

Insights Provided by U.S.-Mexican Border Quality of Life Indicators

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Abstract

Cultural and economic globalization has made policy issues related to the global markets, immigration, and national security concerns much more difficult to solve. These are multifaceted issues that make for complex times but much can be learned from the people living, working, and studying border regions for they have the everyday experience of dealing with each of these challenges. Instead of the national conversation, particularly in the United States, of how the border is a constant problem, this narrative should be changed to how solutions can be developed and implemented based on the border experience. This experience is documented in indicators and data on the quality of life (QOL) in the region. As seen from the data presented in this article people are generally happy with their lives but education and job creation are two important factors that need more attention. Finally, strong institutions that can deal with bi-national issues that impact local life are needed so that a measure of shared governance can be created. These recommendations are also applicable to other areas in the nation-state directly impacted by globalization.

Introduction

Historically, border regions have been perceived as distant and distinct areas from a nation's population centers. They were the frontiers. It is in the border regions that sovereign nations have met for centuries through their exchanges of goods, people, and security personnel. These interactions are what have made the regions so unique. With the rise of economic and cultural globalization, it has been thought that the border regions will lose their unique flavor as more the center of nations become intertwined in the dynamic that led to the growth of borders. Many ask where does the border end? We know it begins at the demarcated, negotiated line between nation-states but how far does it extend into the national territory? The unique dynamic within border regions that has impacted the quality of life for residents in these regions, now have the possibly of impacting the lives of those living far from the actual borderline. For this reason, if one wants to understand what economic and cultural globalization means for people's quality of life, it is analyzing the different indicators at the border region where insight can be found.

Border regions are where people from different communities meet and exchange goods and ideas, and inter-mingle culture and values. They are areas where peace or wars among peoples can start. Because of the possibilities for prosperity that can come with peace, and the destruction that can come with war, it seems as crucial as ever to understand life in the border region. As Samuel Boggs

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wrote in 1940, “if there is ever to be a peace to end war it must be based upon local autonomy and world economy.”¹ The ability for local interactions of people and their relative quality of life are just as important as the global economy in bringing peace (national security) and prosperity.

Understanding the quality of life in a community is not easy. Analyzing it in the U.S.-Mexican border region can be even a bit more complicated as a researcher needs to work with different sets of data and indicators that are collected using separate assumptions, values, and take into consideration the many factors that make up two different nations. For example, in the United States, one of the wealthiest and most powerful nation-states in the world, its southern border is one of the most impoverished regions in the nation. Yet in Mexico, a developing country, the opposite holds true, as the northern border is one of the richer places in that country. It is the meeting of the two countries that created this dynamic. A situation that in some ways is the ultimate post-structuralist representation of communities and life – how is it possible to understand the competing realities of these two groups of people in a region strongly related yet very much separated as the U.S.-Mexican border region?

It is with the task of answering this question that this study began looking at a variety of data and indicators, not only to more clearly understand the challenges as well as the positive aspects of the region, but also to better help with policymaking and the allocation of few resources in a region hunting for answers. It is a look at this border area, not via the perceptions of those in Washington DC, Mexico City, New York, or Guadalajara, but through the eyes of the residents themselves. People outside the immediate region often see only one side of the story compared to those actually living inside the border area. It is there through shared, as well as individual experiences, where a more complete account of the story is told.

This paper begins with a look at the U.S.-Mexican border region and the growth of its population, an important characteristic which plays heavily into the quality of life. It next moves into a discussion of the major theories that help one to understand how quality of life in such an area can be studied. One of the major challenges in the U.S.-Mexican border data analysis is access to comparable numbers (the apples to apples method). Historically, data on both sides of the border is collected using different basic assumptions and cultural realities (apples to oranges). This adds limitations to the ability to study the binational region as a whole entity, and also makes the findings that are compiled from the data more interesting to decipher.

The next section of the paper specifically explores some of the realities that can be extrapolated from the data. Here, a number of quality of life indicator sets are analyzed using both objective data and subjective data for a series of binational communities. The individual communities, per se, are not specifically analyzed as much as are the trends found within the confines of the communities. This work then wraps-up with the amassed findings which assist us in the methodological approach to quality of life analysis, accompanied by a number of policy considerations, for the U.S.-Mexican border communities.

¹ Samuel Whittemore Boggs, *International Boundaries: A Study of Boundary Functions and Problems* (New York: Columbia University Press, 1940), 202.

An Overview of the U.S.-Mexican Border Region

There are two basic phenomena that define the U.S.-Mexican border region. The first part of the border experience is found in its population growth. The second part of this experience is realized in living without a shared binational system. Along this shared border we can observe a population living within the domestic perspectives of two separate nations whose cultures and policies are continually affecting the region as a whole, yet very rarely considering the other side. It is as Paul Ganster notes, the “white map” syndrome – anything on the other side is not filled in but just a white map.² Therefore, growth and development in the shared regions is largely unplanned and many of the negative externalities that come with an increase in population are not corrected in a proactive fashion. Instead, policymaking is reactive to what has occurred.

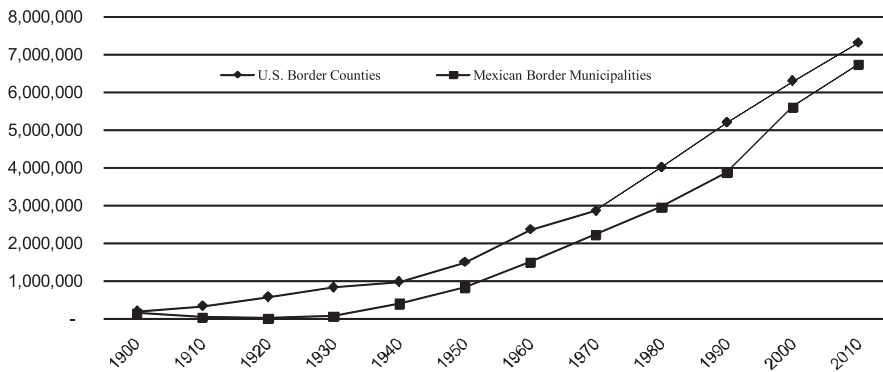
The U.S.-Mexican border region has experienced tremendous population growth over the past 100 years or so. In 1900, there were approximately 350,000 people living along the entire length of both sides of the border. By the mid-2000s this number grew to approximately 13.3 million people. As Chart 1 shows, the population growth in border counties and municipalities has increased similarly. If one were to take out the San Diego-Tijuana metropolitan region (see chart 2), the population on the Mexican side of the border surpassed the population on the U.S. side in 1960 and has continued to grow.

As many people move to and live on either side of the border, it becomes increasingly more difficult to track the exact movement of the people inhabiting the region. Numerous services, commercial activities, and educational opportunities, as examples, are all accessed on both sides of the border by residents living on one side or the other. More specifically, it is not unheard of for a family from Mexico to move to the U.S. side of the border as they want their children to study in U.S. schools, and then return once again to Mexico after their child has graduated. These are often viewed as the legitimate movements of people who are able to access the services that are part of the overall quality of life in this shared region.

Policymaking in the border region is generally driven by strong domestic issues within each nation. For Mexico, economic growth and job creation are serious matters for the nation as a whole, but are less so in the northern border region. For the United States, the focus, particularly since 9/11, has been on national security and stemming the high flow of immigration while maintaining trade relations, thus making it harder for people to cross but not inhibiting the movement of goods. Problems of sovereignty and nationalism in both countries have made it difficult for full binational cooperation on a number of issues. For example, planning and development are major subjects that have never been appropriately dealt with within the binational context, even though in some communities, the local will and the personnel are already in place. The exact reasons why this has happened are complex and can vary on a case-by-case basis, but generally the main inhibitors to action can be attributed to a lack of binational institutions and financial limitations.

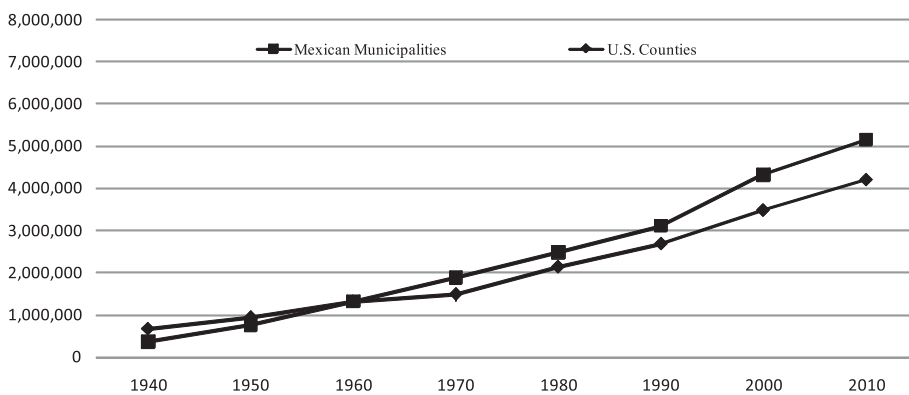
² Paul Ganster, “Review of ‘Sustainable Development and the U.S.-Mexican Border Region,’” *Public Administration Review*, 69:1 (2009): 154.

Chart 1. U.S. and Mexican Border Counties Population, 1900-2010



Source: United States Census Bureau, Population by Decennial Census, 1900-2010, access at www.census.gov; *Instituto Nacional de Estadística y Geografía (INEGI), Anuario Estadístico, Censo 1900, 1910, 1930, 1990, 2000 y 2010*, accessed at www.inegi.gob.mx.

Chart 2. U.S. and Mexican Border Counties Population Excluding San Diego and Tijuana, 1940-2010



Source: United States Census Bureau, Population by Decennial Census, 1900-2010, access at www.census.gov; *Instituto Nacional de Estadística y Geografía (INEGI), Anuario Estadístico, Censo 1900, 1910, 1930, 1990, 2000 y 2010*, accessed at www.inegi.gob.mx.

Eight border cities or four community pairs have been analyzed in this study. They include San Diego, California and Tijuana, Baja California; Calexico, California and Mexicali, Baja California; San Luis, Arizona and San Luis Rio Colorado (SLRC), Sonora; and El Paso, Texas and Ciudad Juarez, Chihuahua. These cities were chosen primarily based on the location of the research teams, the availability of resources, and the goal to ultimately obtain a sample from all of the different regions of the border. It is hoped that data will continue to be collected and future efforts will include the community pairs and cites found further down the Rio Grande, so that this information can be added to that of the communities already sampled.

The full border region cannot be considered a homogeneous region³ but the city pairs that

³ Joan B. Anderson and James Gerber, *Fifty Years of Change on the U.S.-Mexico Border* (Austin: University of

share contiguous areas do indeed work together, albeit at varying degrees of success. For example, along the California-Baja California border, San Diego and Tijuana have a different relationship and mechanisms for interaction than can be found in Calexico and Mexicali. Much of the differences have to do with the institutions and actors that exist within each individual community. This is particularly the case on the U.S. side. San Diego, for example, is a large metropolitan area with a diverse economy, while Calexico is a small suburban town in an agricultural community. The one thing that all border communities have in common is an international line running through them, creating both a physical and cultural divide, with different levels of infrastructure and governance to be found on either side.

How far this relationship extends north and south on either side of the border depends on the people. Oscar Martinez, in his book *Border People*, described a border “attitude” held by the people who live in the border region communities. Martinez categorizes people into 10 typologies (transient migrants; newcomers; nationalists; uni-culturalists; bi-national consumers; settler migrants; commuters; bi-culturalists; bi-nationalists; permanent residents).⁴ For the purposes of this study, the focus is on the geo-political designations of the city or county boundaries. This is the most practical way to measure the region, especially in considering the objective data.⁵

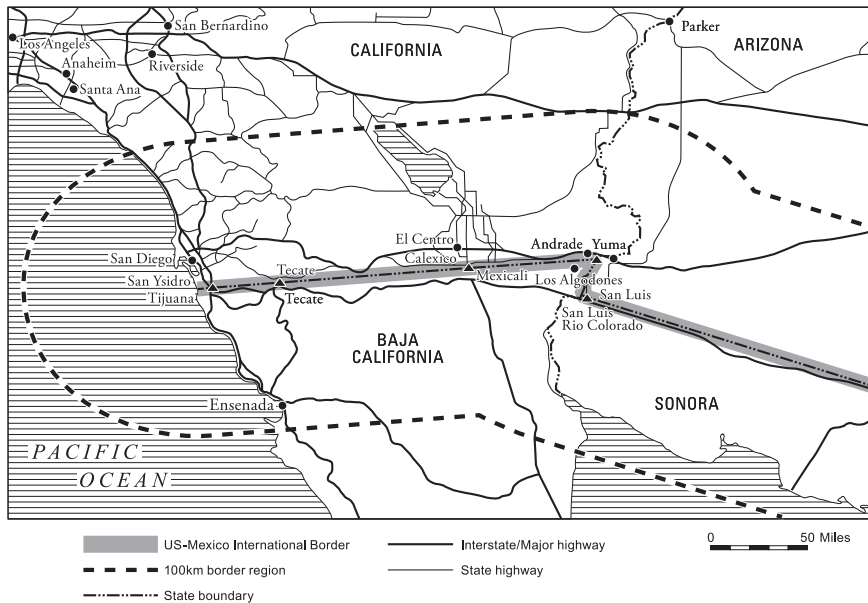


Figure 1: Map of the Communities included in the Study

Source: Barton-Aschman and La Empresa, 1997 as found at the U.S. Department of Transportation, Federal Highway Administration, “U.S./Mexico Joint Working Committee on Transportation Planning, MAPS,” accessed on December 19, 2010 at <http://www.borderplanning.fhwa.dot.gov/maps.asp>.

Texas Press, 2008).

⁴ Oscar J. Martinez, *Border People: Life and Society in the U.S.-Mexico Borderlands* (Tucson: University of Arizona Press, 1994).

⁵ Anderson and Gerber, *Fifty Years*.

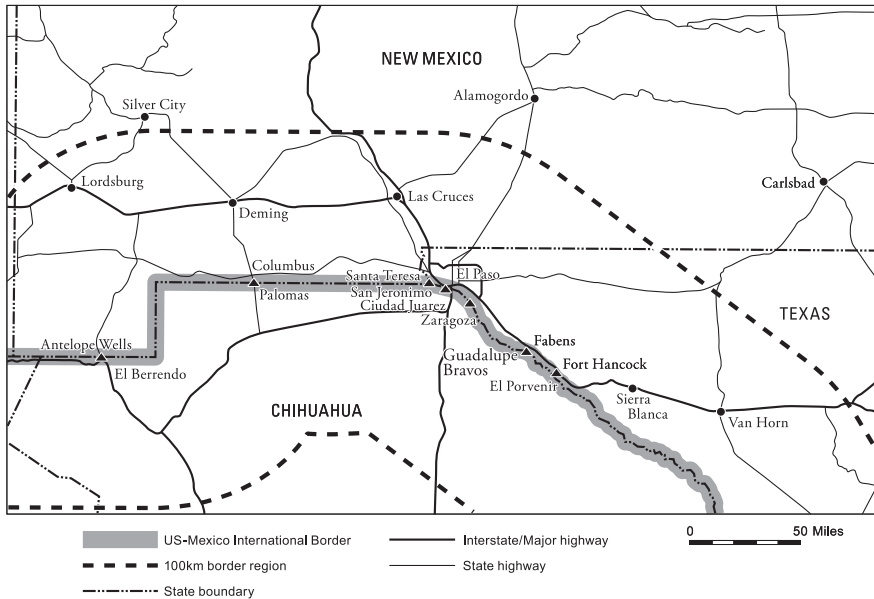


Figure 2: Map of the Communities included in the Study

Source: Barton-Aschman and La Empresa, 1997 as found at the U.S. Department of Transportation, Federal Highway Administration, “U.S./Mexico Joint Working Committee on Transportation Planning, MAPS,” accessed on December 19, 2010 at <http://www.borderplanning.fhwa.dot.gov/maps.asp>.

Definitions and Theories about Quality of Life

In reviewing the literature regarding quality of life, a number of central themes emerge. First and foremost, quality of life encompasses more than one factor. To understand quality of life, one needs to look at the whole system in which people live. This system includes external and internal factors in relation to an individual’s life. A systems approach considers not only the balance between individual perspectives, but the collective system as well as the interaction among variables within the system.

A practical understanding of quality of life includes the process of selecting and defining social indicators that represent aspects of an individual’s life. Quality of life indicators as described by Ben-Chieh Liu consist of many different variables. These include economics, politics, environment, health and education, and a series of social indicators.⁶ Theoretically, Liu views quality of life as “the status of human happiness and satisfaction at a particular point in time for the given physical and psychological conditions with which the individual in question is confronted.”⁷ Even though, theoretically, an individual and specific point of time are central to understanding the quality of life in a region, the applied definition looks more closely at the collective whole of residents living

⁶ Ben-Chieh Liu, *Quality of Life Indicators in U.S. Metropolitan Areas: A Statistical Analysis* (New York: Praeger Publishers, 1976).

⁷ Liu, *Quality of Life*, 79.

within a specific space and time. This is the basis upon which the data has been collected for this study.

Dissert and Deller conducted an extensive review of the planning literature related to quality of life. In defining the term, these authors explored quality of life from the viewpoints of many different authors. Szalai developed the basic assumptions that: “(1) it refers to human life only, (2) it is rarely if ever used in the plural, (3) it is used as a single indivisible generic term whose meaning can be clarified, and (4) it is difficult to classify into any discrete category of related social sciences.”⁸

Diener and Suh measure quality of life through “...three major philosophical approaches...: (1) characteristics of quality of life dictated by normative ideals based on religious, philosophical, or other systems; (2) the satisfaction of preferences (choice utility); and (3) the experience of individuals.”⁹ These measurements place the individual as a central figure in analyzing quality of life, and an important component for understanding the individual’s perspective is the input or factor(s) that contributes to his/her quality of life. These basic assumptions lay the framework for understanding quality of life through an interdisciplinary analysis of the system in which people live.

In contrast to the reliance upon the perspective of individuals, Szalai defines quality of life as a “collective attribute that adheres to groups or categories of people, not to individuals.”¹⁰ This definition is not based on what individuals perceive as the quality of life in a region but what are the exogenous or objective factors of life and the endogenous or perspective regarding life. Thus, in defining social indicators, it is better understood that they are considered a reflection of the community taken as a whole and are not specific to an individual. Szalai continues that quality of life indicators are therefore more than just social indicators as they describe the observable conditions of life and individual perspectives and assessments.¹¹ Defining what is included in the objective indicators or exogenous factors is difficult. How encompassing should the factors be or what should be included in the analysis? There are many different quality of life analyses yet little agreement has been forthcoming on what the perfect indicators ought to include.¹² Therefore, there is, to date, no consistent set of indicators that can be used for all quality of life studies. Lietmann does provide us with guidance on the indicators that should be selected in order to better understand the quality of life aspects that exist within a particular community. The indicators should be “(1) fairly universally accepted Quality of Life (QOL) indicators: human health, literacy, employment, crime, and income

⁸ Alexander Szalai, “The Meaning of Comparative Research on Quality of Life,” in *The Quality of Life: Comparative Studies*, ed. Alexander Szalai and Frank M. Andrews (London: Sage Publications, 1980), 136.

⁹ As quoted by J-C Dissert and Steven C. Deller (2000), “Quality of Life in the Planning Literature,” *Journal of Planning Literature* 15:1 (2000): 137.

¹⁰ Szalai, *The Quality*, 16.

¹¹ Szalai, *The Quality*.

¹² Josef Leitmann, “Can City QOL Indicators Be Objective and Relevant? Towards a Participatory Tool for Sustaining Urban Development,” *Local Environment* 4:2 (1999)169-80; Maria Claret M Mapalad-Ruane and Carolyn B. Rodriguez, “Measuring Urban Well-Being,” *American Journal of Economics and Sociology* 62:2 (2003): 461–83; Eduardo Lora [Coordinator], *Beyond Facts: Understanding Quality of Life*, (Inter-American Development Bank and David Rockefeller Center for Latin American Studies, Cambridge, MA: Harvard University Press, 2008).

per capita; and (2) realistic QOL indicators. Those that are measurable, based on existing data, affordable, regularly collected, and quickly observable, sensitive to change, widely accepted, easy to understand, and balanced or politically neutral.”¹³ The current study uses the principles set out by Lietmann but includes additional indicators based on the criteria of Griswold and Sparrow¹⁴ such as industry/workforce composition, government revenue, housing ownership and infrastructure, education rates, environmental factors, and political participation.

Binational Data Collection

The issue of indicator collection is complicated by this border region for it is necessary to select indicators that will best represent two sovereign nations, one with a post-industrial economy, and the other with an industrializing economy. The perspectives and value systems of groups or individuals in an industrializing nation are not always the same as the orientation and berth of a group or an individual in a post-industrialized nation. As Liu describes, “a person who is lacking food, safety, love and esteem would probably hunger for food more strongly than for anything else.”¹⁵ This creates a dichotomy that must be considered and included when undertaking the collection of pertinent objective and subjective data.

In looking at the U.S.-Mexican border region, comparable binational objective data was analyzed, along with residents’ perceptions or the subjective data. Combined, the place is better understood from the separate realities described utilizing the objective data, and the subjective “realities” described utilizing the residents’ perceptions. Interestingly enough, many times these realities do not match. When looking at the objective data, it would seem that things are much worse than what the perspective might be. As discussed in Lora’s *Beyond Facts: Understanding Quality of Life*, people are generally more positive about their own lives in comparison to ratings of public life.¹⁶ This analysis also found that Western cultures, which are more individually based than the Eastern cultures, were more positive about their lives, and that those who are more impoverished actually had higher aspirations than those who were richer. This is brought to light in spite of the fact that those who were wealthier had an overall higher satisfaction with their lives.¹⁷ Another explanation can be found in Leitmann, in which he indicates that “people tend to adapt to their circumstances and restrict their horizons.”¹⁸ This appears to be seemingly more of a defeatist attitude but it probably rings more true when coupled with the perspective of Western culture. Both personality types are normal societal adaptations in order for people to be happy and generally satisfied with life.

¹³ Mapalad-Ruane and Rodriguez, *Measuring*, 465.

¹⁴ Colin Griswold, Colin and Glen Sparrow (2005), “Toward the Use of Binational Border Indicators: A Cautionary Tale” (Vol. 6 Southwest Consortium for Environmental Research and Policy Monograph, San Diego, CA: Southwest Consortium for Environmental Research and Policy, April 2005): 1-2.

¹⁵ Liu, *Quality of Life*, 48.

¹⁶ Lora, *Beyond Facts*, 21.

¹⁷ Lora, *Beyond Facts*.

¹⁸ Leitmann, “Can City QOL,” 171.

The second set of data collected for the current study is subjective, or based on the perspectives of the residents themselves. This data set was collected through a survey which was implemented directly in each of the communities. The survey instrument was developed by a binational team of researchers who considered what was really pertinent to understanding quality of life in the border region. Residents were asked their opinions on the general quality of life in the region; aspects of living in a binational region; education; health; environment; personal economics; transportation; public security; governance and the provision of public goods; and finally, their levels of happiness. The survey questions were carefully crafted so they were culturally and socially significant for both sides of the border.

The questions were based on a nine-point Likert scale and the survey sampling was done through a statistically significant method by which the communities were divided by census tracks based on population size. A total of 4,414 surveys were collected over a three-year period between 2006 and 2008. For this study, the indicators collected were averaged in order to more accurately provide a comparative perspective between and among the cities/regions on both sides of the border. Those indicators with a higher average indicate a more positive perception. Specifically, those categories with a rating between one and three were seen as poor; a rating of four to six was found to be good; and seven to nine was deemed to be very good or excellent. As can be seen in the collated results, there are varying objective and subjective factors that play into the equation, reinforcing the reality that the border region as a whole is not homogeneous.

The data in this study should be considered along the lines of Szalai as the observable conditions within the community were used. For most of the indicators, the conditions have not changed much over the past few years, but for others, such as the job availability and housing on the U.S. side and public security on the Mexican side, there are indeed significant differences that have popped up since the mid-2000s.

Once the objective and subjective datasets were developed, the final and most important component to understanding quality of life is the comparison of the indicators. Therefore, for this study even though we are focusing on binational city pairs, the study compares U.S. cities totals to the Mexican cities, as well as comparing the U.S. border communities to each other and the Mexican border cities to each other. The importance of place thereby comes into play as described by the objective and subjective indicators. Unfortunately, data for additional years has not been collected and a longitudinal analysis is needed to see how the quality of life is being impacted in the region with new realities of the global economy, security regimes, and cultural globalization.

Analysis of the Quality of Life Data

Economic Issues

The first set of indicators discussed here is economic. Economic conditions are generally seen as important to satisfaction in life, as economic theory indicates that people who earn more are generally more satisfied with their lives. But in reality one's economic condition is relative and there

are many other factors that contribute to satisfaction or happiness with one's life.¹⁹ The objective data in this section looks at the per capita Gross Domestic Product (GDP) and the official poverty determinations for both countries. In analyzing the U.S. and Mexican cities in this study, there is a difference of three to one in GDP. The GDP of the Mexican municipalities is calculated at approximately \$11,000 and the average GDP of U.S. cities is put at about \$30,000. If San Diego is excluded from the equation on the U.S. side, the difference drops down to only two to one.

GDP uses the same calculation for both countries, but poverty determinations for the two are calculated differently and are based on dissimilar assumptions. Generally speaking, Mexico has three distinct designations of poverty, while the United States works with one. In Mexico, there is an extreme level or food poverty. The second designation is set in the cost of food along with education and health care. The final designation in Mexico is based on the ability to purchase all basic needs. In the U.S., the poverty line is set at "the cost of a basic nutritious diet."²⁰

There has been much debate about the U.S. poverty line and some might consider the rates of poverty in the U.S. border communities even higher than is actually currently calculated. Based on the calculations set out by the official sources, the U.S. poverty level is 33 percent of the median income. By contrast, in Mexico it is considered to be 23 percent of the median income.²¹ As noted in Table 1, the poverty rates are a bit higher on the Mexican side of the border than in the U.S. communities, but the difference is not that great. This holds particularly true when San Diego is removed from the average. In the Mexican communities, the average poverty rate was 23 percent and in the U.S. communities, without San Diego in the equation, the average was 19.8 percent.

With low income levels and high rates of poverty, it would be expected that the perspectives of individuals would be relative to one another, and in general, this is indeed what we find. The indicators included in the subjective analysis of the economic conditions are ratings of their economic condition; their economic condition compared to one year ago; the cost of living in the community compared to a year ago; what they perceive their economic condition will be in one year; availability of employment in the community; the cost of housing and their satisfaction with housing in the community. For the current economic condition, the average perception for both the U.S. and Mexican border communities is similar, at 6.6 and 6.4 respectively (based on a nine-point Likert scale, with one indicating a low satisfaction and nine a high level of satisfaction).

With this in mind, the people in each of these communities were asked to rate the burden of housing costs where they live and their satisfaction with housing. Overall, residents in the U.S. border communities indicated that housing costs were more of a burden for them (3.8) than residents in Mexican border communities indicated (5.0). This is an expected result, as the cost of living is higher on the U.S. side of the border. Additionally, there are financing considerations and distinctions between both countries, with U.S. residents relying more on loans to purchase their housing than

¹⁹ Lora, *Beyond Facts: Economist Intelligence Unit's Quality of Life Index*, "The World in 2005," accessed August 30, 2010, www.economist.com/media/pdf/quality_of_life.pdf

²⁰ Mary Jo Bane and René Zenteno (eds.), *Poverty and Poverty Alleviation Strategies in North America*, (David Rockefeller Center for Latin American Studies, MA: Harvard University Press, 2009), 7.

²¹ Bane and Zenteno, *Poverty*.

Table 1. Economic Conditions in the U.S.-Mexican Border Region

	San Diego	Tijuana	Calexico	Mexicali	San Luis, AZ	SLRC	El Paso	Cd. Juarez	Ave. for all	Ave. for US	Ave. for US w/o SD	Ave. for MX
ECONOMIC CONDITIONS												
(place)												
Per Capita GDP (US\$)	\$47,688	\$8,281	\$20,307	\$11,855	\$20,265	\$10,152	\$28,694	\$12,970	\$20,027	\$29,239	\$23,089	\$10,815
Percent of residents under poverty line	11.0	7.2	19.5	10.3	17.6	41.1	22.2	33.4	20.3	17.6	19.8	23.0
(perceptions)												
Current economic situation	6.6	6.8	6.6	6.1	6.4	6.6	6.8	6.1	6.5	6.6	6.6	6.4
Economic situation in comparison to last year	5.7	1.7	5.6	5.0	6.5	6.2	6.5	6.1	5.4	6.1	6.2	4.7
Cost of living in the city in comparison to last year	2.6	3.4	2.0	1.9	2.1	2.9	2.7	2.4	2.5	2.4	2.3	2.7
Economic situation in 1 year	6.1	3.8	6.8	5.5	7.0	6.9	7.1	7.0	6.3	6.7	7.0	5.8
Availability of employment	5.3	3.6	2.9	4.3	6.2	4.9	5.2	6.6	4.9	4.9	4.8	4.9
Burden of housing costs	6.5	6.8	3.8	4.0	3.9	5.0	3.6	4.4	4.8	4.5	3.8	5.0
Satisfaction with housing	7.6	5.8	8.1	7.9	8.1	7.6	7.9	7.2	7.5	7.9	8.0	7.1

Source: GPD per capita in US: Bureau of Economic Analysis, accessed at www.bea.gov; GDP per capita in Mexico: *Síntesis Estadísticas Municipales*, INEGI, accessed at www.inegi.gov.mx; Poverty in Mexico: *Estimaciones del CONEVAL con base en el II Censo de Población y Vivienda 2005*, accessed at www.coneval.gob.mx; Poverty in US: American Community Survey 3-year estimate 2006-2008, U.S. Census Bureau accessed at www.census.gov; Author's calculations based from quality of life survey.

residents in Mexico, where financing is more difficult to obtain and therefore many people only buy what they can afford and build up incrementally. When asked about their satisfaction with their housing, the responses were very positive on both sides of the border, with the U.S. side indicating a slightly higher level of satisfaction (8.0) than found on the Mexican side (7.1)

Overall, looking at the economics of the place (especially if San Diego is excluded), border communities are in genuine need of more economic development, particularly in the area of job development. As public policies are made for the region, the data indicates that both sides of the U.S.-Mexican border need to improve their focus on developing innovative ways to create a stronger economy and better paying jobs.

Health Services

The next set of indicators that are analyzed show the availability and quality of health services, as illustrated in Table 2. The objective data consists of comparable sets of data, the number of doctors per 10,000 residents and infant mortality rates based on 1,000 births. For the subjective data, the focus of the survey was not for people to discuss their personal health status as this is a variable influenced by many different factors in a person's life. Rather, the survey here focused more on the access and quality of health services in their specific border community. It is also important to

note when considering these data, health care services are accessed by residents on and from both sides of the border. For example, many people from the United States go to Mexico for medical services as there is a larger variety of doctors on the Mexican side and the cost of service is much cheaper. In some instances, insurance provided in the United States covers treatment by doctors in Mexico. Therefore, defining the place was left to the individual and could not be separated by the survey. Generally though, the tone of the survey was based as if the response reflected the service in the city in which the survey was given, but if someone was accustomed to accessing services on the other side of the border in their “paired” community, this would be reflected in their answer.

The objective and subjective data do not really coincide in this category. For example, the objective data shows that there are fewer doctors per 10,000 residents in the Mexican communities compared to the U.S. communities. However, the perspective of the residents reflects a sense of higher satisfaction with the availability of doctors on the Mexican side (6.7) compared to the U.S. side (6.1). Therefore, it can be deduced that there is an inhibitor that is greater than the number of actual physicians, and this inhibitor may well be the obvious cost of health care and insurance. In Mexico, the cost of medical care is much less than it is in the United States. The Mexican federal government has developed a policy of universal health care in order to improve the basic indicators of health set by the U.N. Millennium Development Goals.²² The perception held by many in the United States, as well as those who follow neoliberal market policies, is that if there is greater access to health care and not enough physicians, then the quality of that care is poor. But this does not hold true for the perception of the residents in Mexican border communities, in which respondents gave the doctors a 7.1 out of 9 points versus the U.S. respondents, who gave their doctors 6.5 points out of a possible 9. So, even though there are fewer doctors to be found, Mexican residents are more satisfied than their U.S. counterparts.

Table 2. Health Services in the U.S.-Mexican Border Communities

	San Diego	Tijuana	Calexico	Mexicali	San Luis, AZ	SLRC	El Paso	Cd. Juarez	Ave. for all	Ave. for US	Ave. for MX
HEALTH SERVICES											
(place)											
Doctors per 10,000 residents	27.8	6.2	8.4	8.0	10.6	4.7	11.2	2.3	9.9	14.5	5.3
Infant mortality (per 1,000 births)	5.9	21.3	4.7	20.9	5.3	20.9	4.4	20.7	13.0	5.1	21.0
(perceptions)											
Accessibility of health centers	6.8	7.1	5.5	7.0	5.7	6.3	6.4	5.7	6.3	6.1	6.5
Quality of health centers	6.9	7.7	5.5	7.0	6.2	6.7	6.5	5.9	6.6	6.3	6.9
Availability of doctors	6.7	7.8	5.5	6.9	5.8	6.3	6.3	5.7	6.4	6.1	6.7
Quality of doctors	6.9	7.5	5.9	7.4	6.3	7.2	6.8	6.4	6.8	6.5	7.1

Source: Mexican Infant Mortality (various years): *Estimaciones del Consejo Nacional de Población*, accessed at www.conapo.gob.mx; US Infant mortality and doctors per capita for Mexico and US: Pan American Health Organization, accessed at www.paho.org; Author's calculations based from quality of life survey.

²² Jaime Sepúlveda, et al., “Improvement of Child Survival in Mexico: The Diagonal Approach,” *TheLancet.com*, 368, December 2 (2006): 2017-2027. (See the full Lancet Health System Reform in Mexico Series at TheLancet.com.)

Education

Education is a crucial component in the development of any region. Any author that writes about economic or community development includes a discussion on the importance of education. It is fairly well known that on average, those with college degrees earn more than those with only a high school diploma. The same applies for those who do not finish high school, with those who do not finish earning less and often having a more difficult time finding work than those who have a high school diploma. Education in this context is then related to the type of jobs available in a community and levels of poverty.

As with health care, access to educational services is not limited to one side of the border or another (as long as someone has the resources to access it). People take many different variables into consideration when deciding where to send their kids to school. For some Mexican families, it is important for the children to learn to speak English well, and the belief is that this will more likely occur by sending their kids to school in the United States. There are a number of private institutions, particularly non-secular schools, which cater to students from the Mexican border communities. Parents from the U.S. side also make this consideration and often send their children to school in Mexico to become bilingual. The survey therefore asked people to rate the schools for their kids and the universities within their region. Again, it is not possible at this level of analysis to differentiate between those who consider that their lives are lived in the binational community or those who have chosen to focus just on their local neighborhood, and therefore, this again needs to be taken into consideration when looking at the results.

The objective indicators for education are the government reported completion of high school and university rates. As stated above, the subjective indicators asked residents of their opinions on the quality of schools for children and of the universities or colleges in their communities. As with the health indicators, the objective indicators tell one part of the story of these border communities while the people's perceptions tell another.

Education rates are low on the U.S. side (particularly when San Diego is removed from the average) and even lower in Mexican communities, as seen in Table 3. The average for high school completion in the U.S. border communities is 72.6 percent, and drops to 68.5 percent if San Diego is excluded. The college graduation rate is even worse, with only 19.1 percent of the residents who have completed a college education in all of the U.S. border cities studied. Again, this figure drops to 14.2 percent, if San Diego is not included in the average. In the Mexican border communities, the completion rate for the equivalent of a high school education is far lower, at 27.5 percent. The average percentage of residents with a higher education is 14.1. Yet when residents are asked how they would rate the local schools and universities/colleges, they indicate they are better than just good, with an average of 7.0 and 7.1 respectively for the U.S. communities (including San Diego), and 7.1 and 7.2 for the Mexican communities. Education is clearly another area that needs a tremendous amount of attention and thinking outside the box to improve the disparate conditions that currently exist.

Table 3. Education in the U.S.-Mexican Border Communities

	San Diego	Tijuana	Calexico	Mexicali	San Luis, AZ	SLRC	El Paso	Cd. Juarez	Ave. for all	Ave. for US	Ave. for US w/o SD	Ave. for MX
EDUCATION												
(place)												
High school completion %	85.1	29.2	63.0	31.3	72.1	23.8	70.3	25.5	50.0	72.6	68.5	27.5
Higher education %	33.8	14.1	11.2	17.7	12.6	10.7	18.9	13.9	16.6	19.1	14.2	14.1
(perceptions)												
Schools in area	6.6	7.2	7.1	7.1	7.1	7.7	7.2	6.6	7.1	7.0	7.1	7.1
Universities in area	7.4	6.5	7.0	7.9	6.7	7.3	7.3	7.2	7.2	7.1	7.0	7.2

Source: Education rates in the place - Mexican: *II Censo de población y vivienda INEGI, 2005*, accessed at www.inegi.gob.mx; US: American Community Survey 3-year average 2006-2008, US Census Bureau, accessed at www.census.gov; Author's calculations based from quality of life survey.

Local Governance

Local governments in both the United States and Mexico administer the main programs that directly impact quality of life issues. Economic development and industry attraction is set by the cities and counties in the United States and by the state governments with municipal level assistance in many cases in Mexico. For example, the provision of potable water is a service provided by the cities and local districts in the United States and in many, but not all states in Mexico. As part of the decentralization process set out by the federal government of Mexico, the provision of water was to be given to the municipal governments. This has not occurred in all of the states as water is an important and contentious issue. However, the local governments in both nations do provide parks/green areas; deal with traffic on local roads and street maintenance; regulate public transportation; collect and dispose of trash; provide street lighting; and maintain fire services. The residents of the surveyed communities were asked to rank all of these public services along with the general response of government to the needs of the community.

The objective indicators for this section are the total city budgets and the budgets per capita. Returning to the basic principle that the economic differences between the nations are three to one in GDP, one would expect similar conditions in the government budgets. Yet, in the case of San Diego and Tijuana, the budget difference is about 10,000 to one. The total budget for the city of San Diego was \$2.6 billion while the total budget of the municipality of Tijuana was \$284,960 (using a currency conversion of 11 to one, the approximate value of the peso in 2006). Of course, services are provided differently in Mexico than in the United States as Mexico's system of federalism is still highly centralized and there is a real lack of economic capacity at the local level for the municipal governments. This lack of capacity and the development of local institutions and laws limit the ability of many municipalities to collect the local revenues needed to better provide services.

There are also greater variances in the budgets for the U.S. border cities than found in the opposing Mexican municipalities. The budgets of San Diego, Calexico, and San Luis, for instance, are very similar in per capita allocation, but the budget for the city of El Paso, Texas is much lower than its California and Arizona counterparts. Not all local governments are identical in the United

States as they are reflections of their respective states and each state has different tax structures, institutions, actors, and constitutions. In Mexico, the relationship among the state governments with their respective local governments is much more equitable as it is set out by the federal constitution; therefore, there are very few differences between the municipal per capita budgets. The average budget per capita for the Mexican border municipalities is \$0.19 and the average for the U.S. border cities is \$1,766 – again a difference that hovers close to 10,000 to one. With such a significant contrast, it is plausible to think that the subjective indicators would follow the same lines; less finances in the local coffers, lower rankings on the services provided. This, however, was not the case.

In analyzing the subjective indicators, the average rankings were similar between the U.S. and Mexican border communities. There are obvious cases by which residents are unhappy about one service or another, but these cases are community specific. In San Diego, California, San Luis Rio Colorado, Sonora, and El Paso, Texas, residents were satisfied to very satisfied with all of the services provided. In Tijuana, Baja California, residents were the most dissatisfied with the quality of water and the parks/recreation in the community. Calexico, California, residents were most dissatisfied with traffic; Mexicali, Baja California, was the least satisfied with the response of government to needs. In San Luis, Arizona, water quality is seen as the biggest problem and in Ciudad Juarez, Chihuahua it was public transportation that was deemed to be the biggest headache.

The diverse range of dissatisfaction in the cities shows that issues with government are community specific. City budgets are not as much a consideration as the local challenges of what is

Table 4. Government Services in the U.S.-Mexican Border Communities

	San Diego	Tijuana	Calexico	Mexicali	San Luis, AZ	SLRC	El Paso	Cd. Juarez	Ave. for all	Ave. for US	Ave. for MX
GOVERNMENT SERVICES											
(place)											
City budgets (US\$) (1:1 conversion)	\$ 2,556,327,528	\$ 284,960	\$ 88,290,000	\$ 180,556	\$ 47,234,296	\$ 24,265	\$ 617,123,454	\$ 256,400	\$ 413,715,182	\$ 827,243,820	\$ 186,545
City budgets per capita	\$ 1,957	\$ 0.19	\$ 2,274	\$ 0.21	\$ 1,839	\$ 0.15	\$ 995	\$ 0.20	\$ 883	\$ 1,766	\$ 0.19
(perceptions)											
Quality of water	5.8	1.6	6.8	7.3	3.3	6.2	6.5	4.7	5.3	5.6	5.0
Satisfaction with parks in area	6.8	1.4	6.4	5.4	6.3	5.6	5.9	4.3	5.3	6.4	4.2
Problem of traffic	5.4	5.4	3.1	6.9	4.3	6.4	5.2	6.9	5.5	4.5	6.4
Public transportation	5.4	7.5	6.5	5.4	5.8	5.0	5.5	3.1	5.5	5.8	5.2
Streets	6.3	6.7	7.4	6.3	7.3	5.1	6.6	4.7	6.3	6.9	5.7
Trash collection	7.4	5.5	8.3	7.7	8.1	7.4	7.5	7.2	7.4	7.8	7.0
Street lighting	6.3	4.6	7.3	7.4	7.4	7.6	6.6	6.5	6.7	6.9	6.5
Fire department	7.7	6.7	7.9	7.5	8.3	7.6	8.0	7.1	7.6	8.0	7.2
Response of government to needs	5.2	6.7	6.0	4.2	5.7	6.0	5.6	4.3	5.5	5.6	5.3

Source: City budgets - Mexican (2006) *Síntesis estadísticas municipales*, INEGI accessed at www.inegi.gob.mx; San Diego City Annual Budget 2007 accessed at <http://www.sandiego.gov/fm/annual/pdf/fy07/execsummary.pdf>; Calexico City Adopted Budget 2007-2008 accessed at <http://www.calexico.ca.gov/images/stories/dept/finance/Budget%202007-2008/Budget%20Section%20A.pdf>; City of San Luis, Arizona City Budget 2007 accessed at http://www.egovlink.com/public_documents300/sanluis/published_documents/Budget%20FY%2009-10/FY%202009%202010.pdf; City of El Paso FY2007 Budget accessed at http://www.ci.el-paso.tx.us/omb/_documents/fy2007_budget/Preface.pdf; Author's calculations based from quality of life survey.

important to the people. Individual issues such as water quality, parks/recreation, and public transportation are set by local needs and the ability of local institutions to respond.

Public Security

One of the most contentious quality of life issues currently in the border region and the one with the most media focus is public security in Mexico. The public security situation has changed quickly over the past few years, which highlights how quickly data can change or become old before it is tabulated. Another challenge associated with crime data is the actual reporting of crimes. As seen in Table 5, there is a lack of trust in the police in many communities in Mexico. Therefore, it is both plausible and probable that for a multitude of reasons, many crimes do not get reported. This challenge cannot be fully explored by this short report but there are many interesting studies that discuss the breakdown and need for professionalization of the security bureaucracy in Mexico.²³

The objective data for public security is the murder and robbery rate per 10,000 people in the city. All of the data used here is for the year 2008 from both INEGI (National Institute of Statistic and Geography / Instituto Nacional de Estadística y Geografía) and the FBI. For the city pairs, in San Diego and Tijuana the official murder robbery rates are not equal but about the same, 0.46/16.6 and 0.68/20.6 respectively. Moving east along the border to Calexico, California and Mexicali, Baja California, the murder rate in Calexico was 0.00 and in Mexicali it was 1.04; the robbery rate for these two cities was 93.8 and 27.9, respectively. The murder and robbery rates in San Luis, Arizona and San Luis Rio Colorado, Sonora, were 0.00 and 1.40, and 1.8 and 37.1; El Paso, Texas and Ciudad Juarez, Chihuahua, were 0.27 and 0.94 for the murder rates, and 28.4 and 10.6 for robbery. Again, these would be the offences that were actually reported to the police and thereby, some of the figures are suspect.

How people perceive security in their communities is another interesting concept. Generally for the U.S. border cities surveyed, the population was concerned about crime in their specific neighborhood but did not feel insecure walking alone at night. In the Mexican communities, it was just the opposite, as people on average did not indicate that crime in their own neighborhood was a

Table 5. Public Security in the U.S.-Mexican Border Communities

	San Diego	Tijuana	Calexico	Mexicali	San Luis, AZ	SLRC	El Paso	Cd. Juarez	Ave. for all	Ave. for US	Ave. for MX
PUBLIC SECURITY											
(place)											
Murder rate, per 10,000	0.46	0.68	0.00	1.04	0.00	1.40	0.27	0.94	0.60	0.18	1.01
Robbery rate, per 10,000	16.6	20.6	93.8	27.9	1.8	37.1	28.4	10.6	29.6	35.1	24.1
(perceptions)											
Crime in your neighborhood	6.3	7.2	2.5	5.1	3.4	5.1	3.0	2.9	4.4	3.8	5.1
Security at night walking alone	6.5	1.8	7.4	5.2	7.0	5.8	6.7	4.3	5.6	6.9	4.3
Trust in local police	6.7	5.8	7.1	3.8	7.1	5.9	6.7	3.5	5.8	6.9	4.7

Source: Murder and Robbery rates - Mexican cities: *Sintesis Estadísticas Municipales*, INEGI, accessed at www.inegi.gob.mx; U.S. cities: U.S. Department of Justice, FBI (Sept 2008), accessed at www.fbi.gov; Author's calculations based from quality of life survey.

²³ See justiceinmexico.org.

large problem but felt less secure about walking alone at night in their neighborhood. As stated previously, the Mexican residents indicated less trust (average of 4.7) in the local police force than their American neighbors to the north (average of 6.9), probably partially contributing to these overall findings.

Happiness

The final set of quality of life data analyzed in this study is the level of happiness or the contentment of the residents who inhabit these communities along the shared border of these two nations. The data for this section came completely from the quality of life survey. Overall, people are very content with their lives in the border region, as can be seen in Table 6. The first indicator is the average number of years that people have lived in the region. The city with the longest average was Mexicali, Baja California, with an average of 30.3 years. The city with the shortest amount of time was San Luis, Arizona, with an average of 15.3 years. On average, residents from both sides of the border have lived in their respective regions for 23.7 years. This shared national border area is a region where we find long-standing residents with strong familial and economic ties. For these residents, the border indeed provides them the opportunities they need to live a happy life.

Table 6. Citizen Contentment in the U.S.-Mexican Border Communities

	San Diego	Tijuana	Calexico	Mexicali	San Luis, AZ	SLRC	El Paso	Cd. Juarez	Ave. for all	Ave. for US	Ave. for MX
CITIZEN CONTENTMENT (place)											
Number of years in the city	25.4	18.7	19.3	30.3	15.3	25.2	28.4	26.7	23.7	22.1	25.2
(perceptions)											
Personal QOL	7.1	7.3	7.8	7.2	7.5	7.4	7.1	6.4	7.2	7.4	7.1
Satisfaction w Life	7.3	7.5	8.0	7.7	7.9	7.8	7.4	6.9	7.6	7.6	7.5
Place to raise children	6.6	6.5	7.9	6.8	7.8	7.6	7.5	5.5	7.0	7.5	6.6
Friendliness of city	6.8	7.0	7.4	7.3	7.1	7.6	7.4	6.5	7.1	7.2	7.1
Happiness	7.6	7.7	8.1	7.4	7.8	7.5	7.6	7.3	7.6	7.8	7.5
Satisfaction with life	7.7	7.4	8.2	7.7	8.0	7.9	7.7	7.6	7.8	7.9	7.7
Enjoy daily activities	7.4	1.0	7.9	7.6	7.1	7.4	7.3	7.2	6.6	7.4	5.8

Source: Author's calculations based from quality of life survey.

This contentment is also found in the questions that had people rank their personal quality of life; their satisfaction with life; ranking their region as a place to raise children; the friendliness of the people in their city; their level of happiness; and how much they enjoy their daily activities. The U.S. border cities averaged between a 7.2 and 7.9 out of nine for all of these indicators, reflecting a moderately high level of contentment in their perception of their quality of life. In Mexican border communities, the average was a bit lower for a few of the indicators, between 5.8 and 7.7, but on the whole all the indicators were very strong. People are generally very happy with their lives in the border region.

Findings and General Policy Considerations

As the review of quality of life data for the U.S.-Mexican border shows, the region is still very unique. It has a set of characteristics that makes it a very different place from the center of the United States or Mexico. It is a joining of the people, laws, and traditions of two countries. Lessons must be learned for policymaking to effectively deal with cultural and economic globalization in border communities. For example, more coordination and cooperation are needed to deal with the weaknesses and strengths of the region. What is important here is to recognize the strengths identified in the data and build upon them, all while working to improve or eliminate the weaknesses. One way this can be done is through a more comprehensive system of institutions that share bi-national governance issues. Planning needs to be more proactive and set by common regional goals. As seen with common observation and a quick review of the literature, if a more proactive style of planning does not occur, the region is bound to continue along the same path, with new problems arising from issues of poverty, low education rates, environmental contamination, and public security. The same can be applied to other local regions but taking into context the specific dynamics of each area.

The conclusions from the overall analysis of quality of life in the U.S.-Mexican border region are that generally residents who have lived in the region a long time are satisfied with their lives. There is a greater need for more job opportunities, primarily those with higher paying salaries. Additionally, although education rates are improving, there is still much work to be done in this area. As education and economics go hand in hand, a comprehensive focus on these two could make a measurable difference in the lives of many border residents.

When carrying out a binational data analysis, it is clearly important to understand and appreciate the differences both between the two nations in question and within the regions themselves. Both sides have their positive factors and challenges. In order to more effectively manage the positives and negatives, binational institutions that support more shared governance at the local level are needed. Unfortunately, this concept is becoming more difficult as national security policies control the conversation in the United States, and institutions in Washington DC continue to make disparaging overtures about Mexico.²⁴ This only reinforces a public display of distrust between the two nations as played in the respective news media and by leaders in both the federal legislatures, and state and local governments.

Quality of life analysis is an important tool that can help in further understanding border communities and aid in the structuring of necessary policies that would go a long way toward improving conditions. This is particularly true for binational regions such as the U.S.-Mexican border region where differences between the border cities and their national centers are immense. One of the greatest complaints heard from those who live and work in the U.S.-Mexican border region is that both Washington DC and Mexico City do not truly understand or even comprehend what life in the border region means. As one watches the daily news, it is obvious from much of the misinformation which is broadcasted that there is even less understanding by the media in both countries.

²⁴ As seen in the posting by WikiLeaks of the U.S. Department of State communications in late 2010.

Now more than ever, studies that provide a comparative look at the data are necessary. It becomes even more imperative when adding in the growing concerns and effects of global markets, immigration, and national security. These are multifaceted issues that make for complex times and much can be learned from the people living, working, and studying border regions for they have the everyday experience of dealing with each of these policy issues. Instead of the national conversation, particularly in the United States, of how the border is a constant problem, this discussion should be changed to how solutions can be developed and implemented based on the border experience. This experience is documented in indicators and data on the quality of life.

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