

# Regional Core-Periphery Imbalance: The Case of Guerrero, Mexico, since 1821

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## ABSTRACT

Regional development is closely related to infrastructure, and it is seriously impeded in areas with poor transportation and marketing facilities. This has been the case for much of the rugged landscape of western Guerrero, Mexico. This region has been peripheral to the economic core areas of Mexico since at least the sixteenth century. Only with the aid of nineteenth-century colonization attempts, and especially, the extension of transportation facilities into the region in recent decades has real development occurred. While regional imbalance is diminishing, past limitations to development have led to a poorly integrated and insular development pattern which persists in the region today.

## INTRODUCTION

Throughout human history people have moved from region to region in search of food and other resources, encountering areas which offered new opportunities and constraints to their livelihood. As people colonize new areas they both adapt to and modify the environmental conditions in those regions (see Butzer 1982; Jochim 1981). Hospitable and productive environments offer obvious rewards and often require few immediate modifications. In contrast, settlement in harsh environments often requires larger modifications of environment and behavior, and frequently must be accompanied by significant real or perceived benefits.

These concepts can be extended to the processes of regional economic development because of the strong role that the natural environment and the resource base have on human settlement patterns and activities. Excluding the occasional influence of serendipity, it is the balance between regional communication (i. e., transportation) facilities and the value and quantity of resources in an area which will determine, more than anything else, where and when development will take place (Biehl 1991, 10, 13; Edwards and Anderson 1984, 38; La-Anyane 1985; Tempany and Grist 1958). Because these factors are rarely the same from region to region, strong core-periphery disequilibria in population densities and levels of cultural and economic organization begin to develop. Through time these patterns may become accentuated as the core experiences further development, in some cases at the expense of peripheral areas (Frank 1969). Or, in other instances, the imbalance may eventually diminish because of changing abilities to access and utilize the resources in peripheral areas, effectively integrating the economy of both regions.

The settlement history of Guerrero, specifically the western half of the state, provides the opportunity to view some of the salient features of these regional imbalances, and the impacts associated with the integration of an extremely dominant cultural and economic core area with a long-established peripheral region. Throughout the colonial and early republican periods, and even during prehispanic times, the rugged and harsh environment of Guerrero discouraged large-scale economic development, and as a consequence the region has remained much less developed than the core of Mexico. During the late [end p. 59] nineteenth century the state and federal governments made serious efforts to promote colonization in the region and to establish large-scale production of commercial crops (Garda Torres 1875; Gonzales Navarro 1960, 241). However, the progress of development was slow, and it was not until regional infrastructure (i. e., a road network) was improved during the last 30 years that the pace of development dramatically increased. The peculiar character of the region's physical environment and historic settlement patterns has caused this development to be highly insular, creating new economic imbalances within the region itself.

More importantly, this integration has been occurring within the context of Mexico, a developing nation, which has been in the process of expanding settlement and development into previously sparsely populated regions for approximately 160 years. The socioeconomic patterns which are developing in Guerrero may serve as an analog to similar colonization and regional development processes which are occurring elsewhere in the developing world today.

Three objectives guide this study. First, the paper identifies and fills some of the gaps in our understanding of the history of settlement and land use in western Guerrero. Second, it argues that the region's harsh environment and limited opportunity for acquiring wealth have restricted the pace and level of economic development which were achieved elsewhere in Mexico. It is recognized, however, that many other areas of Mexico also remain relatively undeveloped. Third, the paper illustrates some of the impacts associated with the transition from a poorly-developed periphery to an increasingly important economic frontier. Information for this paper is gathered primarily from government documents and census materials, travellers' narratives, and interviews of elderly residents of the region.

### **OVERVIEW OF SETTLEMENT DURING THE PREHISPANIC AND COLONIAL PERIODS**

Since pre-Columbian times the mountainous regions of Guerrero have remained on the frontier of Mexico's cultural and economic core because of obstacles to agricultural development and the belief that they offered few economic opportunities. By the late prehispanic period the population density and level of economic development of most of Guerrero already lagged behind that of the Mesa Central, the Gulf Coast, and central Oaxaca (Lister 1971,621). This pattern stemmed, in part, from the general lack of suitable agricultural land in the rugged mountains of the state. The relatively poor soils, steep slopes, dense thorny vegetation, oppressive year-round heat, and the harsh dryness of the six-month dry season also served as obstacles to settlement and agricultural development. While valuable resources, such as gold, copper, and jade, were extracted from Guerrero, large-scale intensive settlement was not common.

Eastern Guerrero represented a slightly different situation in that its less rugged terrain was more densely settled during prehispanic times with Amuzgo, Mixtec, and Tlapanec Indians (Beals 1969, 318; Harvey 1971,612; Ravicz and Romney 1969, 422). Also, these groups most likely had stronger cultural and economic ties with residents of western Oaxaca than with the inhabitants of western Guerrero. While disease also ravaged eastern Guerrero during the sixteenth century, the larger initial indigenous population appears to have contributed to somewhat higher settlement densities during the colonial and republican periods (Ministerio de Fomento [MF] 1881, 52, 53; Secretaría de Fomento, Colonización e Industria [SFCI] 1905,3,4).

In sum, it is no surprise that after the conquest, Spaniards failed to settle in Guerrero for many of the same reasons that had inhibited prehispanic settlement (Acuña 1987, 457; Anson 1974, 24; Thomas 1745, 106). Spanish avoidance of the mountainous areas of Guerrero, coupled with the sharp decline in Indian numbers due to disease, left many regions of western Guerrero essentially depopulated (Acuña 1987,456; Butzer 1992, 352; Gerhard 1972,40;). Except for a few small, scattered settlements, the region remained relatively sparsely populated during the colonial period. Agriculture and cattle raising were not important in most of western Guerrero until the late nineteenth century.

### **OBSTACLES TO REGIONAL DEVELOPMENT DURING THE EARLY REPUBLICAN PERIOD, 1821 TO 1875**

Changes came slowly following Mexican independence from Spain. The early republican[**end p. 60**] period (1810 to ca. 1875) differed little from the colonial period. Much of the region failed to overcome its reputation for being unproductive and unhealthy. The number of people living in Guerrero remained relatively constant throughout the late colonial and early republican periods. The earliest comprehensive census of Guerrero was conducted in 1849, and irregular surveys conducted during the mid- to late-

nineteenth century show only a slight increase during the time period (Table 1).

TABLE I. POPULATION CHANGE IN THE STATE OF GUERRERO, 1848-1990

Year	Population
1848	270,000
1862	288,616
1880	295,590
1889	332,887
1895	417,886
1900	479,205
1910	594,278
1920	566,278
1930	566,836
1940	641,690
1950	732,910
1960	1,186,716
1970	1,597,360
1980	2,109,513
1990	2,620,537

Table 1. Population change in the state of Guerrero, 1848 to 1990. Data compiled from MF (1854, Tomo I, Table 1); Pérez Hernández (1862, 63); MF (1881, Tomo V, 54); Peñafiel (1888, 3); OTSF (1899, 8); SFCI (1905, 3); DGE (1918, 35); DEN (1927, 3); DGE (1934, 11); DGE (1948, 135); DGE (1952, 24); DGE (1963, 23); DGE (1971, 7); INEGI (1983, 8); and INEGI (1990b, 67)

Disease plagued the region and was so bad that many settlements were abandoned after only one year of occupation (Hendricks Pérez 1946, 27). Other locations were infested with insects during certain times of the year and made uninhabitable (Gomezjara 1979,69). The cholera epidemics of 1833 and 1850 may have killed as much as seven percent of the population in certain areas of the Sierra Madre del Sur and the Río de las Balsas basin (Muñoz 1872, 32). Many inhabitants of Guerrero were also affected by a skin disease called *mal de pinto*, or *jiricua*, a non-venereal form of treponematosi. The disease, which is transmitted by insect bites, causes severe pruritis and infection, and eventually leads to the formation of white or bluish to reddish spots on the skin (García Zepeda 1950,44-49). The disease has been especially common near the Río de las Balsas (Laguerenne 1882, 620). While the disease is treatable with streptomycin, as recently as the 1940s almost 90 percent of the inhabitants of some river towns still suffered from this disease (García Zepeda 1950,55; Sotomayor López 1944,27). The French expeditionary forces fighting in the region during the 1860s also encountered severe problems with pernicious fever (Niox 1874, 377). Eventually, the French troops decided to leave the Balsas basin because of the harsh climate and difficulties in maintaining communication lines, despite their concern that the Mexican rebels were using the region as a base and were being re-supplied through the Pacific ports (Niox 1874,457,506).

Economic development continued to be impeded by the general lack of suitable agricultural land and

adequate transportation facilities. There were a few scattered haciendas operating within western Guerrero, but they contributed little to the economy of the state. Settlement was more dense in the flat brushlands of the Rio de las Balsas basin where cattle raising and irrigated agriculture were feasible. This was especially true near the junction of the Balsas and Cutzamala rivers. As early as 1821 there were 18 haciendas, 56 *ranchos* (small communities, usually dominated by one particular family), and 7 *estancias* (livestock operations) in this area (Martinez de Lejarza 1822, 105). For the most part, however, there were very few production facilities in western Guerrero, especially away from the Balsas river. The few ranchos and haciendas grew little and new development was uncommon until after the 1860s. Even though Acapulco and Zihuatanejo were recognized as excellent ports, access to them was severely inhibited by a lack of overland transportation within the region (Cincinnatus 1857, 373; García Torres 1875; Parker 1871, 37). There were no railroads anywhere in the region during the nineteenth century. As early as 1842 the Mexican government approved the construction of a railroad from Mexico City to Acapulco with the intention of opening the coastal region to development (Ministerio de Fomento [MF] 1877, Torno II, 9). However, this rail route, which supposedly was to [end p. 61] take only 12 years to complete, remains unfinished today. Another railroad was proposed to link Zihuatanejo to Zamora in northern Michoacan (Partido Liberal 1889, 19). It was hoped that the line would help develop mineral, forest, and agricultural resources in the region, but it too was never constructed because of its great expense.

In 1843 the Mexican government approved the construction of a *carretera* (carriage road) from Cuernavaca to Acapulco (MF 1877, Torno II, 13). An improved *carretera* was completed between Mexico City and Acapulco by 1880. This road, which passed through the important towns of Iguala and Chilpancingo, was approximately 460 km. in length (MF 1881, Torno V, 680). Several more tortuous and longer routes eventually connected the Mesa Central with coastal Guerrero, and later additional rough trails connected some of the larger towns within the region itself (MF 1881, Torno V, 679). However, the great distances and rugged terrain were still viewed as major disincentives to development in Guerrero throughout the nineteenth century. Even with the recognition that the mountains offered valuable mineral and timber resources, the lack of adequate roads severely inhibited development (Laguerenne 1882, 658).

### **COLONIZATION AND DEVELOPMENT, 1875-1950**

Despite these problems, after the 1870s things began to change. In response to the general lack of development in the Sierra Madre del Sur, the Mexican government made official efforts to settle the region. The government had already passed several laws promoting and regulating colonization of unsettled lands throughout Mexico; in 1830, 1846, and 1854 (Orozco 1895, 214, 219, 233). However, none of these made specific reference to Guerrero. It was not until the 1875 decree from President Sebastian Lerdo de Tejada, that lands were specifically made available for colonization in Guerrero. The President authorized the sale of between 800 and 900 square leagues (as much as 1.57 million ha.) of sparsely-settled lands in the Sierra Madre del Sur, in an area extending from the coastal plain to near the central Rio de las Balsas and from the Michoacan border to Chilpancingo (García Torres 1875, 9) (Figure 1). It was hoped [end p. 62] that enterprises and individual colonists would be enticed to settle the region and establish farms and haciendas. The decree authorized cash advances on travel, start-up costs, and maintenance for one year. Other support involved exemption from export duties on products grown within the region (García Torres 1875, 4). Of significance is that this offer was specifically geared towards foreign investors, especially from the United States. Mexican naturalization and citizenship were also to be granted to foreign colonists (García Torres 1875,4).



Figure 1. Lands offered for colonization in Guerrero by the Mexican government in 1875 (from García Torres 1875, courtesy of Nettie Lee Benson Latin American Collection, University of Texas at Austin)

The decree of 1875 is accompanied by a brief description in English of the environmental setting and a list of approximately 40 properties for sale as examples of the physical variety of the region. The list of specific properties includes a wide variety of land holdings ranging in size from 11,000 to 300,000 ha. Many of these were small parcels of presumably irrigable land near streams, others were *potreros* (pastures or other agricultural land), and some were haciendas in the Río de las Balsas drainage. The landscape description is replete with references to the beauty and productivity of the land:

The climate and products of this region are quite varied and wonderfully fertile. Throughout the greater portion of it, the lands are broken and hilly, with lovely valleys, plains and plateaus, beautiful forests and ravines: they present pleasant and most picturesque landscapes: there exist a number of lakes and streams of pure, permanent water, with various kinds of fish in all of them.

(García Torres 1875, 10).

The document further suggests that the region had a cool and healthy climate, fertile soils, and many game animals (García Torres 1875, 10). The forests also offered valuable woods, and the mountains were rich in minerals, such as gold, silver, copper, iron, cinnabar, and emeralds. Promoters of the area also denied the existence of disease, especially *jiricua*. Of interest too, is the statement that the area had easy access to the ports of Acapulco and Zihuatanejo, and that it was a short distance from Mexico City. The inaccurate information and upbeat and flowery prose indicate that this offer was intended to appeal to residents of the United States rather than to the average Mexican citizen.

The Mexican government encouraged the cultivation of a wide variety of crops in the region, including maize, wheat, beans, cotton, sugarcane, coffee, and cacao (García Torres 1875, 15, 17). Sugarcane and cotton were to be grown along the streams of the Río de las Balsas basin, and coffee and cacao would be grown on the lower slopes of the Sierra Madre del Sur. Cattle raising was also encouraged in the Río de las Balsas basin, but this activity made little headway into the rugged and densely forested mountain zones of the region until almost a century later.

Details concerning the overall effectiveness of these colonization attempts, including the intensity and extent of settlement, remain uncertain. Guerrero never received as many foreign immigrants as did other colonization zones in Mexico, including especially Chiapas, Chihuahua, Coahuila, and Baja California (González Navarro 1960, 56; Mendieta y Nuñez 1964, 128; Wodón de Sorinne 1901, 5). There were less than 600 foreign residents in Guerrero between 1900 and 1940, in contrast to the 2,000 to 4,000 in Coahuila during the same period (De la Peña 1950, 174). Some of the contrast stemmed from the varying proficiencies of the *compañías deslindadoras* (colonization companies) in promoting settlement in their respective regions (De la Peña 1950, 199-200). Guerrero also had fewer such companies because of the belief that colonization would be less profitable in the region.

The Mexican government also made efforts in the 1890s to attract Hispanic residents of the US (especially those in Texas) to settle in Chihuahua, Coahuila, Guerrero, Mexico, Michoacan, Puebla, and Veracruz (González Navarro 1960, 119). Like other governments in Latin America, Mexico was trying to promote colonization of unsettled regions by foreigners who had capital, rather than relocate poor and landless campesinos from other areas in the country. While this never became a major political issue at the time, it may have played a role in determining the character of subsequent settlement and land tenure patterns in the region. Also of interest, was the introduction of Kickapoo Indians from the US (as part of its policy of Indian pacification) to work on a hacienda in south central Guerrero in 1884 (Salazar Adame 1987, 31, 32). While the project was not especially successful and the number of Indians brought in as permanent residents was small, the plan demonstrates the peculiar nature of colonization in Guerrero during the nineteenth century. **[end p. 63]**

During the *Porfiriato* (1876-1911) numerous foreign enterprises from the US, Britain, and France obtained vast lands in southwestern Michoacán and western Guerrero (Marroquín Arciga 1991; *Periódico Oficial del Gobierno del Estado de Guerrero* [POGEG] 1934-1984). Enterprises, such as the American-Mexican Pacific Co., the Washington Acapulco Co., the Guerrero Land and Timber Co., and the Guerrero Iron and Timber Co., owned huge parcels of land (with some holdings as large as 65,000 ha) in dozens of *municipios* in central and western Guerrero (Marroquín Arciga 1991; POGEG 1934-1984). As their titles indicate, most of these companies were involved in timber and mineral exploitation. However, some of the companies operated small plantations of coconut, coffee, and cacao on the coastal plain and in some of the irrigated valleys of the Río Balsas basin. In addition to companies, an unknown, but certainly small, number of foreign individuals acquired land, especially along the coast and in the Río de las Balsas basin, and attempted to produce agricultural commodities on their properties. During the 1930s the federal government issued permits to several foreigners with lands along the Río de las Balsas to draw 315,360 m<sup>3</sup> of water per year to irrigate their fields (POGEG 9 May 1934, 5; 15 May 1935, 10). Cattle were also raised by foreigners in the Río de las Balsas basin. Despite these few examples, most of the lands remained unused for agriculture. Also, as elsewhere in Mexico during the period, almost all of the agricultural production was facilitated with the utilization of cheap labor provided by poor or landless *campesinos* in the region. In fact, under the 1875 decree, individuals who owned haciendas were only compelled to provide each of their workers with 3.5 ha. of land for agriculture (García Torres 1875,30). This amount of land was much less than the 13 ha. typically required for total household needs using shifting cultivation on the region's poor mountain soils (Lambert 1992).

It is important to note that the expansion of the hacienda system in Guerrero and the acquisition of land by foreign companies did little to develop much of the region. The mountains remained relatively sparsely populated and commercial agriculture was rare, except in coastal areas and along the central Rfo de las Balsas. In 1882 Laguerenne (1882, 616), who found that the mountains were still sparsely populated, suggested that the government establish new colonies within them. He also suggested that the traditional farmers in the Sierra Madre, most of whom were shifting cultivators, were destroying valuable forest resources (1882, 618). He argued that the state government should provide good plows and teach the farmers to use fertilization techniques so as to avoid the destruction of these mountain environments. Even four decades later, Schnitzler (1924, 93) suggested that agriculture in Guerrero had great promise, especially for the production of coffee, coconut, cotton, avocado, and cacao, but that existing conditions posed major restrictions to agricultural development. He further boasted that:

Guerrero possesses an enormous extent of idle lands, covered only by trees and plants which are of no use. All these lands, however, are of excellent quality and suitable for agricultural purposes. None of these lands need drainage, but rather some small leveling works, so that the streams may be made serviceable for irrigation purposes (1924,96).

The level of development and population of Guerrero did begin to increase more appreciably during the late Porfiriato period, mostly after 1890. By 1892 there were 172 haciendas and 825 ranchos operating within the state (Luis Velasco 1892, 81-82). Many new immigrants came from the Rio Balsas and highland areas of Michoacan during the latter part of the nineteenth century. Some of these colonists arrived in response to previous offers of land or to work on the new haciendas and ranchos, while others took advantage of improved access to unsettled areas of Guerrero (Marroquin Arciga 1990). Additional immigrants arrived in the region from the state of Morelos following the Revolution of 1910. Frequent changes in municipio boundaries make accurate calculations of population change in the western portion of Guerrero difficult. However, it is evident that much of the region experienced a strong increase in population after 1920 (Table 2). This growth occurred in response to immigration and natural increase, as small settlements grew, and as new ones were established.

TABLE 2. POPULATION CHANGE IN THE SIX MUNICIPIOS OF WESTERN GUERRERO, 1900–1990

Year	Municipio					
	1	2	3	4	5	6
1900	—	13,074	—	7,550	—	—
1910	—	11,540	—	8,900	—	—
1920	—	12,266	—	9,575	—	—
1930	—	14,517	—	9,545	—	—
1934	—	—	5,816	—	10,728	19,076
1940	—	10,814	11,037	9,917	—	—
1950	—	13,192	15,670	—	—	—
1960	9,693	10,300	21,653	—	—	—
1970	17,873	13,234	31,099	10,693	—	—
1980	25,751	19,239	34,263	11,705	20,024	39,799
1987	34,357	25,825	38,126	11,705	—	—
1990	63,366	25,606	43,145	13,485	21,249	43,585

1) José Azueta 2) La Unión 3) Petatlán  
4) Coahuayutla 5) Zirandaro 6) Coyuca de Catalán

Data compiled from SFCI (1905, 3, 4); DEN (1927, 23–50); DGE (1934, 28–30, 61–64); POGEG (22 July 1936, 4, 5); DGE (1948, 137, 138, 142, 146, 147); DGE (1952, 162–164, 175, 176, 186–188); DGE (1963, 50–52, 64, 65, 68, 69, 81–83); INEGI (1983, 18, 22, 34, 42, 57, 60); and INEGI (1990b, 68–70)

The introduction of large landholders into the region brought more than limited economic development. As recently discussed by Shrestha (1989), the colonization of frontiers is often accompanied by socioeconomic problems because [end p. 64] of the establishment or reinforcement of class barriers. While many campesinos in Guerrero worked as laborers on the haciendas, a large number of farmers who lacked access to sufficient personal landholdings leased the privilege to cultivate additional parcels on the large estates. These farmers paid their leases to the landowners with a portion of their harvest, or with money earned from selling their crop in local markets. The typical payment was approximately one *carga* of maize (100 kg) for each hectare of land in cultivation (Hendricks Perez 1945, 30; Marroquin Arciga 1991). Charges varied according to the quality of the land and whether or not it was irrigable, ranging from as little as 10 percent to as much as 75 percent of the harvest (Marroquin Arciga 1991). The farmers were often obliged to sell their produce below market value in order to pay their rent, and there was little allowance for years with poor harvests (POGEG 12 December 1934, 6). Also, because shifting cultivation was the dominant form of agriculture in the region, farmers constantly complained of having insufficient land to maintain adequate production levels. Most of the irrigable lands were retained by the hacendados for their own use, further limiting the options of the campesinos. The campesinos remained essentially powerless until after the Revolution of 1910, and frustration and discontent was widespread in the region. In fact, the Revolution itself failed to bring immediate improvements. The expropriation of large haciendas and foreign enterprises in Guerrero was relatively slow in the first decades of the twentieth century, and many large estates remained relatively intact until the 1940s (POGEG 1934–1984).

Even the state government of Guerrero experienced some difficulty in its dealings with the large estates. Similar to many other areas of Mexico, state politics and governmental functions in Guerrero were influenced by the state's elite class. This intervention affected everything from state agricultural policy to transportation development (Bustamante Alvarez 1987, 347; Jacobs 1982; Ravelo Lecuona 1987, 104). The

state government also had difficulty in getting some of the large estates, especially those owned by foreigners, to pay their taxes in a timely manner. For example, the Guerrero Land and Timber Co. had to be publicly notified of its debt of back taxes of 14,373.66 pesos; approximately US \$5,000 (POGEG 9 June 1943, 4).

After the Revolution numerous *ejidos* (communal landholding operations) were established to combat the problems associated with the high rents and general lack of land for the region's campesinos. Between 1915 and 1934 approximately 509,966 ha. were expropriated from large estates and used to create ejidos within the state (Instituto Nacional de Estadística Geográfica e Informática [INEGI] 1986, 275). An additional 4,058,847 ha. were "donated" to ejidos between 1935 and 1970. The expropriation of lands and the establishment of an ejido typically began with individuals in a particular community submitting a solicitation to the federal agency involved in expropriation, usually the Departamento de Fomento or its successors. Many times these petitions contained references to the injustices imposed by hacendados on the campesinos. For example, the people of Chutla wrote that:

... in order to realize the ideal of the Revolution we respectfully tell you that for several years we have been cultivating the lands of the hacendados and paying painfully high rents ... [and] ... our harvests are constantly decreasing and we cannot satisfy our needs ... [and therefore] ... we request land in the name of the Revolution (POGEG 20 January 1937,6). **[end p. 65]**

In many instances, these solicitations included a list of specific parcels of land which were being requested and the names and addresses of the owners. It normally took two to four years from the time of solicitation until the ejido was approved and mandated. It was typical for a large number of solicitations to be submitted from one particular area during a period of just a few months; presumably one request would encourage others. In many instances, the government would receive four or five solicitations for lands belonging to one particular estate owner at the same time.

While a few ejidos were established in western Guerrero during the 1930s, along with the great many in northern and eastern Guerrero during that time, most were created during the 1940s and 1950s (POGEG 1934-1984). The slow conversion of large estates to ejidos in western Guerrero prior to the 1940s probably stemmed from the relatively low population density in the region until that time. Also, during the 1940s many of the large haciendas in the western Río de las Balsas basin were broken up. There was a substantial lull in the process during the war years of the 1940s, but the number of expropriations picked up after the war. Mandates which increased the size of existing ejidos also became more common in the 1950s. The government received approximately three solicitations for the establishment or extension of ejidos in Guerrero each month between 1936 and 1972 (POGEG 1934-1984). For the most part, the establishment of ejidos was much more common on the more densely cultivated coastal plain, the indigenous areas of eastern Guerrero, and in the Río de las Balsas drainage. In time, as the population of the Sierra Madre del Sur grew, solicitations for this area became more common. It is uncertain what the approval rate for these solicitations was because the documents indicate only those requests which were approved rather than those which were rejected.

Numerous foreign companies and foreign individuals were affected by the land redistribution programs (POGEG 1934-1984). For example, the American Land Co. lost a large property west of Chilpancingo in 1935 (POGEG 15 May 1934, 10). The Guerrero Land and Timber Co. lost at least 65,000 ha. to three ejidos between 1936 and 1972 (POGEG 6 May 1936, 7; 16 August 1944, 3; 3 March 1948, 3; 21 July 1948, 2; October 1972, 2; 8 November 1972, 2). Throughout the 1940s and 1950s the amount of land owned by foreigners in the state decreased. Today foreigners mainly own partnerships in logging operations in high-mountain zones (Flores Radilla 1991; Gómez García 1991).

The formation of ejidos alleviated many of the problems experienced by the campesinos. The farmers no longer had to pay for the use of the agricultural land, and they typically had access to larger parcels. For example, the mandate for the ejido of La Laja granted 12 ha. to each *ejidatario* and provided for 6,071 ha. to be held as communal land for the 254 ejidatarios (POGEG 16 August 1944, 3, 4). However, the establishment of ejidos did not necessarily mean that farmers were issued as much land as they needed. In many instances, ejidos were given insufficient land for sustainable production, and they were frequently forced to solicit the government for more (POGEG 1934-1984). These extensions continued into the early 1980s. Also, in a few cases, farmers who failed to continuously cultivate their ejido lands were deprived of agrarian rights by the federal government. However, such harsh action has been rare in the state, and 58 percent of the land in Guerrero was in ejidos by 1984 (INEGI 1990c, 69; POGEG 1934-1984).

## **DEVELOPMENT SINCE 1950**

Despite land reform and regional population growth, the majority of the agricultural development of the Porfiriato and the years immediately following the Revolution occurred in the eastern Balsas basin, and on the coastal plain near Acapulco, rather than in the mountainous areas of the state. Poor transportation facilities and rugged or unirrigable land remained the major reasons for this lack of development.

However, great changes have occurred in the region during the last several decades. By 1970 an all-weather road connected the major towns on the coastal plain, extending the full length of the coast from Lázaro Cárdenas (Michoacán) to Pinotepa Nacional (Oaxaca). Another road was built over the Sierra Madre del Sur to Toluca and Mexico City in the early 1980s (Bejar 1990; Marroquín Arciga 1990). Dirt roads are currently under construction along the axis of the Sierra Madre del Sur, primarily to facilitate the exploitation of the region's forest resources. [end p. 66]

As a consequence of this improved regional infrastructure and population growth, the state of Guerrero has experienced dramatic increases in economic development. Commercial agriculture, which had existed in only small areas of the region since colonial times, has expanded along the coastal plain and the Balsas basin (Flores Radilla 1991). Large-scale production of cotton, sesame, coconut (copra), and other crops has increased as formerly isolated areas have gained access to markets inside and outside the region (Flores Radilla 1991; Jacobs 1982,36). Tree crops, such as mango, banana, and papaya, have gained special importance since the late 1970s when it became economically feasible to ship such perishable produce to Mexico City and abroad (Bervonnen Rodríguez 1990).

Of even greater significance has been the expansion of cattle raising in Guerrero. The increased production of this formerly constrained activity has been facilitated by wider use of zebu breeds, improved pasture grasses, and parasite control (Marroquin 1991). While cattle raising is not yet the most important economic activity in the state (accounting for a mere 4.3 percent of the state economy), it appears to have the widest impact on landuse decisions in the Sierra Madre del Sur (INEGI 1990a, 104). Of special interest is the fact that much of this shift to commercial agriculture and livestock raising is being initiated by the region's campesinos. These farmers, along with the remaining hacendados, are intensifying production in response to new market opportunities.

The increased exploitation of Guerrero's timber resources is also impacting land use and environmental change in the region. Logging is most important on the highest slopes of the mountains as new roads are being built into these formerly isolated areas. As a result, some steep slopes have become deforested and vulnerable to increased soil erosion. The availability of densely-forested fallow lands has also been reduced with these operations. At the same time, numerous villages have experienced a growth in associated commercial activities, such as family-owned restaurants, small stores, and bars selling home-brewed *mescal*. In spite of these recent trends, the long-term impacts of logging at these higher elevations remain unclear.

Other changes have been initiated by the development of tourism in Guerrero. Acapulco, a minor resort in the 1930s, is now a world class destination, and overland and air access to the city has markedly improved. Acapulco grew from a population of 5,768 in 1921 to 174,378 in 1970, and to 515,374 by 1990, becoming the most powerful economic center in the state (INEGI 1991, 1; Luna Mayani 1976, 149). Two other urban areas have gained tourist importance as well: Taxco and Ixtapa-Zihuatanejo. Taxco, a colonial mining town, has developed into a weekend getaway for Mexicans and has an important jewelry trade. The planned resort of Ixtapa, adjacent to the older fishing town of Zihuatanejo, is a government-planned resort designed to minimize the problems of overcrowding and pollution which characterize Acapulco. While the latter two tourist areas have not yet shown the marked population increase of Acapulco, they are rapidly developing into important economic centers, and they serve as magnets for migrants.

## CONCLUSION

Today Guerrero is characterized by the presence of several economic core areas or "islands" strewn across a poorly integrated and undeveloped economic landscape (Figure 2). These developed core areas, which include Acapulco, Chilpancingo, Ciudad Altamirano, Iguala-Taxco-Teloloapan, and Zihuatanejo, provide limited economic benefit for most of the inhabitants of the Sierra Madre del Sur. These areas also constituted approximately 35 percent of the state's population in 1990 (INEGI 1990a, 39,40). It is important to note that almost all of the economic development occurring in Guerrero since 1950 has been within 10 km of either the Pacific Ocean or the Rio de las Balsas. In fact, even large sections of the coastal plain and Balsas basin remain poorly developed today.

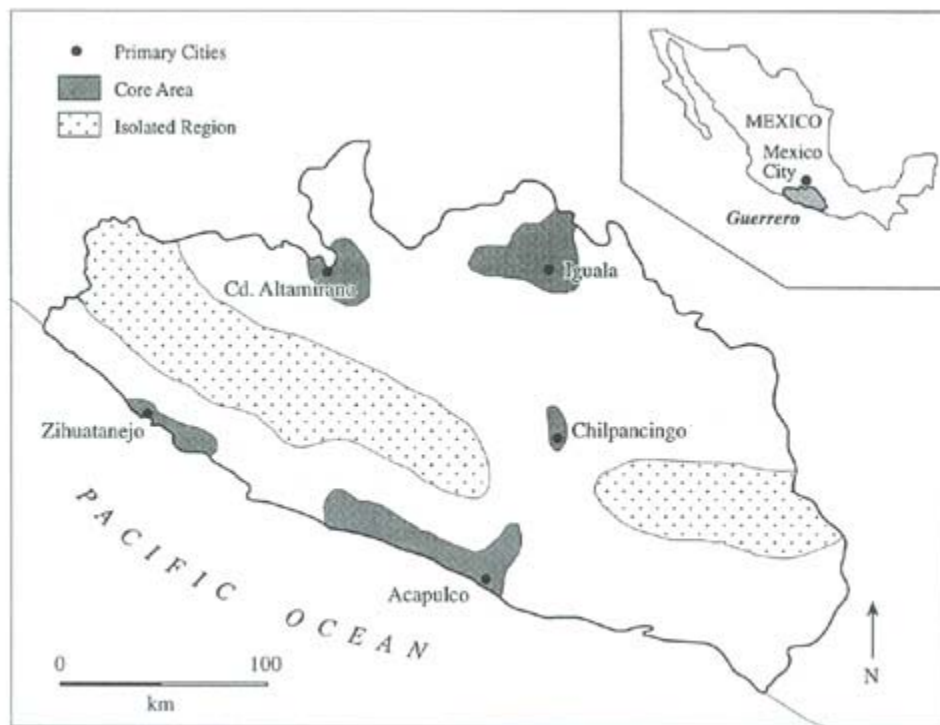


Figure 2: Core areas and isolated regions of Guerrero

Most mountain residents are still unable to effectively take advantage of many of the economic changes which have occurred in the last several decades, due in part to the fact that most still utilize subsistence agriculture to survive on their small parcels of land and have only limited access to the social and economic benefits in the urban areas. In the coming decades, as the campesinos take fuller advantage of their new economic options, commercial agriculture and other development will undoubtedly expand into more isolated areas of Guerrero, presumably reducing this insularity. [end p. 67]

What has developed in Guerrero is a strong imbalance between the rural or isolated areas of the state and the newly-important urban centers. It is curious that as the disequilibrium between Guerrero and the core of Mexico has been reduced, new imbalances have been created. It is true that there has always been some contrast between the levels of economic development in Acapulco or northern Guerrero and that of the mountains. However, greater socioeconomic differences may now exist between the mountains of Guerrero and the developed core areas of the state, than between Acapulco and Mexico City. It is also apparent that the process of economic development is less like a wave which sweeps across a frontier, than it is a process of extensification which grows out of distinct foci on the landscape.

In conclusion, many of the contemporary settlement and land use patterns in Guerrero have their roots in the isolated and peripheral character of the region as far back as prehispanic times. During the colonial and early republican periods the region appeared to offer hardship and little economic opportunity. As the Mexican government expanded its development interests it began to more seriously promote colonization of the region, and through the Porfiriato period large estates were established. These brought little real development, and instead, promoted inequities in land tenure and economic opportunity.

With the aid of the Mexican Revolution and subsequent land redistribution programs, campesinos were given the opportunity to better provide for their own needs rather than work with little reward on the large estates. However, it was not until improved transportation facilities were introduced into the region that real economic change was possible. It is also certain that the region's isolation, historically low population densities and limited agricultural development have had significant impact on the effects of these recent changes in regional development. Guerrero, outside the core area of Mexico for centuries, is only recently becoming effectively integrated into modern Mexico. [end p. 68]

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## RESUMEN

Fomento regional es íntimamente relacionado con la infraestructura, y es obstaculizado en regiones con escasas facilidades de transporte y de comercio. Ese es el caso en la mayor parte del terreno montañoso de Guerrero occidental, en México. Esta región ha estado marginada del núcleo de México desde el siglo XIV. Fomento regional ocurrió solamente con la ayuda de la colonización en el siglo XIX, y con la extensión de una red de transporte entre la región durante los últimos cincuenta años. El desnivel regional está disminuyendo, pero las limitaciones de fomento han producido un mosaico complejo que aun hoy persiste. [end p. 71]