

From Los Algodonales, to Baja Clusters, to Silicon Border: Examining the trajectory of a local economic development strategy in the US-Mexico border region

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Abstract

This paper presents a successful local economic development (LED) strategy in the Imperial Valley–Valle de Mexicali area in the United States (US) and Mexican border region. The main characteristics identified of this LED strategy are the presence of an entrepreneurial culture; a commitment towards making the most of regional resources; and an institutional setting that favours innovation, competition, labour market matching, and cooperation among different agents in both sides of the border. The combination of those elements with more traditional policies such as tax incentives, infrastructure provision and access to resources reveals that even in a lagging behind territory it is possible to improve significantly its economic prospects.

I. Introduction

The Imperial Valley (*IV*) in the Southern California region of the United States, and El Valle de Mexicali (*VdM*) in the northern Baja California region of Mexico have been important producers of agricultural and livestock products in their respective national economies since the 1970's. Both valleys share hot and sunny climate, fertile soil, good intermodal transport infrastructure system and can easily and relatively inexpensively access the water supply from the adjacent Colorado River. Such conditions facilitate for the growth and easy transportation of over 350 agricultural products ranging from lettuce, asparagus and exotic nuts. Following the implementation of the North America Free Trade Agreement (NAFTA) between United States, Mexico and Canada, the economic transition of the Imperial Valley-Valle de Mexicali area

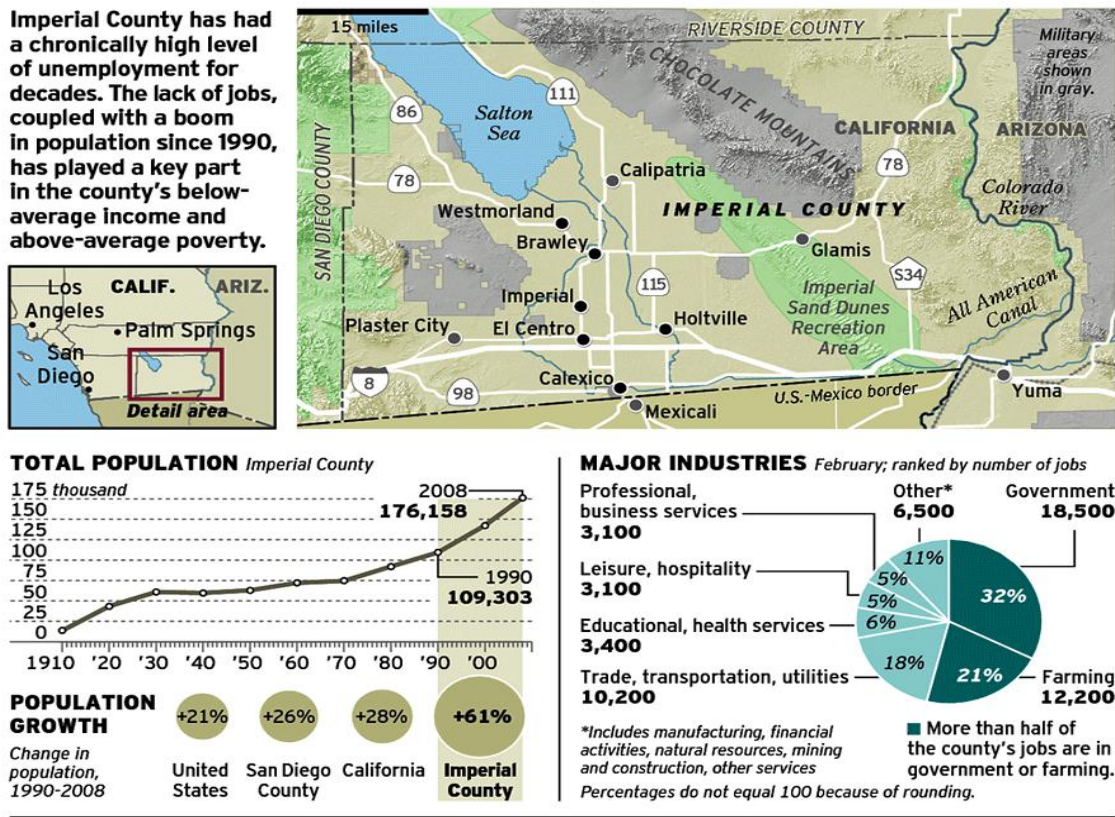
(*IV-VdM* thereafter) shifted relatively quickly from activities concentrated primarily in agriculture and transport to what is now a diversified cluster economy.

This essay focuses on *Baja Clusters* which is the working title of the local economic development strategy implemented by the State Government of Baja California, otherwise known as Plan de Desarrollo Económico de Baja California. The essay recognizes *Baja Clusters* as a good development strategy implemented in a lagging area, in this case, the *IV-VdM* sub-region and discusses some key aspects of its implementation including an important project for the future of the *IV-VdM*, the Silicon Border Science Park Complex.

II. The bi-national regional typology of the western US/Mexico border region.

Although the *IV-VdM* area's growth is interdependent of the economic growth policies of their respective states, California and Baja California, I selected the *IV-VdM* geographical area of study for several reasons. First, it has the peculiarity that important activities pertaining to the future of its local economic development appear to be lead by initiatives that will take place within the territory of the Mexican counterpart (in manufacturing and high tech activities), whereas before NAFTA, regional growth was lead by the American counterpart in agricultural, livestock and transport activities. The second reason is the location of the *IV* area in relation to Southern California's future growth pattern. It's located at the south-eastern corner of Southern California's Inland Valley or Desert Cities Area which includes several small cities and vast agricultural land. The *IV* has been the focus of attention of California governors Davis

and Schwarzenegger as a lagging member of the greater Southern California economy, which derives most of its economic growth from the defense, tourist, real estate, construction, software development, telecommunications and biotech industries, yet such industries are entirely absent in the IV.



HOW IMPERIAL COUNTY COMPARES: INCOME, POVERTY AND HOME PRICES

	Median household income 2007	People living below poverty line 2007	Median home price February
Imperial County	\$33,576	21%	\$120,000
San Diego County	\$61,724	11%	\$285,000
California	\$59,928	12%	\$224,000
United States	\$50,740	13%	\$165,000

SOURCES: Census Bureau; DataQuick; ESRI; National Association of Realtors; TeleAtlas; USGS MATT PERRY / Union-Tribune

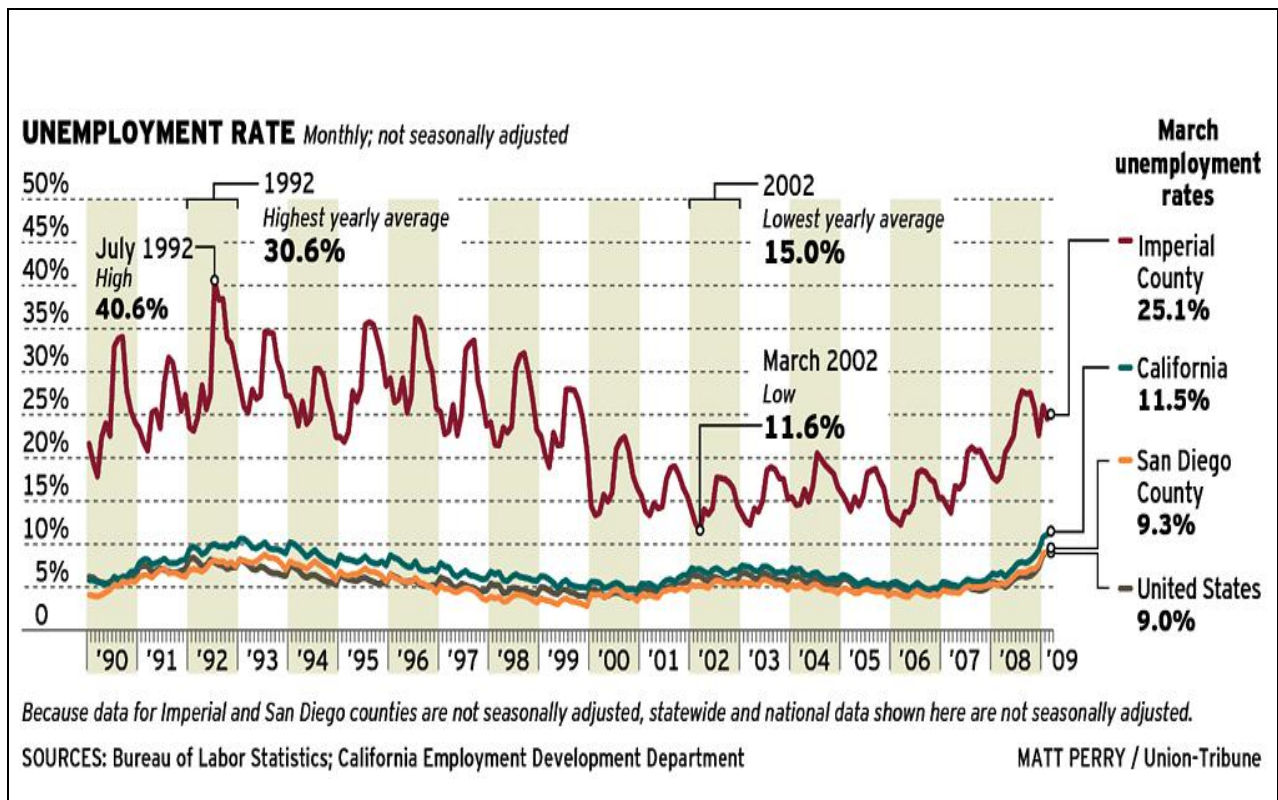
The third reason and the area of most concern for local authorities on both sides of the border (second to public safety) is a shift in the middle class job demand experienced in the IV-VaM area. The image on the previous page reflects the agricultural and government sectors as the largest employers in

the *IV* area, specifically in the State departments of irrigation, agriculture and corrections, as well as the Federal processing and detention facility for undocumented immigrants. After the mid 1980's devaluation of the Mexican peso, the source and concentration of jobs available for the middle class on both sides of the border shifted from profitable activities in: farming, livestock and related transport services, small/medium sized agro-business and related import/export services and farm product packing facilities; to much less profitable transport, livestock and farming activities, and to the disappearance of small agro-businesses and related services enterprises including related import/export and transport services. This shift also led to the abandonment or rental of agricultural land by Mexican farmers to foreign companies, and to the proliferation of large American packing facilities which relocated their operations -and consequently their jobs- to just a few minutes south of the border to the *VdM* area. It also led to the development of industrial and manufacturing complexes in former agricultural land.

Consequently, the last two Baja California governors Elourduy and Osuna-Millán inherited the steering role in this ongoing economic shift from agricultural to industrial¹, which led them to the implementation of *Baja Clusters* as a local economic development strategy with the aim to add high paying-high tech jobs in the manufacturing and energy clusters while enhancing the growth of existing clusters in agriculture, tourism, viticulture, aerospace and furniture making. In other words, although in

¹ The *VdM* area presently includes 25 industrial parks and as of December 2008, 204 *maquiladoras* or manufacturing companies ranging from sectors in aerospace, electronics, bottling, textiles, metal manufacturing, food processing and automotive parts.

the past decades both Southern California and Baja California regions enjoyed economic growth when compared to areas of the rest of the United States or Mexico, the quality and quantities of the jobs available, specifically in the IV-VdM remained the lagging members within their respective economies (Grijalva-Monteverde, G, 2004; Mungaray, A., Cabrera, C., 2003; IVP, 2004; CCBRES, 2003). Given the current global economic crisis, the New York Times declared on March 3, 2009, El Centro, a desert city in the IV, as the poster child or 'the capital of the current Great Recession' with the highest unemployment rate in the United States at 25%. (Leonard, 2009).



For the purposes of this study the *IV-VdM* area (outlined in color purple in Figures 1 and 2 to follow) needs to be examined under trifocal lens with the following view points:

1. As an important segment in the Mexicali-Tijuana-San Diego-Los Angeles manufacturing business corridor;
2. Within the context of a larger region, the San Diego-Tijuana-Mexicali-Valle de Mexicali-Imperial Valley-Desert cities region outlined in color cyan;
3. As a bi-national sub-region with a population of 1 million people.

Figure 1:



Legend:

Pink line: Mexicali-Tijuana-San Diego-Los Angeles manufacturing corridor.

Cyan polygon: San Diego-Tijuana-Mexicali-Valle de Mexicali-Imperial Valley-Desert Cities region with over 6 million inhabitants.

Purple oval: IV-VdM sub-region with 1 million inhabitants includes the border cities of Mexicali and Calexico, several small desert cities (less than 10, 000 inhabitants) located on both sides of the border.

Regional Boundaries:

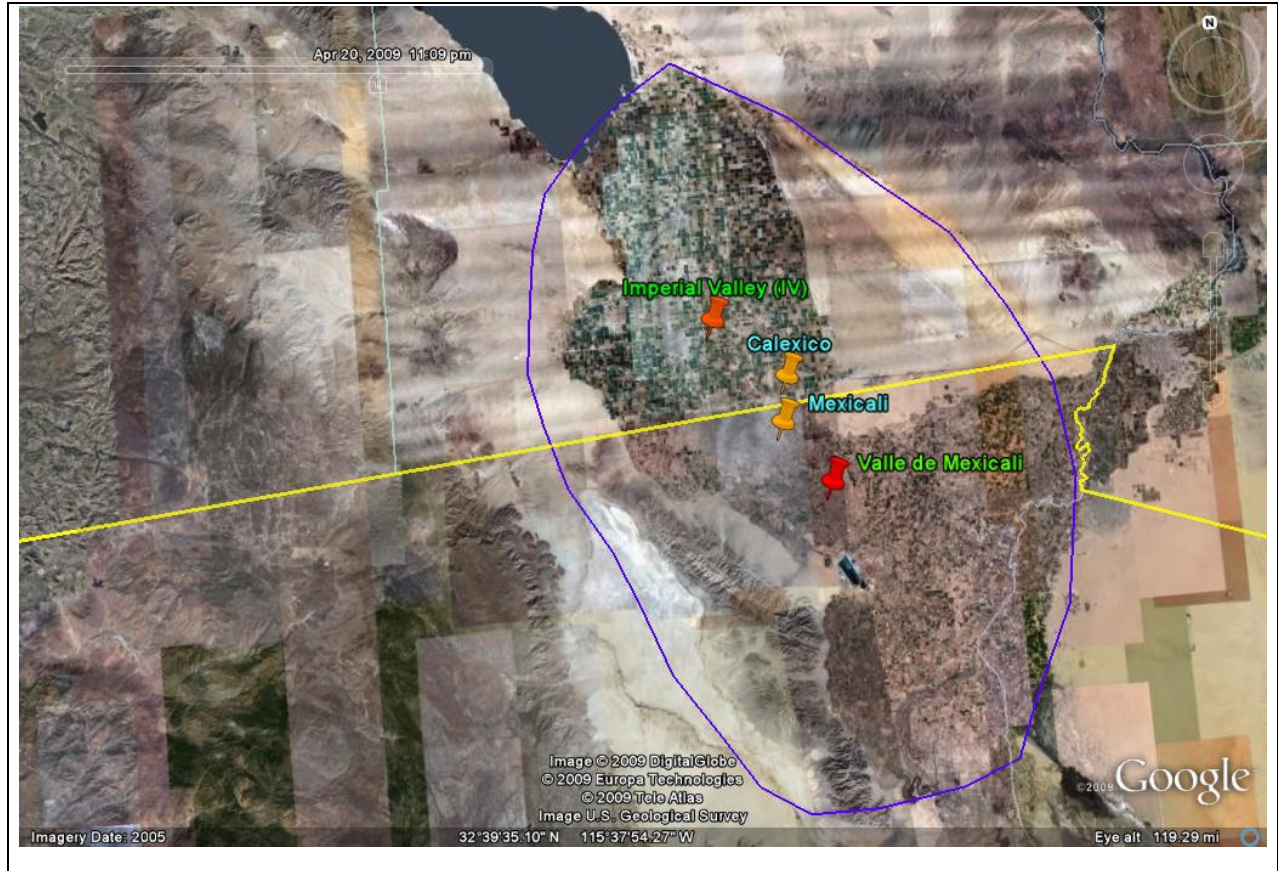
North: Camp Pendleton US Marines Base, the largest military facility in the West Coast has 506 square kilometers and 27 kilometers of coastline, it functions as a gap in the continuous urban growth between Orange County and San Diego County.

East: Imperial Sand Dunes natural boundary, which in the future will prevent urban growth from the west.

West: The Pacific Ocean coastline.

South: 50 kilometers south from the US/Mexico border line.

Figure 2: The IV-VdM sub-region, 1 million people.



In terms of accommodating growth for Southern California, San Diego plays an important role in the regional economy. The *IV* is an area now considered as a key element in the accommodation of San Diego's future growth as they city's vicinity areas are either: built out, cost prohibited to build due steep rocky terrain, or unbuildable due to protected conservation areas including Indian reservation located at the north, north east and east of San Diego.

The population in the *IV -VdM* includes a significant portion of daily border crossing commuters which reside in one side of the border, work and/or study on the other side, and shops and conducts business on both sides of it. It also includes a long range commuter population that works, studies or conducts business in San Diego, Los Angeles, or Orange County during the week and return to the *IV-*

VdM on weekends, and finally it also includes seasonal commuters which travel as far as to Washington and Oregon to work primarily on agricultural activities, or in construction activities in Nevada and Arizona

III. The *Baja Clusters* economic development strategy.

Upon surveying the regional and sub-regional typology of our study area and the existing interlinking peculiarities which make its economic territory truly 'borderless' (Ohmae, 1990), we shall next review a good strategy, *Baja Clusters* which strengths are based on a territorial approach to local economic development constructed on its endogenous assets and on the positive traits embedded in the territory (Storper, 1997). These endogenous assets include:

- 1) An entrepreneurial culture, embedded over time (Wolch & Dear, 1989) in its residents, and one that derives from a long history of social relationships of coproduction, transnational investment, trade relationships of goods, labor, services and an uninterrupted mercantile interaction with its American neighbor since the 1900's (Anguiano-Tellez, 1995).
- 2) Dense bi-national institutional structure sharing a common goal (Johannisson *et al.* 2002) to drive a competitive economy, it also includes a network of universities and further education colleges in Mexico and the U.S, and a bi-national entrepreneurial network.
- 3) Large portions of contiguous undeveloped land with good access to multimodal transport and public utilities infrastructure on both sides of the border.

- 4) Motivated population consisting of a growing majority of young people (18-35) semi-skilled, with technical skills, or with higher education.
- 5) Natural resources including, solar energy, natural gas, and geothermal energy from the local Cerro Prieto volcano.
- 6) Access to water from the Colorado River.
- 7) Strategic location along the US/Mexico border with 2 border crossing areas, one designated specifically for the import/export of goods;
- 8) Dynamic local political environment constantly searching for foreign investment, and one which benefits from same political party relationships with the federal government;
- 9) Political and institutional will to eliminate bureaucratic impediments that could threaten regional economic growth²;
- 10) Charismatic and business savvy politicians (Governors Reagan and Schwarzenegger in California or Ruffo and Elourduy in Baja California) committed to bi-national relations and regional collaboration.

² Land use and infrastructure development permits can be obtained faster in Baja California than in California, giving investors a higher level of certainty and confidence.

Baja Clusters is implemented by the State of Baja California's economic development arm; the main activities of the 15 clusters include industries in: aerospace, agro-industry, automotive, biotechnology, electronics, energy, logistics, furniture and wood, fishing, aquaculture, plastics, medical devices, healthcare, information technology, tourism and viticulture. The clusters are geographically dispersed though out the territory yet strategically located to interact synergistically with a counterpart cluster in California. Relationships are also forged with clusters in nearby regions and in foreign countries, for example with the Napa Valley for wine marketing and tourism, or with the Bordeaux region in France for technical skills in wine making. These relationships are formed by institutional clustering agents, or inter-institutional coordinating committees that could also be of bi-national nature such as the Cross border Innovation and Competitiveness Initiative working with R&D and technology development in Southern California.

One recent example of a *Baja Clusters* implementation project is the Silicon Border Initiative (SB). SB is a 100,000 acre science park that broke ground 2 years ago in the *IV-VdM* area. Half billion dollars were invested for land costs and installation of state of the art infrastructure designed specifically to attract world class green technology firms. The SB received a 3.5 billion dollar commitment from Q-Cell, a German developer and manufacturer of solar cells made of thin-film technologies. The local university also committed to relocate the engineering schools to the R&D facility. SB executives ³ project approximately 100,000 quality jobs for the area over the next 20 years.

³ Telephone interview with Mike Oliver, Silicon Border's Executive Vice President on April 22, 2009.

Yet, of all the locations available in the world for green technology science parks, what made the *IV-VdM* area 'desirable' in order to attract that type of investment? To start, the region's hot and sunny climate guarantee it as the most efficient location worldwide for the production of solar cells; secondly, the Federal and State governments offered competitive tax incentives, property tax rebates and cash reimbursements for R&D in order to beat competition from Asian regions. Mexico's Free Trade Agreements with 43 countries including European Union members and Japan, the State of California's commitment to the construction of a 3rd port of entry adjacent to the SB site and upgrades to the area's interstate highway segment also played an important role. SB's executives believe that by having a localized R&D and manufacturing network, close proximity to the US market, and an efficient 'climate' both *political* to move solar energy projects through the various levels of government, and *natural* to capitalize in the area's most endogenous resource, the sun, for the production of solar cells, make the *IV-VdM* region 'Mexico's best kept secret'.

IV. Conclusion

It has been demonstrated that a successful strategy can be implemented in a lagging area by creating a territorial approach rather than a functional approach to local economic development. The trick is to capitalize on the region's endogenous resources -as inauspicious as they may be- such as in the *IV-VdM* area (where the summer temperature is hotter than that of the Egyptian desert averaging at 49 degrees Celsius) yet as inauspicious as it sounds, the sun's energy combined with technology will sustain the

region's demand for future energy needs and provide high quality jobs for both sides of the border.

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