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Rural poverty and the environment in El Salvador:

Lessons for sustainable livelihoods

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Rural poverty and the environment in El Salvador:

Lessons for sustainable livelihoods

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Contents

Acronyms

AECI	Agencia Española de Cooperación Internacional
BID	Banco Interamericano de Desarrollo
CACH	Comité Ambiental de Chalatenango
CCAD	Comisión Centroamericana de Ambiente y Desarrollo
CENTA	Centro Nacional de Tecnología Agropecuaria y Forestal
CIMDES	Comité Intermunicipal para el Desarrollo Sostenible de Tacuba
CND	Comisión Nacional de Desarrollo
COMURES	Corporación de Municipalidades de El Salvador
CORBELAM	Comité de Representantes de Beneficiarios de La Montañona
DDT	Dicloro-Difenil-Tricloroetano
DIGESTYC	Dirección General de Estadísticas y Censos
DSE	Deutsche Stiftung fur internationale Entwicklung
EDUCO	Programa de Educación con Participación de la Comunidad
EPA	Agencia de Protección Ambiental
FAO	Organización de las Naciones Unidas para la Agricultura y la Alimentación
FIAES	Fondo Iniciativa de las Américas para El Salvador
FLACSO	Facultad Latinoamericana de Ciencias Sociales
FMLN	Frente Farabundo Martí para la Liberación Nacional
FONAES	Fondo Ambiental de El Salvador / Environmental Fund of El Salvador
FUNDAMUNI	Fundación de Apoyo a Municipios de El Salvador
FUNDAUNGO	Fundación Doctor Guillermo Manuel Ungo
FUNDE	Fundación Nacional para el Desarrollo
FUSADES	Fundación Salvadoreña para el Desarrollo Económico y Social
FUSAI	Fundación Salvadoreña de Apoyo Integral
GMASS	Área Metropolitana del Gran San Salvador / Greater Metropolitan Area of San Salvador

GTZ	Deutsche Gesellschaft fur Technische Zusammenarbeit
IICA	Instituto Interamericano de Cooperación para la Agricultura
MAG	Ministerio de Agricultura y Ganadería
MARN	Ministerio de Medio Ambiente y Recursos Naturales
MIPLAN	Ministerio de Planificación
MUGOLFO	Asociación Municipal del Golfo de Fonseca
OMS	Organización Mundial de la Salud
ONG	Organización No Gubernamental
PADEMA	Plan Departamental de Manejo Ambiental
PNC	Policía Nacional Civil
PNOT	Plan Nacional de Ordenamiento Territorial
PNUD	Programa de las Naciones Unidas para el Desarrollo
PRISMA	Programa Salvadoreño de Investigación sobre Desarrollo y Medio Ambiente
PROCAFE	Fundación Salvadoreña para Investigaciones del Café
PROCHALATE	Programa de Desarrollo Rural en el Departamento de Chalatenango
PTT	Programa de Transferencia de Tierras
SACDEL	Sistema de Asesoría y Capacitación para el Desarrollo Local
SNET	Servicio Nacional de Estudios Territoriales
UAPM	Unidad Ambiental de Producción y Manejo de los Recursos Naturales
USAID	Agencia para el Desarrollo Internacional de los Estados Unidos
VMVDU	Vice Ministerio de Vivienda y Desarrollo Urbano

Executive summary

This report examines the dynamics of rural poverty and the environment in El Salvador against the background of major socio-economic and political changes over the last two decades, which include: a civil war; land redistribution programs; rapid urbanization and large scale out-migration; orthodox economic reform and profound changes in the economy; and other institutional changes that are affecting the way the population and communities relate to the resource base.

Dynamics of rural poverty in the context of major socioeconomic transformations

While globally, poverty has decreased in El Salvador, this overall change is the result of the decreases registered in urban areas. In rural areas, poverty remains extensive and persistent. This does not imply that rural areas have remained stagnant. On the contrary, major changes have transformed the rural landscape. The civil war of the eighties generated significant population movements to urban areas and to other countries. A fifth of the national territory was redistributed, thus expanding access to land, relieving a major restriction for addressing social and environmental issues in rural areas of El Salvador. However, many in rural areas remain landless and those who depend on salaried agricultural employment have even more precarious livelihoods, due to the crisis in the agricultural sector that has resulted in a major erosion of wages and unstable employment opportunities. Non-agricultural employment in rural areas increased from 39% in 1980 to 53% in 2000 and is now more important than agricultural employment. For the poorest in rural areas, however, lack of education is an entry barrier to these alternative employment opportunities.

Migration as an alternative strategy to cope with adverse economic conditions is changing. Internal migration to urban centers as the main option for rural households, is giving way to direct migration to the United States and Canada (72%), with only 24% choosing to migrate internally. As a result, remittances play a larger role in rural areas, as shown by the increase in the proportion of rural households receiving remittances from 13% in 1992 to 20% in 2000. The average monthly remittance per rural household also increased to US$111 by 2000. The poorest in rural areas are less prone to migrate due to a lack of assets, although they can overcome this restriction if they are inserted in social networks that can support and facilitate their migration.

At the macroeconomic level, remittances play a critical role. With a fifth of the Salvadoran population estimated as having emigrated abroad – 90% to the United States – remittances provided two thirds of foreign exchange by 2000. In contrast, traditional agro-exports generated only 11%, a huge drop from the 80% generated by those exports in 1978. Agro-exports have been displaced by the net export value in the rapidly growing assembly industry (*maquila*), which generated 17% of foreign exchange in 2000. The abundance of foreign exchange facilitated the application of an orthodox economic reform package since 1989, but also consolidated a pattern of economic growth that favored the financial sector and import intensive urban-based economic activities. At the same time the deepening crisis in the agricultural sector resulted in a major erosion in its purchasing power vis-à-vis other sectors in the economy. In this

process, agro-based rural livelihoods have continued to erode and the livelihood opportunities that were opened by greater access to land, have remained unrealized and, to a large extent, nullified.

The economic transformation over the past two decades, together with land tenure changes, have also transformed the agricultural landscape and land use patterns in rural areas. Cotton production – an important annual crop in the seventies cultivated in the coastal plains with pesticide-intensive techniques – practically disappeared. After the war, part of these plains was distributed to ex-combatants that are trying to engage in organic agriculture. The decreasing profitability of coffee production is propelling the conversion of coffee areas to urban and industrial uses, particularly those near urban centers. Sugar cane production, on the other hand, has increased, benefiting from low wage costs and internal market protection. Other agricultural products have also expanded as producers attempt to diversify and adjust to the low profitability of traditional agricultural products. Basic grains – often produced with techniques that further degrade the land - have also shown an upward tendency, despite falling prices in real terms and vulnerability to periodic droughts. This is not an unexpected result given the decreasing opportunities in salaried employment in the agricultural sector, the expanded access to land without aggressive measures to promote alternatives amongst the risk-averse peasantry, and the vital role of basic grains subsistence production for rural poor livelihoods.

Beyond those changes, El Salvador has undergone institutional transformations that create new opportunities for the rural poor. While orthodox economic reform deepened the crisis in the agricultural sector and imposed severe restrictions on traditional agro-based rural livelihoods, land tenure changes, expanded access to education in rural areas, and processes of democratization and decentralization have opened new spaces for participation and collective action by the poor. The increased role of local life opens possibilities for more effective and inclusive institutional arrangements for managing natural resources. In addition, there are initiatives that seek to link local processes into larger territorial processes that may be more appropriate for managing natural resources and defining strategies for local development. One such initiative is the micro-region "La Montañona," established by seven municipalities in Chalatenango, that also boasts an innovative institutional arrangement: the Environmental Committee of Chalatenango (CACH).

Livelihood strategies and environmental dynamics

Together, the complex set of transformations discussed briefly above is redefining the relationship between rural poverty and the environment. As livelihood strategies vary according to the combination and quality of resource-assets (natural, human, social, physical and financial) and macro level, economic, social and political-institutional factors that condition their access, so do the impacts on the environment. In some cases, further degradation is the result, while in others the result is environmental regeneration or a more sustainable use of natural resources. In this report, the complex relationship between livelihoods and the environment are discussed in reference to three separate micro-regions of El Salvador - Bajo Lempa, Tacuba and La Montañona. In these predominantly rural sites, the poor have benefited from land redistribution programs. At the same time, the three sites differ in substantive ways that affect current land uses. Their settlement histories diverge, they are located within differing ecosystems - the low, middle and highlands of El Salvador; they have differing

levels of social capital formation; and, while most inhabitants are small farmers, their livelihood strategies, nevertheless, vary.

In Bajo Lempa, the combination of natural capital (in this case, land tenure rights), development of human capital and strong social capital formation have been important factors that have enabled the population to access resources, improve their abilities and knowledge, as well as establish the necessary contacts to insert themselves into an international market for the sale of their agricultural products. The new settlements established through the land transfer program in the post-war period potentially threaten forest and mangrove regeneration that occurred during the civil war. However, new practices, such as organic agricultural production, and the increasing valuation of natural assets by the population may prove more effective in confronting continuing pressures on the resources, than traditional conservationist approaches. Indeed, the 1,030 ha Nancuchiname forest, the last coastal plain forest in the country, represents the first experience of a protected area that is co-managed with the local communities.

Tacuba, located in the midst of a coffee producing region relatively untouched by the civil war and one of the principal indigenous zones of the country, is marked by a legacy of *patrón-colono* (owner-peasant) power relations of the large coffee plantations; the political dominance of elite coffee families; and the memories of the *matanza* following the 1932 uprising. The combination of these factors has debilitated the community's organizational capacities, as well as social capital formation. In Tacuba contradictions between conservation and the livelihoods of some rural communities also emerged due to attempts to expand the borders of the nearby National Park "El Imposible." Although small producers of this area organized in producer cooperatives are endowed with rich natural capital, the lack of a propitious macro policy environment, coupled with relatively weak human and social capital formation, present significant obstacles to their current livelihood strategies, and puts at risk the maintenance of important secondary forest coverage provided by shade coffee.

In La Montañona, seven municipalities surrounding the mountaintop by the same name formed the first municipal association outside the metropolitan region. With hillsides as the dominant topography and long-standing problems of deforestation and soil erosion, the forested mountaintop is strategically important for the provision of water. It also has potential for eco-historic tourism as many sites within the mountaintop bear witness to the civil war. The land transfer program resulted in significant changes, not only in land tenure, but also in the social organization and management of the forest resources. A particularly interesting feature is the various levels of organization that are nested together, which has facilitated consensus-building around territorial planning, as well as their influence at a national level. Even though the zone suffers from a general process of accelerated degradation, marked by traditional agricultural practices (monoculture on steep hillsides without soil conservation practices), forest fires and uncontrolled lumbering, the accumulation of social capital has opened new avenues for diversifying livelihood strategies while ensuring the stewardship of natural resources.

Emerging lessons

This report provides insights into key factors that can contribute to rural poverty alleviation and improved stewardship of the environment. First, expanding the access to land can play an important role in addressing rural poverty. Second, social capital formation and accumulation is crucial for improving livelihoods and

managing the resource base in more sustainable ways. Third, a policy environment and investments that recognize the environmental services provided by traditional agro-ecosystems managed by the rural poor and other rural amenities are essential to realize the potential of greater access to land and strengthened social capital formation.

Expanding access to land for the rural poor

Land redistribution since the eighties expanded the natural asset base for the rural poor in El Salvador. This has improved food security and facilitated the acquisition of other assets, such as credit and housing. Moreover, rural families with access to land tend to keep their children in school when confronting external shocks more than the rural landless poor; thus access to land has served to increase human capital formation. Therefore, redistribution of land has served as a kind of security net against increased vulnerability in the face of external shocks to rural livelihoods (e.g. earthquakes, droughts, agricultural economic crisis, etc.). In addition, land ownership increases the propensity of rural poor communities to invest in long-term stewardship of natural resources. Landless farmers who invest time and labor in soil conservation, for example, do not reap any benefits since the productivity of the land will only manifest itself after several years.

The limited outcomes of land redistribution in alleviating rural poverty are not just due to failed policy, but reflect a highly unfavorable macroeconomic environment for agriculture as well as neglect of rural areas. Thus, land distribution processes have not lost their validity. On the contrary, alternative ways need to be explored to continue and enhance such processes, making explicit the dual objectives of poverty alleviation and environmental restoration. This is only possible in land redistribution efforts that are accompanied by policies and investments that enable rural households and communities to take full advantage of this natural asset.

Strengthening social capital formation and accumulation

Social capital – understood as organizational capacities of communities, and their ability to secure resources (knowledge, collective action, etc.) through their membership in social networks or other social structures – allows rural poor communities to strengthen their livelihoods and manage ecosystems. Social capital formation in rural areas of El Salvador is linked to land redistribution processes, as they have led to organizational structures that improve collective action and decision-making concerning more sustainable management of land, water and forests. It is also proving critical in allowing access to new markets as in the case in Bajo Lempa where small farmers are producing organic vegetables and nuts for the European market.

Organizational capacities play a decisive role in environmental restoration efforts in rural areas, as they demand moving beyond the single small farm to larger territorial scales. Social capital formation facilitates the social appropriation of rural communities' territories, as well as recognition of their role in territorial development efforts. The history of social organization in El Salvador and political-institutional processes, such as decentralization, are providing a propitious setting for new institutional arrangements that facilitate ecosystem management, while increasing the chances of successful alternative sustainable livelihood strategies. However, these processes -predominantly propelled from grassroots efforts with the support of foreign cooperation agencies and international NGOs - need to be accompanied by a genuine political willingness to continue open-

ing spaces for citizen participation in policy and development decisions.

Revalorizing environmental services from traditional agro-ecosystems managed by the poor

Unlike large-scale producers that opt for simplifying ecosystems and monoculture in their search for efficiency, small-scale rural farmers tend towards diversification and complexity as part of their livelihood strategies. With more than 60% of El Salvador covered in anthropogenic or human modified forests, this foundation of local practices and institutions provide an important resource for environmental and livelihood sustainability and suggests that rural populations produce and maintain a vegetation cover that has been effective at maintaining avifauna and plant biodiversity. Rural areas managed by the poor also play an important role in providing a variety of other environmental services (such as water regulation and water quality, flood and landslide risk reduction, scenic beauty, climate change mitigation, etc.). Rural communities can also play an important role in preserving cultural heritage, and should be the focus in the promotion of economic alternatives such as rural tourism and handicraft production.

Realizing the full potential of rural communities and rural landscapes, however, demands a national policy framework that succeeds in developing an integrated approach to rural, agricultural, environmental and socio-cultural issues. A policy dialogue effort to advance the revalorization of rural areas and communities, and their key role for sustainable national development, is therefore of the utmost importance.

Trends in poverty and urban - rural disparities

Poverty levels in El Salvador, as measured by income, decreased in the 1990s particularly in urban households (Table 1). Nevertheless, in rural areas, poverty levels remained high, thus widening the urban-rural gap.

On January 13th and February 13th 2001, two earthquakes struck El Salvador that had severe impacts. According to UNDP estimations, poverty levels increased as a result, and the impact on rural areas was such that the percentage of households in extreme poverty returned to levels prevailing at the beginning of the decade (Table 1).

Beyond income, the human poverty index – which weighs lack of access to health services and potable water, adult illiteracy, malnourishment in children under five, and the population that will not survive beyond 40 years – highlights the magnitude of the urban-rural disparity, 11.2% and 31.9% respectively (see Table 2).

Table 1

El Salvador: Urban and rural poverty, 1991-92, 1999 and 2001 after the earthquakes (%)

	1991-1992	1999	2001 Post-Earthquakes
Poverty (national average)	65.0	47.5	51.2
Urban poverty	53.7	29.9	40.2
Rural poverty	66.1	53.7	66.4
Urban households in extreme poverty	23.3	9.3	14.5
Rural households in extreme poverty	33.6	27.2	35.8

Source: UNDP (2001)

Table 2

El Salvador: Human Poverty Index and its components, 1999 and 2001 (%)

	1999			2001
	Urban	Rural	National	National Post-Earthquakes
Population without access to health services	14.5	38.9	24.1	36.4
Population without access to potable water	14.9	65.4	34.0	40.6
Adult illiteracy	11.7	32.4	19.6	
Underweight children under 5	8.4	14.1	11.2	12.8
Population that will not reach 40 years	8.5	13.1	10.7	
Índice de Pobreza Humano	11.2	31.9	19.2	22.8

Source: UNDP (2001)

The situation worsened as a result of the earthquakes through their impact on health and water services.

The earthquakes did not affect the whole country equally. The poorest provinces of Chalatenango, Cabañas, Morazán and La Unión were, for the most part, spared.

The metropolitan region was affected, but to a lesser extent than the provinces of San Vicente, La Paz and Usulután, which bore the brunt of the costs.

Accordingly, the earthquakes increased the territorial disequilibria between the metropolitan region and the rest of the country.

Access to land and vulnerability of the rural poor

Historically, limited access to land has been a major restriction for the strengthening of rural livelihoods in El Salvador. During the sixties and seventies the process of land concentration meant that the number of rural families that had access to land was decreasing in absolute terms in a context of a rapidly growing rural population.

Although a limited land reform process was attempted in the seventies, this was frustrated, and it was only in the eighties – at the outset of the civil war – that a land redistribution program began to be implemented. This land reform program also faced strong opposition and was later modified to raise the allowable land ceiling under the law, from 100 ha to 245 ha. Nevertheless, it distributed 295,000 ha amongst 84,000 beneficiaries. In the early nineties 106,232 ha were distributed amongst 36,597 beneficiaries – mostly ex-combatants - under the Land Transfer Program that was part of the 1992 Peace Accords. Thus, in total 401,232 ha were distributed - a fifth of the national territory - amongst 120,597 beneficiaries: 37,000 were organized in cooperatives and received 5.8 ha/beneficiary; 47,000 received individual plots averaging 1.7 ha; and 36,597, an average of 2.9 ha/beneficiary. These figures were far below the 12 ha estimated by a World Bank study as the required land size to lift a rural family out of poverty.

Thus, although there was some progress in expanding access to land, by the mid-nineties there were about 350,000 persons in rural areas that were either landless or land-poor. As a result, renting land apparently is a more widespread practice than before. Indeed, according to Thiesenhusen (1996), there is evidence that land renting increased from one third of those that had access to land in 1971 to one half in 1993. However, renting land is not a favorable option. As land prices have soared much beyond its agricultural production value, so has the cost of renting. In addition, rented lands tend to be less productive because they are usually quite degraded. Indeed, owners rent land often because they find it uneconomical to exploit the land themselves. Since renters make a more intensive use of the land and generally do not use conservation practices, the land is further degraded.

The plight of the landless is particularly severe, because they tend to lack other assets to facilitate their insertion in non-farm activities or self-employment, making them particularly vulnerable to external shocks. This is highlighted by a study that analyzed the way rural families adjusted to the 1997 drought that reduced agricultural production and salaried employment in agricultural activities. Comparing the 1997 drought year with 1995, Conning et al (2001) found that as salaried employment in agricultural activities decreased 25%, self-employment in agricultural activities increased 26%, while self-employment in non-agricultural activities increased 141%.

The vulnerability of the landless can be appreciated from the figures in Table 3 that show how the landless remained overwhelmingly dependant on whatever salaried employment available, in contrast to the small landed producers that obtained about half their income from their own agricultural production. The contribution from remittances is also negligible for the landless, possibly because the landless that remain in rural areas tend to have less access to social networks to facilitate their migration and to relatives abroad that can support them in times of need.

The small contribution of non-farm income for the landless - only 2% vs. 23% for the small landed producers – also reflects their limited access to other assets, particularly education. Indeed, according to Conning et al (2001), the higher the level of education of the household head in rural areas, the better chance they have of maintaining their income levels after an economic shock. They also highlight the importance of having access to land to carry out self-employment activities.

Conversely, the most vulnerable of the rural poor are those in households that depend heavily on salaried agricultural employment and that do not have access to other assets (education, land, credit, etc.) as this leaves them without options for responding to external shocks.

Precarious employment opportunities in the agricultural sector

Dependence on salaried agricultural employment increases the vulnerability of the rural poor due to the crisis in the agricultural sector, which has resulted in a major erosion of wages paid in that sector and also the lack of stable employment opportunities.

This situation is evident when reviewing the situation of the coffee sector, which until the seventies was the backbone of the Salvadoran economy. As coffee prices have tended to erode, one of the policy responses since the eighties has been to freeze nominal harvest wages. This policy in the inflation context of the eighties and early nineties resulted in a major erosion of the purchasing power of harvest wages (Graph 1).

The latest drop in coffee prices in 2001 has had a devastating impact. With prices so low, some producers were reluctant to harvest the crop, while others by the end of 2001, were offering to pay half the amount they paid in the previous year.

Table 3

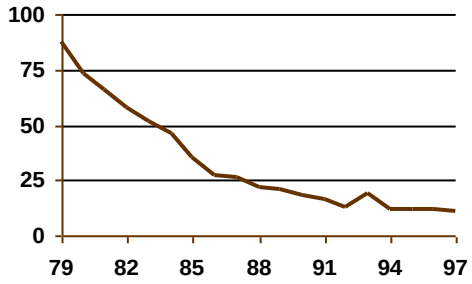
El Salvador: Income sources of producers affected by the 1997 drought (%)

Income source	Small producers	Landless agricultural workers
Agricultural production	53.4	8.4
Agricultural wages	21.5	89.3
Remittances	2.4	0.4
Other	22.7	1.9
Total	100.0	100.0

Source: FUSADES

Graph 1

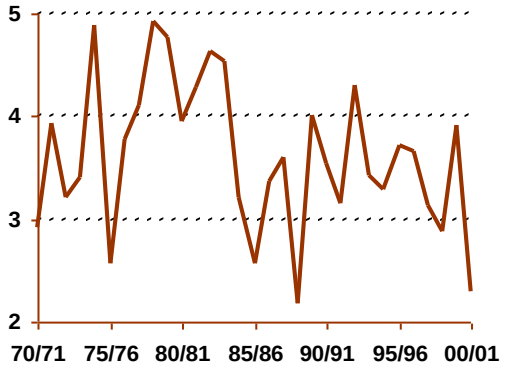
El Salvador: Evolution of coffee harvest wages, 1978 = 100



Source: PRISMA, based on data from PROCAFE and DIGESTYC

Graph 2

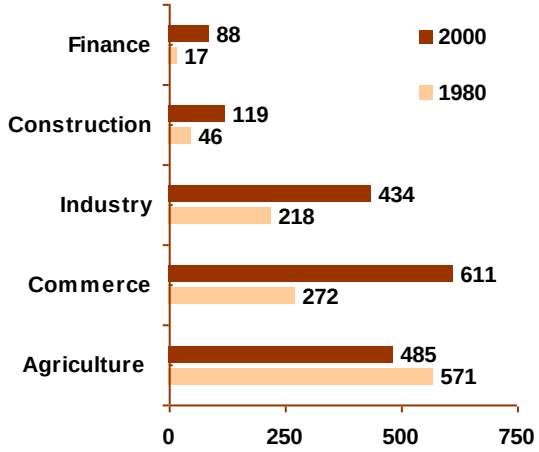
El Salvador: Evolution of harvest employment in the coffee sector, 1970/71 – 2000/01
(Millions of workdays per year)



Source: Based on data from PROCAFE

Graph 3

El Salvador: Employment in selected economic sectors, 1980 and 2000
(Thousands of Jobs)



Fuente: PRISMA, basado en MIPLAN (1981) y DIGESTYC (2001)

In addition to eroding wages, employment opportunities in the coffee sector have been unstable (Graph 2), and in the agricultural sector as a whole they decreased 15% in absolute terms between 1980 and 2000 (Graph 3). This contrasts with the evolution of employment in the other sectors – mostly urban economic activities - that increased between those two years.

In addition to reduced employment opportunities in agriculture, during the nineties wage levels remained below national averages and even decreased in real terms (Table 4). Thus, the increase in average salaries nationally of 25% reflects increases in other economic sectors.

Table 4

El Salvador: Variations of real wages by sector,1992-2000
(1992 National average = 100)

Economic sector	1993	1994	1995	1996	1997	1998	1999	2000
Agriculture	50	54	50	50	48	51	50	50
Industry	89	101	104	102	107	126	110	108
Construction	95	106	108	109	114	120	120	123
Commerce	98	114	112	121	114	127	128	130
Services	99	123	124	127	124	124	142	129
Transport and communication	149	180	191	169	173	169	170	184
Financial	175	220	242	222	259	206	205	186
Utilities	164	102	179	197	208	192	214	226
National average	**90**	**110**	**110**	**111**	**116**	**124**	**124**	**125**

Source: PRISMA, based on data from the UNDP (2001) and DIGESTYC (2001)

The growth of employment in the rural non-agricultural sector, the urban informal sector and the assembly industry (maquila)

As the economy shifts out of agriculture, the contribution of this sector to rural employment decreased from almost two thirds in 1980 to less than half in 2000 (Table 5). This reflects a slight drop in agricultural employment in rural areas (3%) and a significant increase of rural employment in other activities (77%) over the past two decades.

Overall, rural employment increased just 28% between 1980 and 2000, whereas urban employment more that doubled (it increased 120%). Accordingly, rural employment represented 37% of total employment in 2000, almost equivalent to the total employment generated in Metropolitan Area of San Salvador, where employment increased more than two and a half times between those two years (Graph 4 and Table 6).

Table 5

El Salvador: Structure of rural employment by sector, 1980 and 2000

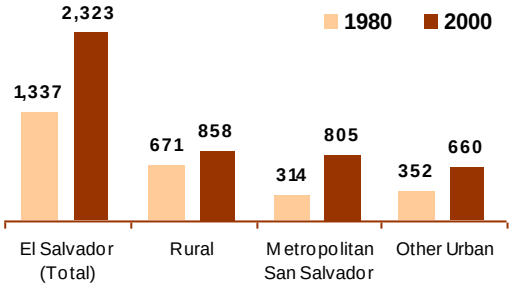
Sector	1980*	2000*	1980	2000
Agriculture	412	400	61%	47%
Commerce, hotels and restaurants	71	143	11%	17%
Industry	84	117	13%	14%
Construction	33	42	5%	5%
Services and other	71	156	10%	18%
Domestic service		41		5%
Community health service		33		4%
Public administration and defense		25		3%
Transport, storage and communications		24		3%
Fishing		13		2%
Real estate and financial intermediation		11		1%
Teaching		6		1%
Mining, electricity, water and other		3		--
Total	**671**	**858**	**100%**	**100%**

* Thousands of jobs.

Source: PRISMA, based on MIPLAN (1981) and DIGESTYC (2001)

Graph 4

El Salvador: Employment by geographical area, 1980 & 2000
(Thousands of Jobs)



Fuente: PRISMA, basado en MIPLAN (1981) y DIGESTYC (2001)

Table 6

El Salvador: Structure of employment by urban and rural areas, 1980 and 2000

Area	1980	2000
Rural	51%	37%
Metropolitan San Salvador	23%	35%
Other Urban Areas	26%	28%

Source: PRISMA, based on MIPLAN (1981) and DIGESTYC (2001)

The informal sector absorbed almost half of the sources of employment in urban areas by 2000. Informal sector activities concentrate heavily in commerce where they represent almost three quarters of the employment in that sector and half the employment in the urban informal sector (Table 7).

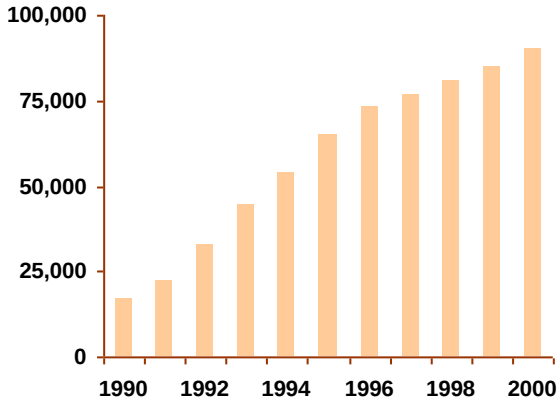
Table 7
El Salvador: Urban formal and informal employment in selected sectors, 2000

Sector	Formal*	Informal*	Total*	Formal	Informal	Total
Commerce	131	338	468	28%	72%	100%
Industry	186	131	317	59%	41%	100%
Construction	38	39	77	49%	51%	100%
Transport, Storage & Communic.	42	43	85	50%	50%	100%
Finance	63	14	77	82%	18%	100%
Public. Admin. & Defense	98	1	99	99%	1%	100%
Education	63	1	64	99%	1%	100%
Community Health Services	69	52	121	57%	43%	100%
Other	45	51	97	46%	53%	100%
Total	**735**	**670**	**1405**	**52%**	**48%**	**100%**

* Thousands of jobs

Source: PRISMA, based on DIGESTYC (2001)

Graph 5
Evolution of employment generated by maquilas, 1990-2000
(Thousands of jobs)



Source: Elaborated on the basis of Alvarenga (2001)

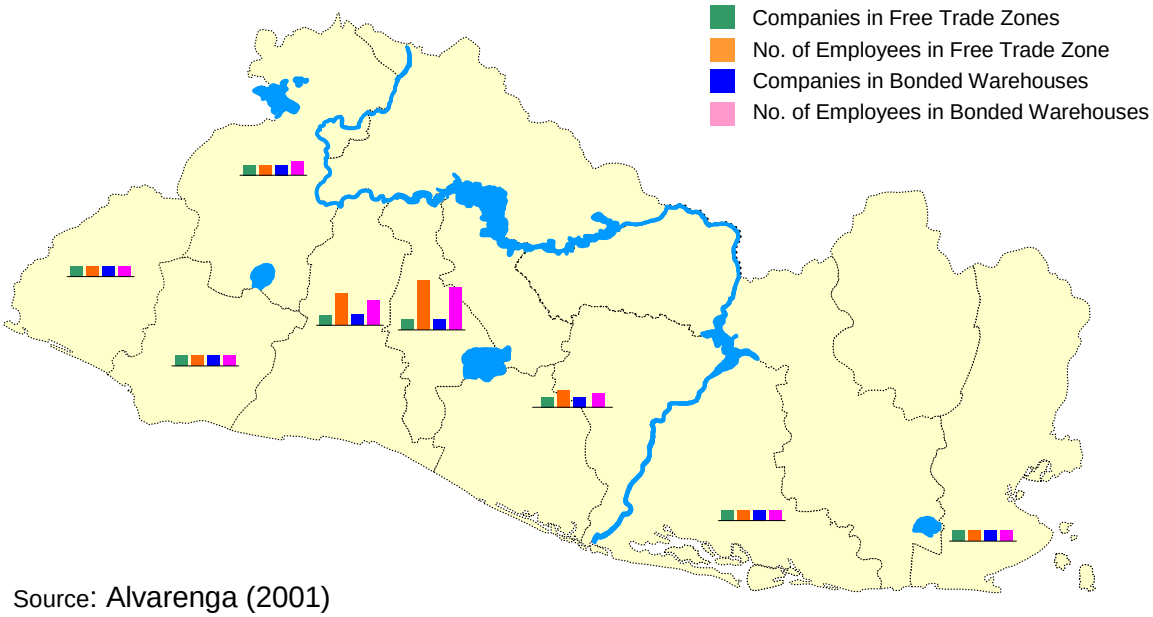
The situation of the financial sector, where formal employment represented 82% in 2000, expresses to a large extent the nature of the changes in the economy and the policy framework over the nineties. This sector grew so rapidly that employment went from 14,000 jobs in 1980 to 77,000 in 2000, propelled by the re-privatization and financial liberalization in the early nineties, the large flow of remittances and a highly favorable macroeconomic policy framework.

Informal employment in the industrial sector seems to be falling. Here, it is important to note the accelerated growth of employment in the *maquilas* during the nineties (Graph 5), as a result of the attractive package of incentives for this industry.[1]

Low wages are the prevailing norm in the assembly industry (42% of the employed receive the minimum wage – US$144 monthly and 23% receive wages below the minimum wage- Alvarenga 2001). The *maquilas* in

[1] The goods introduced in the free trade zones are considered outside of the national customs territory with regards to import and export rights; as such they are subject to a special regime and regulations. The so-called "asset improvement depots" (*depósitos de perfeccionamiento de activos*), previously known as tax exempt zones, are also subject to a special customs treatment; goods introduced in these areas for re-export are exempt from both import and export taxes, if the goods will be transformed, elaborated or repaired. Additionally, capital goods can remain in the country for a limited time. The 1998 Law of Free Trade and Tax Exempt Zones includes: exemption of income tax for 15 years; exemption of import taxes on machinery, equipment, tools and accessories; the free import of raw materials, parts and pieces for assembly; exemption from taxes on fuel and lubricants utilized for a ten-year period which can be extended; complete exemption from municipal taxes on income and company patrimony for ten years which can be extended; and the provision of services and infrastructure through public investment.

Map 1
El Salvador: Assembly industry locations



Source: Alvarenga (2001)

El Salvador focus on clothing and employ mostly women (85%).

In terms of location, although *maquila* employment is concentrated in the urban and periurban areas around the metropolitan region of San Salvador in the provinces of San Salvador and La Libertad (Alvarenga 2001), the growth of the assembly industry can be felt in most of the southern and western provinces of El Salvador (Map 1).

Macroeconomic change and collapse of the traditional rural economy

The precarious livelihoods of the rural poor and the population movements from rural areas to urban areas and other countries – discussed below - reflect the major economic changes that occurred over the last two decades, and, in particular, the collapse of the traditional rural economy in El Salvador.

At the end of the seventies, the Salvadoran economy still depended critically on traditional agro-exports (coffee, cotton, sugar, shrimp), generating 81% of the foreign exchange.

By 2000, this proportion was 11%, while remittances represented two thirds of the foreign exchange, and *maquila* exports generated 17% (Table 8).

The growth of remittances from Salvadorans abroad has been spectacular. By 1990 they surpassed the value of coffee exports. The *maquila* industry also displaced coffee exports as the second source of foreign exchange by 1998 (Graph 6).

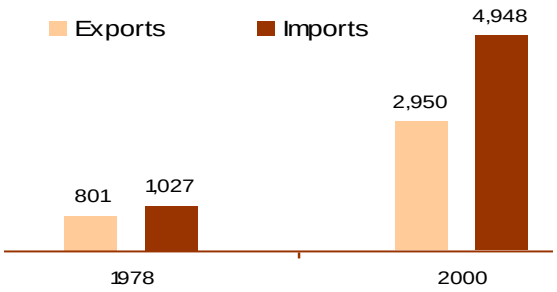
Table 8
El Salvador: Changes in the primary sources of foreign exchange, 1978 and 2000

	Millions of Dollars		Percent of Traditional Agro-Exports		Structure (%)	
	1978	2000	1978	2000	1978	2000
Traditional agro-exports*	514	292	100%	100%	81%	11%
Non-Trad. exports outside Central America	54	145	11%	50%	8%	5%
Maquila (net income)	21	456	4%	156%	3%	17%
Remittances	51	1,750	10%	599%	8%	66%
Total	640	2,643			100%	100%
Total excluding remittances	**589**	**893**				

* Coffee, cotton, sugar, shrimp. Note: The table does not include exports to Central America.

Source: PRISMA, based on data from the Central Reserve Bank of El Salvador.

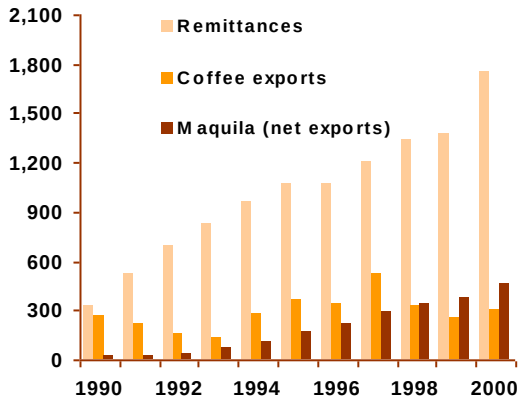
Graph 7
El Salvador: Imports - Exports, 1978 and 2000
(Millions of dollars)



Note: Exports include exports to Central America and net exports of the assembly industry.

Source: PRISMA, based on data from the Central Reserve Bank of El Salvador.

Graph 6
Evolution of remittances, coffee exports and maquila, 1990-2000
(Millions of US$)



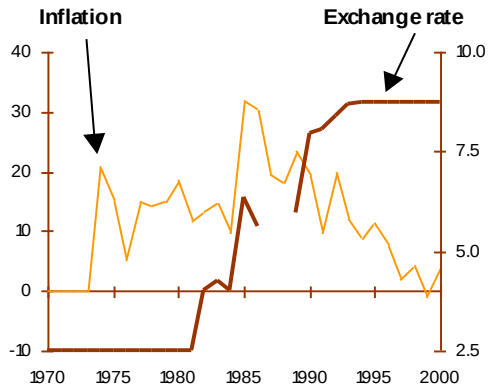
Source: PRISMA, based on data from the Central Reserve Bank of El Salvador

The massive influx of remittances expanded the import capacity far beyond the export capacity of the economy, to the extent that by 2000, imports represented 168% of total exports (Graph 7). This large capacity to import was key in controlling inflation, because it was possible to meet demand pressures with more imports and to anchor the exchange rate since the mid-nineties, previous to full dollarization in January 2001 (Graph 8).

Under the macroeconomic conditions of trade liberalization, abundance of remittances and a fixed exchange-rate regime, the pattern of economic growth changed drastically from that of the seventies.

After the contraction and subsequent stagnation of the economy during the latter years of the eighties, the economy had a period of rapid growth during the first half of the nineties, but with a different growth pattern. The agricultural sector did not recover from the contraction of the eighties and became a stagnant sector during the nineties (Graph 9 and Table 9).

Graph 8
El Salvador: Inflation and exchange rate to the US dollar, 1970-2000
(Average annual inflation and exchange rate of colones to the dollar)

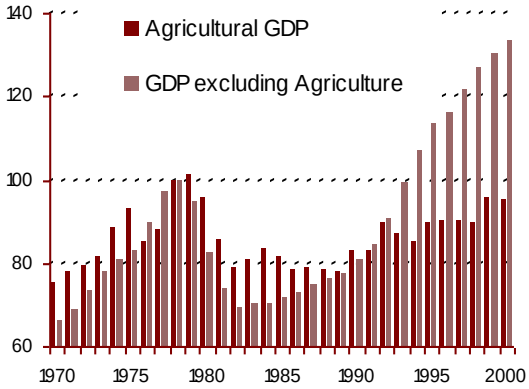


1982-1986: exchange rate in the black market
1989-2000: exchange houses

Source: DIGESTYC (inflation) and USAID (exchange rate)

Given this performance of the agricultural sector, its contribution to GDP growth was much lower than in the seventies. In contrast, after the re-privatization of the banking system and liberalization of the financial sector, this sector grew so rapidly in the second half of the nineties, that its contribution to GDP growth, despite its small size, was almost twice that of the agricultural sector (Table 9). The influx of remittances and trade liberalization also led to rapid growth of the commercial sector during the first half of the nineties. In the second half of the nineties, the economy only grew at an average rate of 2.6% and the commercial sector 1.9% contributing almost 15% to GDP growth in this period. As mentioned before, the assembly or *maquila* industry grew quite rapidly during the nineties. The impact of this growth was such, that in the second half of the nineties, the industrial sector became the largest contributor to GDP growth.

Graph 9
Index of total GDP and agricultural GDP, 1970 – 2000 (in percentages, 1978=100)



Source: PRISMA, based on data from the Central Reserve Bank of El Salvador

Table 9
El Salvador: Sectoral rates of growth and sectoral contribution to GDP growth
(In percentages)

Economic sectors	1970-1978	1979-1982	1983-1989	1990-1995	1996-2000
	Average rates of growth				
Agriculture	3.6	-7.9	-0.6	1.4	1.0
Manufacturing Industry	4.5	-14.2	1.4	5.6	4.5
Construction	12.6	-14.4	3.9	7.5	2.5
Commerce	4.7	-14.9	4.3	8.7	1.9
Transportation, storage and communications	7.2	-8.2	1.7	6.4	5.3
Finance	9.3	-2.4	0.0	12.7	8.0
Services	6.9	2.4	3.8	3.9	1.3
Others	4.6	-4.6	-0.9	7.4	1.2
GDP	**5.0**	**-9.5**	**1.2**	**6.2**	**2.6**
	Sectoral contribution to growth				
Agriculture	12.8	15.0	-8.7	3.5	5.0
Manufacturing Industry	24.8	36.1	24.4	19.6	37.5
Construction	8.7	6.0	12.1	4.4	3.6
Commerce	18.2	27.2	58.0	26.8	14.6
Transportation, storage and communications	8.7	5.7	9.7	7.7	15.7
Finance	2.9	0.5	-0.1	5.1	9.9
Services	5.1	-1.3	21.2	3.7	2.7
Others	18.9	10.8	-16.6	29.4	11.0
GDP	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: PRISMA, based on data from the Central Reserve Bank of El Salvador

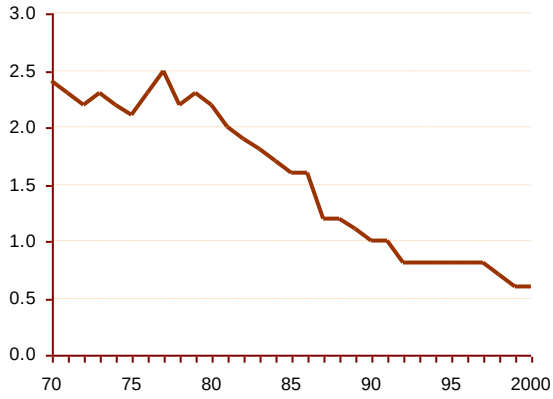
The small contribution of the agricultural sector to GDP growth – beyond any external factors – also reflects the anti-agricultural bias of the macroeconomic conditions that place this sector in a very unfavorable situation *vis-à-vis* other sectors. As the prices in the other sectors rose much more rapidly than the prices of agricultural production, the profitability and purchasing power of the agricultural sector was eroded (Graph 10).

This erosion began during the eighties – the years of the civil war - when it was argued that the macro-economic policy framework maintained a strong anti-agricultural bias. Indeed, structural adjustment policies that began to be applied quite aggressively since 1989, were predicated on the expectation that they would remove this bias, but as shown in Graph 10, the erosion of the relative prices of the agricultural sector vis-à-vis the rest of the economy continued, while at the same time being subjected to increased competition from imports.

Graph 10

Evolution of relative prices of the agricultural sector, 1970-2000

(GDP agricultural price index / GDP price index, 1990=1) (National Accounts Base 1990)



Source: PRISMA, based on data from the Central Reserve Bank of El Salvador

The new agricultural landscape

The agricultural landscape changed significantly over the last two decades. As the profitability of agro-export production plummeted, the first casualty was cotton, which practically disappeared. Cotton - an annual crop - was produced in areas more directly affected by the civil war, with pesticide intensive technologies that were getting costlier every day. Therefore its production was abandoned. After the war, some of the areas where cotton was previously produced were distributed to ex-combatants and - rather than reintroduce cotton production - there has been a serious attempt to engage in the production of organic products such as cashews.

In the case of coffee, small-producer farms of less than 7 ha represent 80% of the individual farms but only 15% of the coffee surface; the bulk of the surface and production of coffee still corresponds to medium and large coffee plantations (Table 10). However given its decreasing profitability there is a process of conversion, particularly in coffee areas near urban centers, where they are being converted to urban uses such as housing and industrial parks.

Nevertheless, coffee production – although slowly declining - has proven to be quite resilient (Graph 11). There are several factors involved in this resilience; chief amongst these is the fact that coffee is a perennial crop, therefore there are no significant changes from year to year. In addition, coffee still commands the attention of the government and continues to be subjected to incentive and rescue programs. Furthermore, as previously discussed, wage costs have been cut in real terms.

The low costs and the protection offered to the internal market have also been important determinants of the significant expansion of sugar cane production (Figueroa and Brenes, 1998). Indeed, sugar cane production grew in the ni-

Table 10
El Salvador: Coffee farms and surface by size, 2000

Farm size (ha)	Number of Farms		Area (ha)	
0-7	15,051	80%	24,331	15%
0-14	1,479	8%	15,600	10%
14-35	1,319	7%	32,018	20%
35-70	618	3%	33,698	21%
> 70	371	2%	55,298	34%
	18,838	100%	160,945	100%

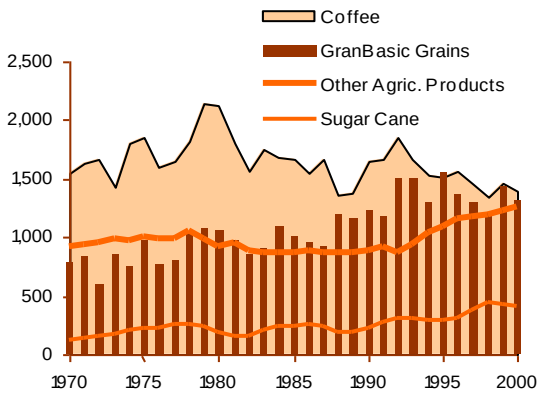
Note: Does not include land reform cooperatives.

Source: PRISMA, based on PROCAFE data

neties at an average annual rate of 6.5%. Another interesting development during the nineties has been the expansion of other agricultural products, which grew at an average annual rate of 3.5%. This probably reflects the attempts by producers to diversify, given the low profitability of other traditional agricultural products, as well as the impact of government policy in this regard.

Finally, basic grains production showed an upward tendency until the mid-nineties, despite the fact that real prices fell sharply since the early eighties, to the extent that by the mid-nineties they had fallen to around a quarter the level they had in 1978. Here it is important to note that basic grains subsistence production is an essential element of the livelihoods of the rural poor.

Graph 11
Production value of selected agricultural products, 1970-2000
(Millions of 1990 Colones)



Other agricultural products: Brown sugar loaf, tobacco, cottonseed, henequen, kenaf, sesame, balsam, copra, olive, fruits and vegetables.

Source: PRISMA, based on Central Reserve Bank of El Salvador data.

Therefore, the expanded access to land and the decrease in the opportunities for salaried employment in the agricultural sector may have played a role in this expansion. Nevertheless, basic grains production in large parts of the country is highly vulnerable to the droughts that occur periodically, as was the case in 1997 and again in 2001 (Map 2).

Although information that differentiates current land uses in agriculture in the territory of El Salvador is particularly poor, it is obvious that these changes in the agricultural sector are significantly impacting land use patterns in El Salvador.

Map 2
El Salvador: Impact of the 2001 drought

Migration as an adjustment strategy for rural households

Migration, whether internal or international, constitutes the mechanism, *par excellence*, used by the population to confront adverse economic changes in order to maintain their livelihoods. Migration is not a new phenomenon in El Salvador. The establishment of an agro-export economy in the 19th century pushed thousands of indigenous peasant families off the most fertile lands into the resource-poor regions of the north. In addition, intra-regional seasonal labor migration had become a common feature of the Salvadoran *campesino* livelihood by the 1930s.

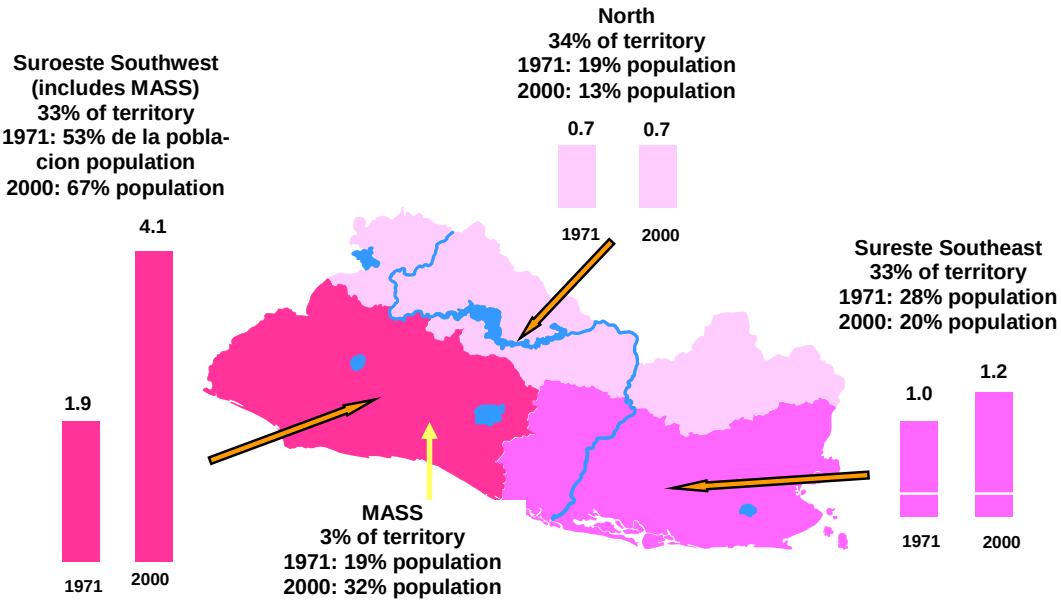
Internal migration from the countryside as well as smaller cities and towns to larger urban centers increased sharply during the war years of the eighties and continued through the nineties, as the economy has shifted to an urban based economy. Currently, an estimated 58% of the population lives in an urban center.

Apart from growing urbanization, internal movements have concentrated the population as shown in Map 3, where the country has been divided into three zones of approximately the same size. One can observe that almost all the inter-census population growth between 1971 and 2000 is concentrated in the southwestern region of the country. Indeed, by the year 2000, 67% of the population resided in the southwest, while 20% and 13% resided in the southeastern and northern regions respectively. The concentration of the population in the southwest is directly related to the location of the Greater Metropolitan Area of San Salvador (GMASS) in this same zone. Together, the population of the municipalities of GMASS and its neighboring municipalities nearly doubled between 1971 and 2000. In fact, 32% of the total population resides in this region, which represents no more than 3% of the national territory.

Map 3

El Salvador: Population distribution by zones, 1971 and 2000

(Millions of habitants and percentages)



MASS: Metropolitan Area of San Salvador
Source: PRISMA, based on population census

Massive out-migration to other countries has been the other strategy adopted by households to adjust to unfavorable conditions. It is estimated that almost a fifth of the Salvadoran national population has emigrated abroad,[2] with more than 90% in the United States. Even though the first wave of massive migration to the United States began with the outbreak of the civil war of the 80s, the principal reason why rural residents continue to migrate is economic (Andrade-Eekhoff 2001). Moreover, the principal destinations for rural migrants are the United States and Canada (72%), with only 24% choosing to migrate internally to other areas, and only small percentages going to the rest of Central America or other countries (Table 11).

At the household level, income from remittances is becoming increasingly important, not only in the number of households that receive remittances, but also for the amounts sent (Table 12).

Since most recipients of remittances are low-income households, they play a more redistributive role than other policies directed towards the poor. As such, remittances constitute a kind

Table 11
El Salvador: Destination of rural migrants (2000)

Destination	2000
United States and Canada	72%
Metropolitan Region of San Salvador	13%
Other Regions of El Salvador	11%
Other Countries of Central America	2%
Other Countries	2%

Source: Andrade-Eekhoff (2001)

[2] No exact numbers currently exist. For the Ministry of Foreign Relations of El Salvador there are approximately 2.5 million Salvadorans outside El Salvador with 94% in the United States (some 2,375,000 persons). Source: Ministerio de Relaciones Exteriores de El Salvador, Programa Salvadoreños en el Exterior: Socios del Desarrollo.

Table 12
El Salvador: Households receiving remittances

	1992-93			1995			2000		
	No. of recipient house-holds	% of total house-holds	Average monthly remittance/ household	No. of recipient house-holds	% of total house-holds	Average monthly remittance/ household	No. de hogares con re-mesas	% of total house-holds	Average monthly remittance/ household
Urban	89	15.5%	$ 88	111	16.2%	$ 100	174	19.3%	$ 127
Rural	68	13.1%	$ 60	68	14.1%	$ 93	110	20.4%	$ 111
National	157	14.4%	$ 76	179	15.3%	$ 98	284	19.7%	$ 121

Source: Ministry of the Economy, General Direction of Statistics and Census, Multiple-purpose household surveys, 1992-93,1995, and 2000. Exchange rate used US$1 = ¢8.75 colones.

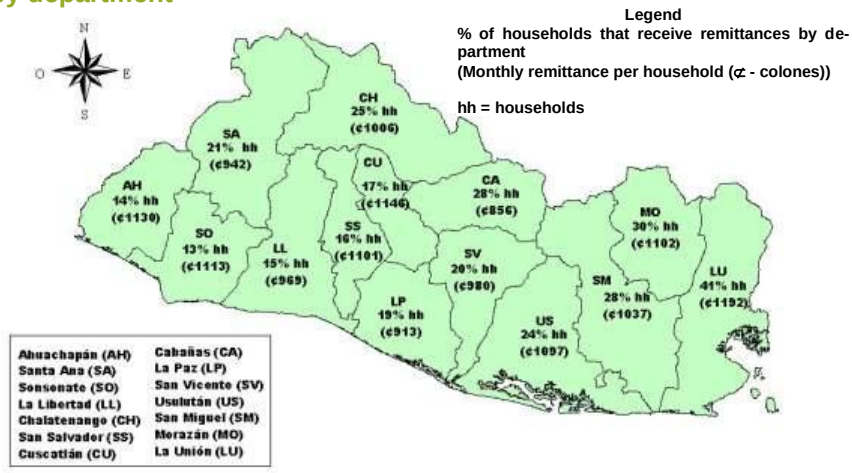
of self-generated social compensation program. Nationally, the average amount of monthly remittances is reported as equivalent to just under a monthly minimum salary. In 1992-93, the percentage of urban households receiving remittances (15.5%) was greater than the percentage of rural households receiving remittance (13.1%).

Yet, a decade later, remittances have become slightly more important in rural areas (20.4%) than in urban areas (19.3%). From the perspective of rural livelihood strategies, the increased percentage of households receiving remittances in 2000 (20.4%) in comparison with 1992-3 (13.1%) is of particular interest.

The importance and prevalence of remittances in household income varies not only between rural and urban areas, but also among departments or provinces of El Salvador (Map 4).

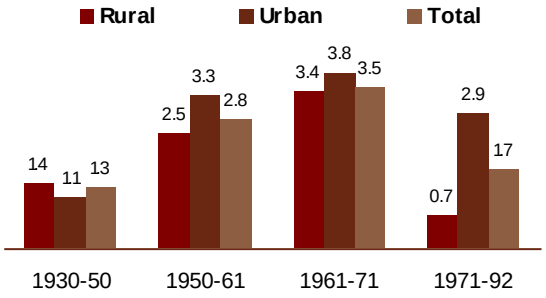
In La Unión, 41% of the households receive remittances, followed by Morazán (30%), San Miguel (28%), Cabañas (28%) and Chalatenango (25%). The lowest figures (13%-16%) are in central and western El Salvador where most of the economic opportunities are concentrated, with the exception of Ahuachapán, which shows fairly low levels of out-migration for different historical reasons.

Map 4
El Salvador: Percentage of households that receive remittances by department



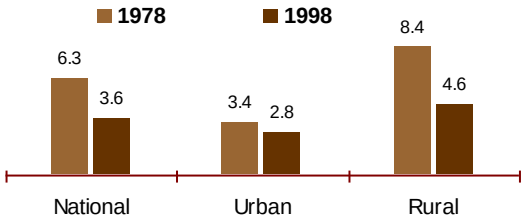
Source: PRISMA, based on data from DIGESTYC.

Graph 12
El Salvador: Rates of population growth
(Average annual inter-census percentage rate)



Source: PRISMA, based on population census

Graph 13
El Salvador: Total fertility rate, 1978 y 1998
(Average number of children per woman)



Source: PRISMA, based on FESAL-78 and FESAL-98

Massive out-migration was also a key factor in arresting rural population growth (Graph 12).[3] Similarly, internal migration to urban areas was also a major factor in drastically reducing the growth of the rural population, particularly during the war years of the eighties. Currently, the lack of economic opportunities in rural areas also plays a role in arresting the growth of rural population.

In addition, there has been a noteworthy decline in fertility rates in rural areas, decreasing by nearly 50% between 1978 and 1998 (Graph 13).

Regarding the effects of international migration on labor attitudes, a study by Zilberg and Lungo (1999) that explores labor attitudes of the youth in the municipality of Santa Elena found that the youth have decreasing interest in working in agriculture. But, this result reflects the fact that "agriculture has become unviable for thousands of peasants and, consequently, many opt to migrate." Furthermore, youth are prolonging their education – remittances have played a large role in enabling them to continue their studies – and, as a result, are entering the labor market later.

The study revealed that those youth that want to continue their studies have a higher propensity to stay in El Salvador (nevertheless their work expectations are geared to professional careers, and usually more often than not, requires migration to urban areas). Additionally, the study concluded those who do not have the same opportunities for studying are more likely to migrate. Thus, international migration has opened new options for securing a livelihood. Moreover, new perceptions, values and aspirations as a result of international migration, particularly among children and youth, compete with the traditional option of farming, which is becoming more unprofitable if not altogether unfeasible as a livelihood strategy.

[3] Population growth in El Salvador was for a long time a major policy concern for organizations like the World Bank and USAID. The World Bank in its economic memorandum for El Salvador for 1979, for instance, stated that population growth was "the most important long-term problem of El Salvador, given its size and resource base" (World Bank, 1979). The rates of population growth had indeed been increasing as shown in Graph 12. If the inter-census growth rate of 1961-1971 (3.5%) had remained unaltered, the population would have reached nearly 9 million by the year 2000. Instead the population for 2000 was estimated at just over six million.

Institutional changes that expan-dopportunities for the poor

Over the past two decades, El Salvador underwent major institutional changes that created new opportunities as well as restrictions for addressing rural poverty and restoring the environment. The orthodox economic reform, as we have seen, deepened the crisis in the agricultural sector and imposed severe restrictions on traditional agro-based rural livelihood schemes. On the other hand, land tenure changes and expanded access to education in rural areas have opened new opportunities for the rural poor. Similarly, processes of democratization and decentralization have opened new spaces for participation and collective action by the poor.

Land redistribution

The Agrarian Reform of the 80s institutionalized the process of land redistribution in the midst of political turmoil. A decade later, as a result of the Peace Accords, the Land Transfer Program (known as the PTT by its Spanish initials) introduced new modifications to the land tenure structure. Even though the current macroeconomic framework and the agrarian crisis have severely undermined the poverty reduction impact of land redistribution, it still has produced some positive changes in rural livelihood strategies:

- Land ownership grants a strong sense of security to traditionally vulnerable people. Research on the communities benefited by PTT has proven that access to land is central for personal and communitarian empowerment (Navas, 1999). Land is an asset that contributes to the consolidation of other assets, such as education, housing, access to credit, fa-mily patrimony and social capital.
- Land ownership is associated with higher social capital investment at the household level. Households that receive income from agricultural self-employment are less prone to sacrifice educational investment in times of crisis (Conning et al, 2001). Moreover, child nutrition and health are better in the families that cultivate land than those that are landless, that have abandoned their land, or do not work it.[4]
- The PTT access to land process has promoted gender equity. Approximately 35% of PTT beneficiaries are women, among them ex-combatants and former land tenants. That is a significant increase with regard to the previous process of agrarian reform, where a mere 11% of the beneficiaries were women (Deere and León, 2000).
- Land transfer processes have given rise to new forms of organization, which in some cases have led to a collective decision about the use of the territory, as well as a more rational use of natural resources. Through different mechanisms collective areas have been defined for agricultural production or resource protection. While the Agrarian Reform enabled collective property through cooperatives, the PTT beneficiaries took advantage of the "*pro indiviso*"[5] phase to define and legalize common areas. In this manner, the agricultural cooperatives and associations not only guarantee access to paid work, but negotiate agreements to guarantee the controlled use of natural resources, such as wood and water (refer to

[4] Research done by Physicians for Human Rights about PTT-benefited families found a strong inverse correlation between size of cultivated area and children's stunted growth. There is a prevalence of the latter as the cultivated area is reduced, especially with landholdings of under 2 ha (quoted in Navas, 1999).

[5] *Pro indiviso* is a provisional legal collective figure used for the transfer of land to a group of beneficiaries, which at a later date is to be divided into plots of no more than 2.9 ha.

the case studies of Tacuba y La Montañona).

- The Agrarian Reform cooperatives and the PTT-benefited communities have received technical assistance and funds from international cooperation for rural development projects that promote sustainable agriculture, agro-ecology and environmental protection. As a result, there are new forms of institutional accompaniment connected with NGOs or projects supported by international cooperation.

Investment in education

In El Salvador there is a broad consensus about the great importance of investing in education. During 2001, public expenditures increased from representing 1.9% of the GDP to 3% (UNDP, 2001). The aim is to improve education in rural areas, through the "Education with Community Participation" (EDUCO) program. The initial results have shown improvements in access to education; however, it has not led to changes in the content nor quality of the education.

The rural population and its organizations have also internalized the need to increase educational investments; it is one of the main strategies that households and rural communities are adopting for poverty alleviation. On the one hand, official policies have had a positive influence at the household level, providing specific incentives such as the provision of food for students.[6] On the other hand, educational investments are higher among those families that receive remittances. Furthermore, case studies show important improvements with regard to increased capacities and abilities of organized rural communities as a result of non-formal education.

Decentralization and stakeholders of local development

There is a new policy framework to strengthen municipalities and boost local development.[7] Nevertheless, municipalities face severe budgetary restrictions that limit their capacity to influence local development.[8] In real terms, responsibilities have not been clearly transferred. The most important achievements are a result of grassroots pressure and international support aimed at strengthening capabilities of local governments and enhancing citizens' participation. This has led international cooperation to widen its area of action, in addition to establishing direct and fluid relations with the local actors.[9]

Grassroots pressure is, in part, a response to the fact that local territories have been the setting for processes of reorganization of the diverse forms of social representation that arose during the war. It is in localities that communities' have reconstructed their sense of belonging. During post-war reconstruction there was an emergence of new forms of social organization that worked to strengthen local power and face

[6] According to recent studies, in rural zones parents of all educational backgrounds consider elementary education important, nevertheless the level of education of the head of the household is the most important determining factor in the levels of enrollment, particularly in elementary school (Conning et al, 2001).

[7] Policies include the formation of the Municipal Code (1986), and later, a series of strategic frameworks: the "Strategy for decentralization and municipal development" and the "Strategy for implementing the process of decentralization and municipal development" both of 1993; the "National Strategy of Local Development" (1999) and "The Territorial Actions of the National Plan 2000" (See UNDP, 2001 and Córdova and Orellana 2001).

[8] The Corporation of Municipalities of El Salvador (COMURES), an organization representing the 262 mayors of the country, has fought for an increase in the amount designated for municipalities from the national budget. To date, only a mere 6% of the national budget is designated for municipalities. Moreover, in El Salvador local governments are unable to collect property taxes, an important source for increasing local public funds.

[9] Currently COMURES is carrying out nine municipal development programs, with funds from various aid agencies, among them USAID, GTZ, DSE and AECI.

the immediate challenges of that time: access to land, basic services and infrastructure provision, as well as the re-insertion of ex-combatants and the repatriated.

Political openings, consolidated since the Peace Accords, enabled the emergence of new social actors that are organized around a shared physical space: community and neighborhood organizations; cultural groups; women's, youth and environmentalists movements; and public services provision committees (water, education and health). All of them reflect a more pluralistic composition; their demands are more concrete, tied to the planning of their project and the negotiation of strategic agreements with central government and international cooperation for its implementation.[10]

This local level protagonism has given rise to broadened citizen participation in resolving environmental problems, and creative arrangements for natural resource management, as part of a local or territorial development strategy.[11] The latter include new forms of organization and interaction with local governments and international cooperation, which are generally more effective than traditional top-down legalistic approaches to management. Despite their potential, they are not, for the most part, incorporated nor recognized as environmental management actors.

Local territories, as well as the municipality, by themselves are not isolated worlds. Although these spaces are a dynamic and promising avenue for action, where poor groups have a real opportunity to influence central government, they are incapable of dealing with problems that go beyond its territorial limits. Clear examples of such limitations are risk management, as well as the impact of environmental problems and globalization on local development.

The formation of intermediate territories for development management

In the late nineties, a concern about territorial imbalances and their impact on opportunities and human development emerged. If Hurricane Mitch highlighted the vulnerability of the lower watersheds of El Salvador, the impact of the earthquakes spread this concern throughout the country (PRISMA, 1995; CND, 2000; UNDP, 2001). In this context, new social and governmental initiatives for territorial development have flourished, with different, yet not necessarily contradictory, focuses:

- The Nation Plan and its "Territorial Actions" (CND, 2000). Under the general scheme of integrating territories to promote development, it has started to implement specific actions to modernize key territories, such as the Gulf of Fonseca (where the Cutuco Seaport will be enlarged)[12] and the *maquila* zone of the central region of the country.

[10] Post-war reconstruction programs legalized new organizational figures that bring together local actors in reconstruction processes, promoting self-determination, consensus building and the coordination of actions between the State, NGOs, the private sector and local communities. This was the origin of the *Agencias de Desarrollo Local* (Agencies of Local Development, know as ADEL by its Spanish initials) that still exist in different municipalities throughout the country (Moreno, 1997).

[11] One of the most well-developed regional plans is the Departmental Plan of Environmental Management (*Plan Departamental de Manejo Ambiental*, known as PADEMA by its Spanish initials), which was formulated through CACH, in which the integrated management of natural resources is a strategic focus for formulating a regional development plan that diminishes environmental vulnerability, reduces poverty and strengthens citizen participation (CACH, 1999).

[12] The Port of Cutuco macro-project is the first opened to public discussion with regards to its possibilities to further territorial development goals, achieving an acceptable level of consensus among local and national actors. The port, located in a key zone for interconnecting Central American trade, is supported by Japan, which has provided a loan to the Salvadoran government for US$90.9 million for the construction of the first stage of the port (CND, 2001).

- The *Red para el Desarrollo Local* (Local Development Network)[13] has developed a proposal for local and regional development, understanding "regions" as territories that are integrated through the association of municipalities (Cerritos and Rodríguez, 2001).
- Governmental initiatives geared towards the definition of legal frameworks and specific regulations based on traditional concepts of territorial planning, which do not necessarily take into account local dynamics, nor include stakeholders involved in bottom-up approaches to planning. After the earthquakes of 2001, the Vice Ministry of Housing and Urban Development (VMVDU) reintroduced a Proposed Law for Territorial Planning and Development. Moreover, the VMVDU, in coordination with the Ministry of the Environment and Natural Resources (MARN), have hired an international consulting firm to produce a National Plan for Territorial Planning and Development - PNOT (Baires 2001).

The first two initiatives engage local residents in organizing their productive and daily space, as well as stress the need to link decentralization and mayoral leadership with planning processes. The idea of a socially constructed region is distant from the governmental planning model, where people are not involved in the process.

In regard to the construction of intermediate territories that are more participative, it should be highlighted that: a) There is no political framework to integrate and articulate the local planning processes to the wider dynamics of national development (SACDEL, 2001). b) The formation of municipal associations, as defined intermediate territories, is legally limited to the administrative limits of all the municipalities included[14] (i.e. the *Mancomunidad de La Montañona*). c) There are emergent institutional arrangements resulting from civil society initiatives, the latter related to processes of historical appropriation of certain territories, such as Chalatenango and Bajo Lempa (refer to case studies).

The evolution of the government's environmental institutional framework

Despite the establishment of a governmental ministry and body of regulations concerning environmental management in the 90s, the political commitment to environmental management is lacking and is not a priority within the governmental agenda. Nonetheless, the institutional profile of MARN has evolved from emphasizing resource protection and environmental regulations for addressing pollution, to the integration of a territorial perspective as a strategy to manage social-environmental vulnerabilities. The experiences of Mitch and the earthquakes of 2001 propelled this evolution. MARN has assumed new roles and responsibilities[15], yet this has not been accompanied by increased

[13] The *Red de Desarrollo Local* is comprised of NGOs that work in projects or research concerning local development (FUNDAUNGO, FUNDAMUNI, FUNDE, FUSAI, SACDEL and FLACSO).

[14] *Mancomunidades* have been formed in diverse parts of the country, among them: the "*Asociación de Municipios de el Alto y la Bola*" in Chalatenango; the Microregion of Juayúa in Sonsonate; the Microregion of the North Zone in Morazán and the Municipal Association of the Gulf of Fonseca (MUGOLFO) in La Unión.

[15] Three offices previously under the Ministry of Agriculture and Livestock (MAG) are now the responsibility of MARN (National Parks and Protected Areas, and the Institutes of Meteorology and Hydrology). The three form the newly established National Service of Territorial Studies (*Servicio Nacional de Estudios Territoriales*, known as SNET for its Spanish initials), created to strengthen the State's capacity to prevent and monitor social-environmental risks. SNET plans on providing information services in the areas of geology, hydrology, and fluvial, seismic and volcanic studies. With SNET, MARN has the potential for producing integrated information concerning environmental tendencies to promote a more strategic vision of environmental management from a territorial perspective.

financial resources or political will.[16] Nevertheless, it has opened the doors for a more strategic approach to environmental management.

New opportunities for international cooperation within environmental management

International cooperation has played a key role in the embeddedness of environmental issues in the development agenda as well as the institutional transformation, emphasizing resources protection and conservation[17]. Mechanisms have been created to finance environmental projects, such as the *Fondo Iniciativa para las Américas* (FIAES), part of the foreign debt swap for El Salvador with the U.S., and the *Fondo Ambiental de El Salvador* (FONAES), based on contributions from the IDB and the Canadian Fund for the Environment.[18]

These funds present new avenues for co-administration and resource investment with poor communities, moreover they have provided new employment possibilities related to environmental improvement.[19] Yet they are short-term projects, and therefore risk being unsustainable once finished due to insufficient involvement of the population in the process.

In an effort to overcome those risks, FONAES is promoting the constitution of Environmental Committees for each Department - permanent forums for environmental negotiation and coordination[20] - as part of MARN's institutional structure. However, most of them are not important in local environmental decision - making. This could partially be attributed to the fact that environmental concerns have been delegated to public institutions (Departmental Government, PNC, Military Corps) or local prominent individuals that are unable to create a dynamic that integrates local and national environmental management.

International cooperation has also influenced environmental management through the implementation of rural programs and projects in the poorest zones of the country, which promote sustainable agricultural practices with enhanced citizen participation.[21] Although social capital has been strengthened and new agricultural practices introduced, they are not accompanied by state policies that promote the reproduction and consolidation of these emergent forms of relations between society and the environment. However, new avenues of influence for receiving external cooperation have emerged, establishing direct contact with the needs of the rural population.

[16] In 1980, when natural resources management was under MAG, 1.09% of the national budget was designated for this area. Despite the establishment of a separate Ministry for Environment and Natural Resources (MARN) a decreasing amount of the national budget is now allotted to environmental management: in 2001 MARN received a mere 0.18% of the national budget (Ministry of Finance).

[17] The United States Agency for International Development (USAID) was the first international agency to introduce environmental concerns among the governments of Central America, providing the impulse for the creation of the CCAD (Barry, 1994).

[18] In 1992, the U.S. government established a program to reduce Latin America's foreign debt with the United States; it emphasizes the strengthening of their economies and bilateral trade.

[19] Between 1995 and 2001, FONAES has funded a total of 369 environmental projects in the country for a total of approximately US$9,000,000. And since 1994, FIAES has invested a little more than US$2,000,000 in a total of 330 environmental projects and infant survival projects.

[20] Given the success of CACH, FONAES tried to stimulate the formation of Environmental Committees in all of the departments of the country. However they did not take into account the particular social history of Chalatenango as the source of strength for territorial organization.

[21] Among these are: The Program for Rural Development (*Programa de Desarrollo Rural en Chalatenango*- PROCHALATE); The CENTA-FAO Project "Sustainable Agricultural on Hillsides" ("*Agricultura Sostenible en Zonas de Ladera*"), implemented by CENTA with technical assistance from FAO; and the Project for Institutional Development for Sustainable Agricultural Production on Hillsides of Central America (*El Proyecto de Desarrollo Institucional para la Producción Agrícola Sostenible en las Laderas de América Central*- Proyecto IICA-Holanda/Laderas).

Livelihood strategies and environmental dynamics

The relationship between rural poverty and the environment in El Salvador is complicated and conditioned by a variety of factors. Livelihood strategies vary according to the combination and quality of resource-assets (natural, human, social, physical and financial) and macro level, economic, social and political-institutional factors that condition their access.

The elected livelihood strategies, in turn, reorganize the use, access and control of natural resources by rural populations within a given territory. The resulting impacts on the environment are varied; in some cases the livelihood strategies have resulted in further degradation, while in others the result is environmental regeneration.

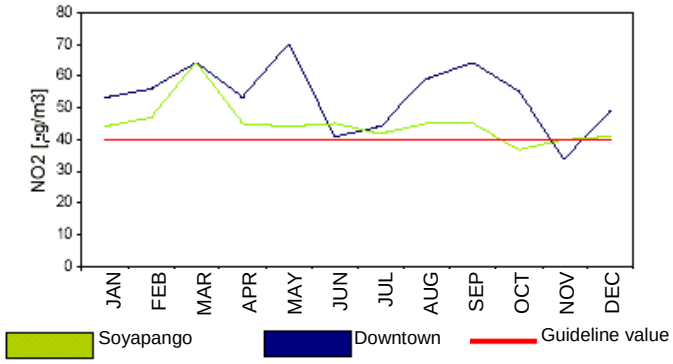
At the national level, there is a clear tendency towards continuing environmental degradation. Albeit reliable and scientific information is lacking within the country, existing environmental indicators – of land, air and water - demonstrate a critical situation.

With regards to deforestation, as of 1990, Núñez et al (1990) estimated that only 6% of the national territory was covered by forest (excluding bushy vegetation and coffee). Similarly at the end of the 80s, the World Bank estimated only 5% of the national territory was covered by forest.[22] More recently still, the Ministry of Environment and Natural Resources- MARN, reports a mere 2% of El Salvador's original forest cover intact (MARN, 1999). Moreover, the mountainous region experiences high levels of erosion; some 31% of the land is considered degraded, and 56% of its land uses are deemed inappropriate.

n terms of air quality in El Salvador, no studies exist at a national level. Nevertheless, the most recently completed study of air quality in the metropolitan area of San Salvador concludes, "the air pollution in the Greater Metropolitan Area of San Salvador shows concentrations above the guideline values,[23] especially in regards to the contaminants nitrogen dioxide (NO_2) and fine particulate matter (PM10), putting human health at risk and demanding the strict control of the principal source of contaminants: vehicles" (Swisscontact and FUSADES, 2001) (Graphs 14 and 15).

Graph 14

NO_2 contamination throughout the year



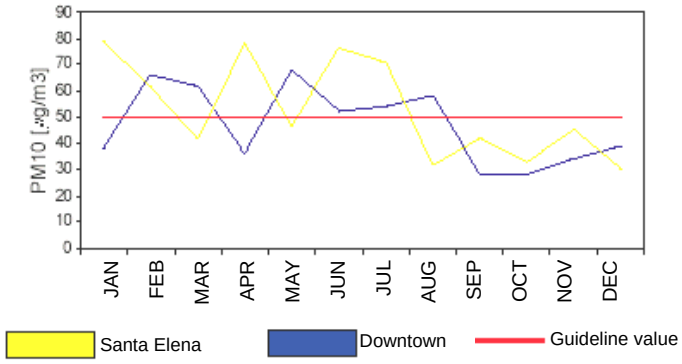
Source: Swisscontact and FUSADES (2001)

[22] These calculations probably exaggerate the situation as they tend do adopt the dominant approach of only counting original forests when making estimations concerning forest coverage. There is much literature that supports the thesis that anthropogenic vegetation coverage is capable of providing valuable environmental services such as biodiversity.

[23] The guideline values represent the maximum permissible levels according to the World Health Organization (WHO) and the Environmental Protection Agency (EPA) of the United States.

Graph 15

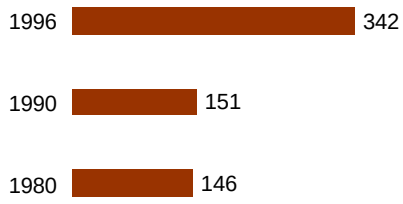
PM_{10} contamination throughout the year



Source: Swisscontact and FUSADES (2001)

Graph 16

Increase in number of vehicles circulating
(Thousands of vehicles)



Source: PRISMA (1998)

The increase in the number of vehicles circulating - the principal source of air pollution[24]- is directly related to neo-liberal policies that reduced tariffs, including taxes on the importation of cars (see Graph 16). Simultaneously there is an absence of regulations and control of emissions.

The indicators regarding the quality and quantity of water in El Salvador are perhaps the most illustrative for encapsulating the severity of environmental degradation in El Salvador on a national level. The large majority of industries and agro-industries eliminate their wastewater without any treatment. Thus, it is to be expected that virtually all of El Salvador's surface water be seriously polluted. Indeed, the majority of the rural population uses contaminated water.

A recent study on the quality of the water consumed in rural households (Béneke, 2001) found that of the total number of samples analyzed, some 61% had high concentrations of fecal coliform; 52% contained *Escherichia coli*; and while only a few cases exceeded permissible levels, 92% of the samples had inorganic contaminants and heavy metals such as cadmium (92%), chromium (74%), arsenic (43%) and lead (37%). Given these conditions, the increasing number of cases of waterborne illnesses, such as intestinal parasites and diarrhea, is not surprising (Graph 17).

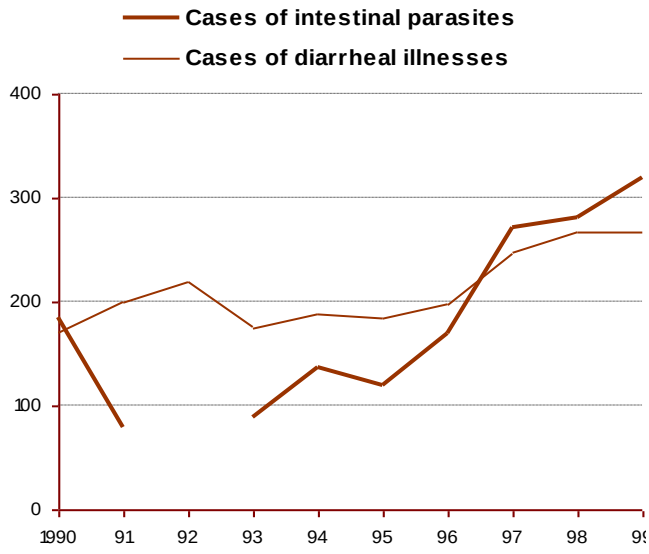
Moreover, the reduction in the availability of water and its scarcity is a problem that everyday is becoming more evident. Even though El Salvador has an abundant rainfall pattern, the concentration of the rainy season in a few months of the year heightens the critical importance of the capacity of the territory to capture, regulate and store rainwater. Studies carried out at the end of the 70s and beginning of the 80s found that within the country there were nearly 57 billion cubic meters of rainfall. Given processes of evaporation and transpiration, the potential volume available was approximately 21 billion cubic meters, 37% of the total precipitation. However, this availability is concentrated during the rainy season, and during the dry season the availability is reduced to a mere 3 billion cubic meters per year (UNDP, 1982).

This scarcity is the result of the systematic loss of capacity of the territory to regulate and store rainwater. This, in turn, has led to mounting variability in the flow of the rivers and in-

[24] Around 70% of the emissions in the air come from vehicles (Swisscontact and FUSADES, 2001).

Graph 17

Cases of intestinal parasites and diarrheal illnesses, 1990-1999
(In thousands)



Source: PRISMA, based on data from the Ministry of Health

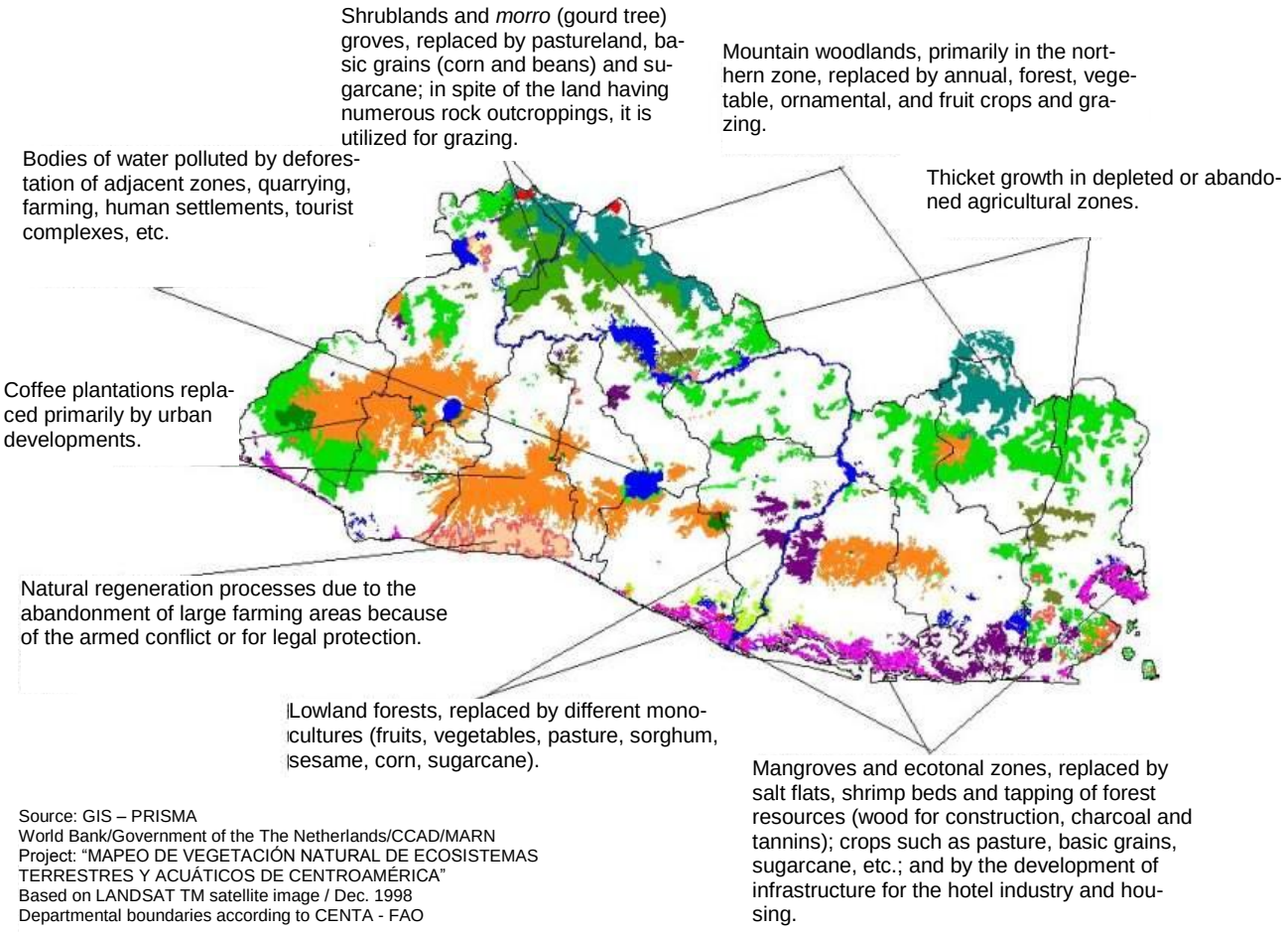
creased vulnerability to ongoing disasters: during the rainy season the levels are so high that there are frequent and dangerous overflows of riverbeds as well as floods, and in the dry season the flow of water reduces to practically zero, thus provoking droughts.

This global scenario of continuing environmental degradation in El Salvador, while alarming, is only a part of a much more complex and diversified environmental situation. At the local level the environmental situation is quite variable (Map 5), indeed, in some rural areas there are signs of regeneration processes taking place.

To have a more textured understanding of the environmental tendencies and how they play out within differing territories, we discuss the dynamics in three separate micro-regions of El Salvador - Bajo Lempa, Tacuba and La Montañona. All three sites are predominantly rural with populations that are very poor, and where land redistribution processes have occurred. However, they differ in many substantive ways that affects current land uses. Their settlement histories diverge, they are located within differing ecosystems - the low, middle and highlands of El Salvador; they have differing levels of social capital formation; and, while most are small farmers, their livelihood strategies, nevertheless, vary (Box 1).

Map 5

El Salvador: National trends in vegetation coverage



Source: GIS – PRISMA
World Bank/Government of the The Netherlands/CCAD/MARN
Project: "MAPEO DE VEGETACIÓN NATURAL DE ECOSISTEMAS TERRESTRES Y ACUÁTICOS DE CENTROAMÉRICA"
Based on LANDSAT TM satellite image / Dec. 1998
Departmental boundaries according to CENTA - FAO

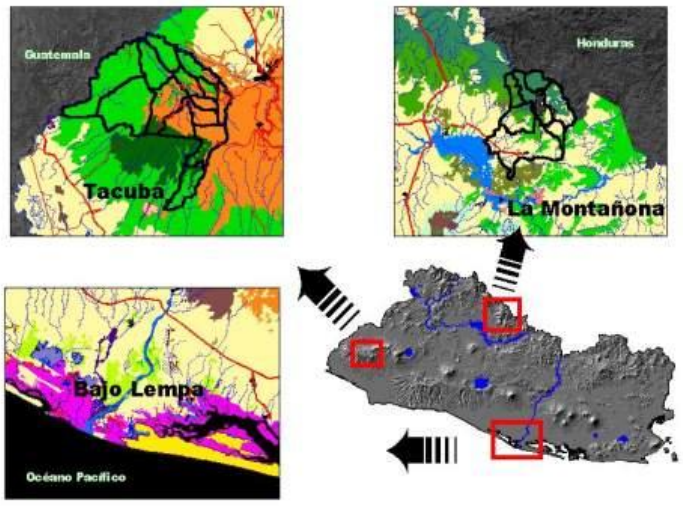
Bajo Lempa

Bajo Lempa is located in the lower Lempa River watershed.[25] In the 1960s and 70s, Bajo Lempa was one of the top producing areas for agro-exports. The economy of the region was based on agro-exportation of cotton and sugar cane, as well as cattle. This type of extensive cultivation required large expanses of arable land, thus exacerbating the concentration of lands into large plantations (*haciendas*), as well as being particularly detrimental to the environment. The majority of the local rural population worked as seasonal laborers in the nearby *haciendas*, and when they could have a piece of land to cultivate, they also relied on subsistence farming.

[25] Geographically, Bajo Lempa has an extension of 1,622 km². Some 127,288 habitants live in the area identified as the Bajo Lempa Vulnerability Zone, which falls within the jurisdiction of four separate municipalities: Jiquilisco, Zacatecoluca, Tecoluca and Puerto El Triunfo (Gómez and Molina, 2000).

Box 1

Bajo Lempa, Tacuba and La Montañona



Bajo Lempa

- High social capital formation: Zone of new resettlements with end of civil war, predominantly small producers.
- Redistribution of land as part of Peace Accords (PTT).
- Environmental situation: Processes of regeneration resulting from lands being deserted during civil war, abandonment of pesticide-intensive cotton cultivation as it became unprofitable, and introduction of organic agriculture production for European market. Continued pressure on mangroves due to shrimp cultivation, salt production, wood extraction and tourist industry; zone of vulnerability to flooding

Tacuba

- Weak social capital formation: Small producer cooperatives and large landowners, one of the principal indigenous zones within the country.
- Redistribution of land as part of Agrarian Reform (Phase I & III); land access conflict due to potential expansion of protected areas.
- Environmental situation: Coffee cultivation zone and its important role as secondary forest cover; pos-sible regeneration with diversified livelihood strategies - alternative markets for coffee (fair trade and coffee friendly to biodiversity) and payment for environmental services. Threat of land use changes due to crisis in international coffee market.

La Montañona

- High social capital formation: Stronghold of the opposition during civil war, predominantly small producers.
- Redistribution of land as part of Peace Accords (PTT).
- Environmental situation: Processes of regeneration resulting from lands being deserted during civil war; Importance of forest mountaintop and its provision of surface water to surrounding areas; possible regeneration with diversified livelihood strategies – payment for environmental services, eco/historic-tourism, local crafts. Pressures continue due to subsistence farming prac-tices on steep hillsides (slash and burn, wood extraction, intensive use of agro-chemicals, in-tensive grazing) and threat of land reconcentration due to agricultural crisis.

The cultivation of cotton relied heavily on the use of pesticides and agro-chemicals, so much so, that DDT can still be found in both the soil and water in the area. Moreover, rapid advances in the agricultural frontier led to the destruction of almost all the original forests in the area.[26] However, processes of environmental regeneration have occurred since the seventies. This is linked to several factors. On the one hand, the war accelerated the crisis in agro-export production and resulted in the depopulation of the zone and desertion of lands for most of the decade-long civil war. Moreover, with the drop in international prices coupled with high costs of inputs, cotton production was no longer profitable, and thus, abandoned. Both of these processes allowed for the development of secondary forest cover.

In 1991, the zone began to be resettled collectively by displaced persons. For the most part, there was no physical infrastructure such as houses, schools, potable water, health clinics, etc. Nevertheless, the community had a substantial accumulation of social capital – manifested in the community's organizational capacities and the sustained accompaniment of NGOs.[27] This in turn, ensured the acquisition of other assets and resources. Currently a large part of the region is relatively well equipped with physical infrastructure (housing, portable water, childcare centers, community centers, electricity, paved roads, schools and health clinics).

Moreover, there have been impressive gains in human capital formation, as shown by the drops in illiteracy from 60% to 23% (Dimas, 2000).

Improvements made with regards to educational levels of women are particularly notable, lessening their dependence on agriculture activities as a source of income. Indeed, the lack of employment opportunities, has led to the migration of an increasing number of women to urban areas, to work in *maquilas* (Navas, 1999).

Other significant changes have taken place with regard to land access and use. With the Agrarian Reform of the early 80s and the Land Transfer Program of the 90s, the land tenure structure changed radically in Bajo Lempa. Currently, 62% of the population is small landowners (as a result of both PTT and the non-reformed sector), 25% are beneficiaries of the Agrarian Reform organized into cooperatives, and 1% are large plantation owners. Currently, the majority of the agricultural production in the zone is dedicated to subsistence farming – corn and beans - yet new agricultural practices and products have been introduced. Among the most successful is the introduction of organic farming, and in particularly the cultivation of organic cashews that are locally processed and exported to alternative markets (fair trade and European markets).

The combination of natural capital (in this case, land tenure rights), development of human capital and strong social capital formation have been important factors that have enabled the population of Bajo Lempa to access resources, improve their abilities and knowledge, as well as establish the necessary contacts to insert themselves into an international market for the sale of their agricultural products.

The new settlements have the potential for threatening the processes of forest and mangrove regeneration resulting from the abandonment of the land during the civil war. How-

[26] 15,000 ha of coastal plain forest were eliminated along the coast to make way for cotton cultivation in the areas known as San Marcos Lempa and Corral de Mulas, in the municipality of Jiquilisco (Villacorta and Benítez, 1998 - cited by Gallo, 2000).

[27] Since the initial resettlement, the community benefited from strong support from national and international NGOs, international aid agencies as well as UN agencies. Furthermore, as it was particularly affected by Hurricane Mitch in 1998, and given their high organizational capacities, the zone gained national recognition as a priority zone for reconstruction efforts. As such it has benefited from projects and institutional efforts towards risk mitigation.

ever, new practices such as the adoption of organic agricultural production and the increasing valuation of natural assets by the population may prove more effective in confronting continuing pressures, such as extraction of hardwood and recurring fires (often set by inhabitants with cattle in order to ensure areas for grazing), than traditional conservationist approaches. Indeed, many communities have shown growing interest in developing eco-tourism projects, and the 1,030 ha Nancuchiname forest, the last coastal plain forest in the country and the last remnant of primary forest in Bajo Lempa, represents the first experience in El Salvador of a protected area that is co-managed with the local communities.

Tacuba

The municipality of Tacuba,[28] in the western department of Ahuachapán, is in the heart of the coffee-producing region of the country. Given the alarming levels of deforestation of primary forests in the country,[29] coffee cultivation plays an important role in the provision of secondary forest coverage. In El Salvador, an estimated 95% of coffee cultivation is under shade. This represents some 163,000 ha, close to 12% of the cultivated land in the country (Méndez et al, 2001). Moreover, recent studies demonstrate shade coffee's potential for conserving biodiversity, capturing carbon dioxide, and conserving soils and water (Cuéllar et al, 1999; PRISMA, 1995).

Tacuba is located in a region that was relatively untouched by the civil war; nevertheless it is marked by other important social conditions. Foremost among these are: a legacy of *patrón-colono* (owner-peasant) power relations of the large coffee plantations of yesteryear; a traditional political stronghold of the elite coffee families; one of the principal indigenous zones of the country; and an area particularly affected by the 1932 uprising. The combination of these factors has debilitated the community's organizational capacities, as well as social capital formation.

Due to its isolation from the war, it was not a recipient of post-war reconstruction programs or projects, nor was there significant out-migration, which in many cases facilitates the establishment of social networks within and outside the country. Nor did it benefit from the popular movement, sectoral or solidarity ties that were prevalent during the war. Moreover, Tacuba was one of the focal points of the 1932 uprising and subsequent military reprisal, where some 30,000 persons were killed, the majority of whom were indigenous. Not surprisingly, this led to an aversion to organizing efforts, as well as the invisibility of the indigenous culture.

With the Agrarian Reform process of the 80s, land tenure was significantly altered. Cooperatives of small producers were formed, giving rise to new forms of organization and production. More recently, NGOs have begun to have a presence in the municipality; several have joined together with agricultural producers and local community development committees to form the "The Inter-municipal Committee for Sustainable Development of Tacuba" (known as CIMDES by its Spanish initials). State institutions working in the municipality are also represented in CIMDES (the cultural community center, the civilian police and the state agricultural extension agency). Nevertheless, there is virtually no relationship among the cooperatives or between the cooperatives and CIMDES. In addition, the cooperatives lack the necessary ties and networks that facilitate their insertion into

[28] The municipality has an area of 150 km^2, including the urban area and 15 rural villages. According to the 1992 census there were 29,176 inhabitants, 84% of this population (24,507) live within the rural villages (Méndez et al, 2001).

[29] According to a 1997 study by FUSADES, only 2% of the original primary forest remains.

alternative markets as well as accessing other important assets.

Tacuba has the added distinction of being located within the buffer zone of the National Park "El Imposible," but the local rural population tends to have a negative perspective regarding this type of conservation efforts. The perceived contradictions between conservation and the rural livelihoods emerged due to attempts by the environmental organization that took over management of the park in the nineties, to expand the borders of the national park.

Given the economic transformations of the past 20 years (drastic drops in international coffee prices, etc.), there is valid concern that coffee cultivation will diminish, and thus, exacerbate deforestation processes. The possibility of diversifying livelihood strategies of small coffee producers to include payment for the provision of environmental services (soil conservation, water provision, flora and fauna biodiversity) and/or accessing alternative coffee markets (such as biodiversity-friendly coffee, organic coffee, fair trade) could play an important role in maintaining shade coffee coverage. To date, small farmers for the most part, have not participated in alternative coffee markets. Nevertheless, small farms tend to have a greater diversity of shade canopy, as well as use smaller amounts of toxics, than larger producers. This points to the important role of small farmers in managing their environment, as well as facilitating their eligibility for biodiversity-friendly coffee certification (Méndez et al, 2001). Unfortunately, the costs involved in the process of certification serve as a barrier to the entrance of small producers into this market.

Although the small producers of this area are endowed with rich natural capital, the lack of a propitious macro policy environment, coupled with relatively weak human and social capital formation, present significant obstacles to their current livelihood strategies, and put at risk the maintenance of important secondary forest coverage provided by shade coffee.

La Montañona

La Montañona is located in the northeastern region of the department of Chalatenango, along the border with Honduras. With hillsides as the dominant topography and long-standing problems of deforestation and soil erosion, the forested mountaintop is strategically important for the provision of water. It also has a potential for eco-historic tourism as many sites within the mountaintop bear witness to the civil war.

The political-administrative division of La Montañona includes seven municipalities that have come together to form a legally recognized association of municipalities; these include: Chalatenango, Concepción Quezaltepeque, Comalapa, La Laguna, El Carrizal, Ojos de Agua y Las Vueltas.[30]

Among the most salient physical characteristics of the zone, is its hydrological importance. The forested mountaintop of "La Montañona"[31] is surrounded by steep slopes that receive the water of the area (from rainfall and local springs), and feed into the Lempa River and Sumpul River. There are a total of 15 ravines within the forest that nourish five important rivers in the region: Sumpul, Azambio, Tamulasco, Guastena and Motochico. With the exception of the first, all the rivers discharge into the reservoir of the Cerrón Grande hydroelectric dam (de Bremond, 1994).

[30] La Montañona has an extension of 334.65 km^2, with a total population of 51,124 inhabitants; 22,899 reside in urban areas while the remaining 28,225 live in rural zones (DIGESTYC, 1997).

[31] La Montañona is the name for the region encompassing the seven municipalities, as well as the name for the community that lives within the forested mountaintop.

The region was a highly conflictive zone throughout the civil war, as well as a stronghold of the opposition force (the FMLN). Many historic sites within the forested mountaintop, such as an underground clandestine hospital of the FMLN, and key combat zones like "El Volcancillo," bear witness to the area's war history.

The community of "La Montañona" was resettled in 1993. Previously, the area was part of a *hacienda* (for cattle, coffee and basic grains production)[32]. As part of the land redistribution process under the Peace Accords, the *hacienda* was transferred over to the Land Bank and redistributed to beneficiaries of the PTT. Some 35 families from the surrounding area originally settled in the community; at the time of their arrival there was absolutely no infrastructure. Currently 13 families remain, over the years they have managed to secure housing, potable water, solar powered electricity, an elementary school, a community center, and a soccer field. The primary economic activity is subsistence farming of basic grains as well as vegetables and fruits.

The land transfer program resulted in significant changes, not only in land tenure, but also in the social organization and management of the forest resources. A large part of this area is managed by ex-combatants of the war - beneficiaries of the PTT - who formed the Committee of Beneficiary Representatives of La Montañona (known as CORBELAM by its Spanish initials). They have created a variety of innovative mechanisms to ensure the sustainable use of the forest.[33] The community, together with CORBELAM, has begun to promote eco-historic tourism in the area. The community center also serves as a cabin-hotel that can accommodate 12 persons. Community members attend to guests, serve as guides to historic sites and as park rangers, charging a fee for entrance into the forest. Nevertheless, there are few visitors due to the difficulty of getting to the community (a 4-wheel drive is required and at various times the dirt road has been washed out).

A particular interesting feature of the organizational capacity of this area, is the various levels of organization that are nested together. Just within the community of La Montañona, there is, for instance, the community council, CORBELAM, the UAPM of La Montañona,[34] the *Mancomunidad de La Montañona* (the first legally recognized association of municipalities in the country, outside of the metropolitan area), etc.

This form of nesting has facilitated the building of consensus around territorial planning, as well as being able to influence processes at a national level.

Even though the zone suffers from accelerated degradation, marked by traditional agricultural practices (monoculture on steep hillsides without soil conservation practices), forest fires and uncontrolled lumbering, the accumulation of social capital has opened new avenues for diversifying the communities' livelihood strategies that simultaneously ensure the stewardship of their natural resources. Among their plans for territorial development is the promotion of payment for environmental services (water provision, scenic beauty, biodiversity, etc.). Indeed, as a result of their organizational capacity, they have gained national recognition as a zone for the production of environmental services (CND 2000).

[32] The community is located on the area previously used by the *hacienda* for grazing cattle.

[33] CORBELAM manages 1,750 ha of forest. In 1998, the management plan of "La Montañona" won second place in the category of community projects of the annual Environmental Contest sponsored by the Ministry of the Environment and Natural Resources (Gómez, et al, 2002).

[34] The UAPMs (*Unidades Ambientales de Producción y Manejo Sostenible de Recursos*) are the local organizational units of the department-wide CACH (the Environmental Committee of Chalatenango).

Emerging lessons

This report provides insights into key factors that can contribute to rural poverty alleviation and improved stewardship of the environment. First, expanding access to land can play an important role in addressing rural poverty. Second, social capital formation and accumulation is crucial for improving livelihoods and managing the resource base in more sustainable ways. Third, a policy environment and investments that recognize the environmental services provided by traditional agro-ecosystems managed by the rural poor and other rural values are essential to realize the potential of greater access to land and strengthened social capital formation.

Expanding access to land for the rural poor

Land redistribution since the eighties expanded the natural asset base for the rural poor in El Salvador. This has improved food security and facilitated the acquisition of other assets, such as credit and housing. Moreover, rural families with access to land tend to keep their children in school when confronting external shocks more than the rural landless poor; thus access to land has served to increase human capital formation. Therefore, redistribution of land has served as a kind of security net against increased vulnerability due to external shocks to rural livelihoods (e.g. earthquakes, droughts, agricultural economic crisis, etc.). In addition, land ownership increases the propensity of rural poor communities to invest in long-term stewardship of natural resources. Landless farmers who invest time and labor in soil conservation, for example, do not reap any benefits since the productivity of the land will only manifest itself after several years. The limited outcomes of land redistribution in alleviating rural poverty are not just a result of failed policy, but reflect a highly unfavorable macroeconomic environment for agriculture as well as neglect of rural areas. Thus, land distribution processes have not lost their validity. On the contrary, alternative ways need to be explored to continue and enhance such processes, making explicit the twin objectives of poverty alleviation and environmental restoration. This is only possible in land redistribution efforts that are accompanied by policies and investments that enable rural households and communities to take full advantage of this natural asset.

Strengthening social capital formation and accumulation

Social capital – understood as organizational capacities of communities, and their ability to secure resources (knowledge, collective action, etc.) through their membership in social networks or other social structures – allows rural poor communities to strengthen their livelihoods and manage ecosystems. Social capital formation in rural areas of El Salvador is linked to land redistribution processes, as they have led to organizational structures that improve collective action and decision-making concerning the more sustainable management of land, water and forests. It is also proving critical in allowing access to new markets as in the case in Bajo Lempa where small farmers are producing organic vegetables and nuts for the European market.

Organizational capacities play a decisive role in environmental restoration efforts in rural areas, as they demand moving beyond the single small farm to larger territorial scales. Social capital formation facilitates the social appropriation of rural communities' territories, as well as recognition of their role in territorial development efforts. The history of social organiza-

tion in El Salvador and political-institutional processes, such as decentralization, are providing a propitious setting for new institutional arrangements that facilitate ecosystem management, while increasing the chances of success of alternative sustainable livelihood strategies. However, these processes - predominantly propelled from grassroots efforts with the support of foreign cooperation agencies and international NGOs - need to be accompanied by a genuine political willingness to continue opening spaces for citizen participation in policy and development decisions.

Revalorizing rural landscapes and the environmental services from traditional agro-ecosystems managed by the poor

Unlike large-scale producers that opt for simplifying ecosystems and monoculture in their search for efficiency, small-scale farmers tend towards diversification and complexity as part of their livelihood strategies. With more than 60% of El Salvador covered in anthropogenic or human modified forests (Hecht, 1999), this foundation of local practices and institutions provide an important resource for environmental and livelihood sustainability and suggests that rural populations produce and maintain a vegetation cover that has been effective at maintaining avifauna and plant biodiversity.[35] Indeed, recent studies of trees and birds have discovered many unrecorded species within El Salvador, pointing to the importance of secondary vegetation in maintaining biodiversity.

Rural areas managed by the poor also play an important role in providing a variety of other environmental services (such as water regulation and water quality, flood and landslide risk reduction, scenic beauty, climate change mitigation, etc.). Rural communities can also play an important role in preserving cultural heritage, and should be the focus in the promotion of economic alternatives such as rural tourism, and handicraft production. Realizing the full potential of rural communities and rural landscapes, however, demands a national policy framework that succeeds in developing an integrated approach to rural, agricultural, environmental and socio-cultural issues. A policy dialogue effort to advance the revalorization of rural areas and communities, and their key role for sustainable national development, is therefore of the utmost importance.

[35] Indeed, it is not clear whether it makes any sense at all to speak of natural vs. cultural forests given the antiquity of intensive human occupation in the region. The existence of human transformations that underlie what outsiders imagine to be pristine environments has been discussed for more than 30 years in the Amazon and Central America (Hecht and Cockburn, 1989). There are more than 800 archeological sites in El Salvador. At the crossroads of the Mayan and Aztec worlds, the region has been densely populated for millennia and been a producer of key resources since the Olmec period (1200 BC). Manipulation of regional landscapes and anthropogenic forests is nothing new. Furthermore, El Salvador is regularly buffeted by earthquakes, volcanic eruptions, hurricanes and landslides, and its vegetation is very adapted to disturbance, so the distinction between artificial and natural forests may be especially strained.

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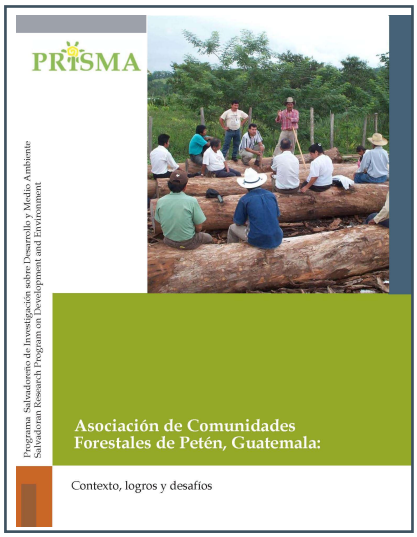

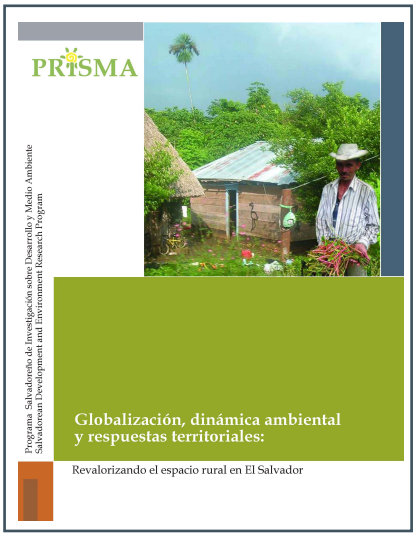

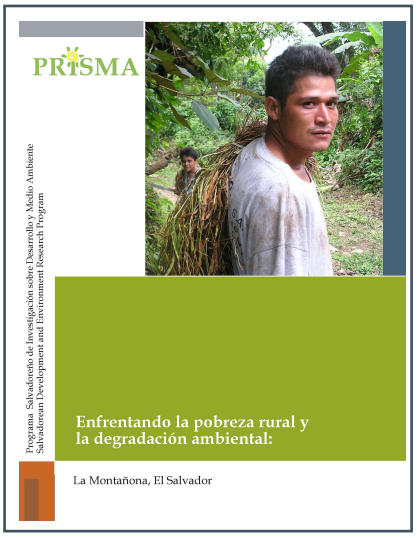

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