remittances invest their money in buying real estate. This dynamic, in turn, is driving the land market. One local real estate agent stated that 80% of her clients are migrants or recipients of remittances from abroad. The real estate market has also been spurred by speculation that occurs around the projected capital gains associated with the construction of the highway. Given the agricultural crisis, it is considered by many more profitable to sell one's land and get out of financial debts then carry out agricultural activities. As a result, a new process of "gentrification" is emerging that is obliging households without migrants to live farther away from basic services, given the continual rise in land markets and housing.



Map 7. Land use in Nueva Concepción

Source: Elaborated by PRISMA based on CORINE land cover and MARN (2002).

The local government has been trying to counteract this unplanned growth of lotifications with little success. The speed of the land use changes outweighs the local institutional capacity to control the disorderly growth of urbanizations. The introduction of the Northern Zone project has not only been unable to counteract this tendency, but has accelerated processes of exclusion. Given the prevalence of migration coupled with decades of neglect to the agricultural sector, the construction of the highway is transforming the region into a "transit route" increasing competition from neighboring countries and facilitating the legal and illegal commerce of goods and people (citation - Cartagena, 2010). Moreover, design problems in the

productive component of the project further deepen processes of exclusion. The productive component targets producers with a minimum level of accumulation that are able to reinvest in their business, this however limits the inclusion of subsistence farmers- another words the poorest of the poor.

This situation highlights the limitations of development strategies that focus solely on stimulating economic growth without addressing issues of distribution and social exclusion. To the extent that no other large investments or programs exist to promote economic activities based on a more endogenous and inclusive role of the territory's resources, the conversion of the zone into a transit route will probably increase disparities and may even crowd out alternative models of local development.

Despite this adverse context, an innovative effort is underway to build social cohesion through integrating migrants in processes of participatory territorial planning. Recently, with political shifts at the national and local level, an initiative supported by the Ministry of Foreign Relations and the mayoral office is underway, to link together migrants with local actors in processes of local territorial development. Central to this effort was the formation of the Managing Committee of Migration and Development of New Conception (known as COMIDEN for its Spanish initials). COMIDEM's is comprised of local institutions and citizens and focuses on strengthening territorial identity and social cohesion through the participation and links between the diaspora Nueveña with local actors of their municipality. This effort is particularly promising given the focus on strengthening territorial identity and social cohesion as key components of local development. However, the challenges are immense, and it is yet to be seen whether this effort can mobilize and put forth alternative development strategies quickly enough to address and turn around the speed of changes that are occurring in Nueva Concepcion.

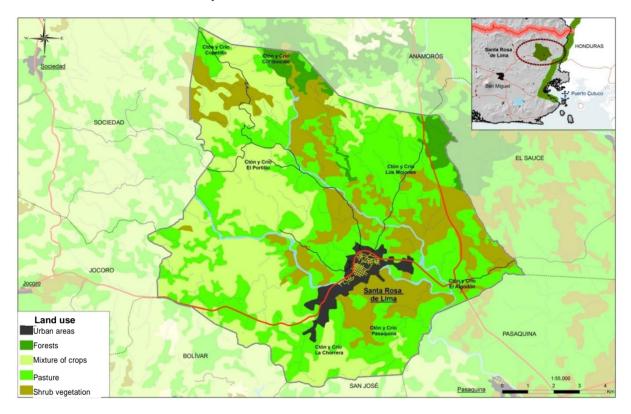
#### Santa Rosa de Lima<sup>7</sup>

Santa Rosa of Lima is located a mere 15 km from the border with Honduras; its proximity to the border stimulates the mobility of goods

and people in the zone. Indeed, migration is a central part of daily life in the municipality where diverse migratory flows coexist. A significant part of the population has emigrated abroad, primarily to the United States. Additionally there is long history of internal and cross-border migration tied to commerce and seasonal harvesting of crops like sugar cane and coffee. More recently, Santa Rosa de Lima has also become the site of significant immigration of Nicaraguans and Hondurans in search of dollars8 who fill the need for labor left behind as Salvadorans migrate out. The Nicaraguan and Honduran immigrants generally insert into unqualified poorly remunerated jobs, and earn wages that oscillate between \$5 and \$7 dollars a day. In some cases this include precarious lodging and meals. However, these conditions are better than those of their home countries, where the daily wage is approximately \$3 dollars without lodging or meals.

<sup>&</sup>lt;sup>7</sup> The research in Santa Rosa de Lima was carried out as part of a larger study conducted by FLACSO-Costa Rica and PRISMA entitled "Cohesión Regional y Movilidad Humana Intraregional: Los nuevos órdenes de la territorialidad social en Centroamérica" that explores the reconfiguration territorial taking place in Central America as a result of migration and social mobility dynamics.

<sup>&</sup>lt;sup>8</sup> The Salvadoran economy was dollarized in 2001 and with the exception of Panama, is the only dollarized country in Central America.



#### Map 8. Land use in Santa Rosa de Lima

Source: Elaborated by PRISMA based on CORINE land cover and MARN (2002).

Santa Rosa de Lima is known as a dynamic center for commerce. Aside from commerce, the traditional economic activities include agriculture, cattle ranching, commerce and mining, but with the loss of profitability in agriculture and the cattle ranching, the agricultural production is principally subsistence. Lactose producers complain that this sector is no longer profitable, due to the free trade agreement among the Central American countries with the United States (CAFTA), but also as a result of disloyal competition from contraband of lactose products coming from Nicaragua and Honduras. The consequences of the contraband on the competitiveness of the national producers are enormous; given that in El Salvador the cost of inputs and labor are higher than in the neighboring countries.

In this context it is not surprising that remittances are an important part of the livelihood strategies of a significant portion of the population. According to the UNDP (2005), 46% of the households in Santa Rosa of Lima receive remittances from migrants abroad. Remittances are allowing some families to purchase land and ranch animals, however most of the remittances are spent on basic household consumption and are not invested in developing businesses. When investments are made it is usually directed to improving housing - either through home improvements or the purchase of new homes - acquiring potable water, electricity, cisterns for storing water, covered floors, more space, etc. . Remittances are also commonly spent on healthcare and education. Given that there are few high schools in the countryside of the municipality, most of the rural youth



able to attend high school come from households that receive remittances, as they are able to afford the daily costs of moving back and forth to town.

Urbanization processes have accelerated as remittance receivers invest in housing closer to the urban center of the municipality. Additionally, the nearby construction of two infrastructure megaprojects (Longitudinal del Norte Highway and the Port of Cutuco) has further spurred some investments. Linked to these trends is a rapid increase in the conversion of vast extensions of land into semi-formal housing developments (known as lotifications), the proliferation of gated communities, real estate growth and land market speculation. This, in turn, is increasing the demand and pressure on key resources and services.

The challenges faced as a result of these dynamics are exemplified well when considering the situation of water resources in Santa Rosa of Lima, where problems of shortage and quality of the resource are prevalent. Santa Rosa of Lima faces increasing demands for water given the processes of lotification, commerce and services, as well as an increased incidence of droughts due to climate change. Simultaneously these processes of urbanization are contaminating the water sources, producing wastes of all type (liquid and solid). The inhabitants are resolving their water needs through individual solutions, the installation of cisterns, the purchase of bottled water, etc. Nevertheless, those that do not have the financial resources to opt for these solutions - immigrants and the original habitants who are not tied to the migratory or illicit circuits - are condemned to collect water from riverbanks and brooks, which tend to be highly contaminated, not only with wastes, but also from contaminates that remain from past mining in the area.

These dynamics are spurring new expressions of differentiation (with regards to labor insertion, housing conditions, resource access, citizen rights, etc.) as well as eroding social cohesion. A perverse situation is emerging whereby migration and illicit activities (such as contraband but also the trafficking of drugs and persons) emerge as the most immediate and reliable mechanism for ensuring social and economic mobility. As a consequence, a new socioeconomic hierarchy exists, in which mobility of goods and people serve as a trampoline, allowing some people to accumulate capital, whileothers are excluded from any form of mobility.

The owners of the transnational companies – in particular financial services – are the biggest beneficiaries of remittance transactions as well as the movement of money associated with illicit activities. The presence of this sector in Santa Rosa de Lima is evident, although their proprietors do not reside there. Also high in the new social-economic hierarchy are persons involved in illicit activities. Their location differs according to the size and type of operation they have. Historically the zone is known as a key entry point for the smuggling of lactose, how-

ever there is growing evidence of the smuggling of narcotics as well as people (the latter is popularly known as "coyotaje" and refers to the transportation and smuggling of persons into the United States).

The next strata in this hierarchy is composed of households with migrants, who are experiencing visible improvements in housing, education and the acquisition of various other types of goods and services. Also in this group are owners of small businesses who despite having limited profits are able to generate some profits for acquiring various comforts and/or save money. Immigrants from Nicaragua and Honduras are further down on the social ladder as they do not have work documentation, so are obliged to work in low paying jobs under precarious conditions. However, they are often able to save sufficient money to allow them to purchase some goods in their country of origin (ranch animals, land, etc.). At the bottom of the rung are households without migrants which are struggling between poverty and extreme poverty. These families don't have remittances nor do they have the social contacts needed for emigrating.

The scenario in Santa Rosa of Lima is particularly critical given the prevalence of illicit activities, increasing social differentiation and weakened local authority for addressing the challenges the locality faces for ensuring sustainable management and development of the territories resources. Moreover, these dynamics are degrading the existing natural resource base as well as the territory's social and institutional fabric, putting at risk the long term governability of the territory.



### Conclusions

These case studies confirm that despite migration and increased non agricultural related employment, large numbers of rural households depend on subsistence farming for food security. More importantly, the study reveals that the poorest depend more heavily on subsistence farming, yet have less access to land. Consequently, this group is converting into a nucleus of hardcore poor – who are unable to migrate nor diversify their livelihood strategies.

Related to this finding is the evidence that there is increasing disparities in rural territories and new forms of differentiation caused by the migration. In fact, there are clear differences between families with migrants and families without migrants; there is a proliferation of closed communities; it is increasingly evident the difference in labor insertion, access to resources, etc). This in, turn, undermines social cohesion a critical condition for facilitating agreements between actors for ensuring sustainable management of natural resources and territories. The lack of social cohesion increases pressures and competition for the use and control of the natural resource base and breeds conflicts., These dynamics erode the social and the institutional fabric of territories, ultimately posing a serious threat to territorial governance.

The case studies also points to the existence of processes of regeneration and recuperation thus contradicting long standing assumptions that associate populated landscapes with natural resource degradation. It also draws attention to the critical role food security and access to natural resources plays in rural livelihoods. This, in turn, reflects the need for reevaluating the pertinence of traditional paradigms for understanding and the relationship between natural resource management and livelihood strategies. Clearly traditional thinking is insufficient for capturing and understanding this complex relationship, and even less up to the task of shedding light on and promoting synergies that combat rural poverty as well as sustainable manage the natural resource base of rural landscapes.

Grappling with complexity implies taking into account the specific contexts, territorial dynamics and livelihood strategies. The findings demonstrate the limitations of simplistic approaches focused solely on economic growth without taking into account the vital role social cohesion plays in achieving sustainable and equitable development. Most importantly, the findings underscore the potential of a new approach, that departs from the recognition of the key role rural actors and communities can play in ensuring sustainable and equitable development. What's more, the complexity of rural livelihood strategies provides resiliency against rapid drivers of land use change. Adopting this perspective brings into focus the need for developing policies and programs that are based on revaluing and strengthening rural livelihoods. Given that there is no one-size fits all model of what needs to be done to strengthen rural livelihoods, future analysis that examines the continuum of rural livelihood strategies as well as the continuum of pressures or conflicts that exist over territorial resources, is fundamental to adequately understanding this relationship.

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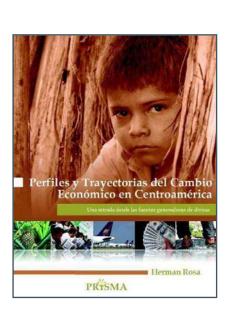
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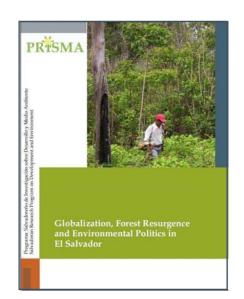
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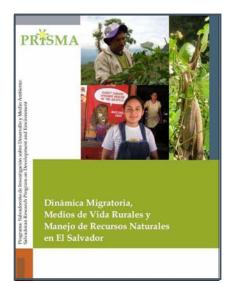
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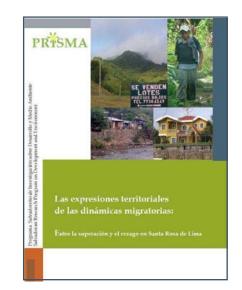
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