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THE METROPOLITAN AREA OF LEON: NEW SYSTEM OF CITIES, DIFFUSED URBANIZATION AND HUMAN DEVELOPMENT

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ABSTRACT

This paper examines the socio-spatial transformation that has taken in recent years the Metropolitan Area of Leon (MAL) and the deepening of economic and social disparities and its impact on human development, all result of globalization. The research demonstrates that the socio-spatial organization of MAL responds to new spatial patterns of economic development, characterized by the concentration of population and economic activities, but simultaneously to the dispersion and fragmentation. Also this paper analyzes the socio-territorial changes brought about by urban growth and economic activities, showing social inequalities and territorial fragmentation that occurred in the municipalities of the MAL.

INTRODUCTION

Globalization refers to the new conditions of development of capitalism characterized by the global dimension of these (ORTEGA, 2004: 42). As a current event, this process has generated a series of social, economic and territorial transformations, manifesting as "a complex network of diversified relations involved in the cycle of organization, disorganization and reorganization of social fields and possible worlds". (SALAS, 2005:6). In urban areas they have developed metropolises or megalopolises and a huge variety of cities that have different forms of social and spatial organization, predominantly a model of diffuse, scattered and fragmented city, while in rural areas it shows the development of various production and commercial activities as well as the adoption of modes of urban life for its inhabitants that are far from the traditional view of its expertise in the development of primary activities and a rural way of life. Furthermore, globalization complicates the rural-urban relationship, because urban centers are integrating rural areas centrifugally, not

centripetal, i.e. as contact zones, border, overlap or joint processes, that increasingly make vague physical and social borders between rural and urban, become increasingly interconnected (RAMÍREZ, 2003: 54-57). Previously the metropolis was the result of a process of absorption of the hinterland, i.e. the territory of influence that has a city, by central city, a territory that could come from their immediate environment to encompass an entire region or even the country or around the world, as it were a national or international metropolis. (ZÁRATE and RUBIO, n.d.: 152).

Currently, the metropolis goes from being concentrated to a dispersed metropolis, through three-way "... a) the deterioration and loss of importance of the historical center as a result of a rapid expansion of urban areas ... b) the emergence of sub centers in areas of more recent occupation, which now goes by the name of "new centers", and c) the uncontrolled expansion of residential areas and other uses to the metropolitan periphery " (BARRIOS, 2000: 39). This restructuring is leading to fragmented metropolis socially and territorially and poorly articulated urban systems, as has happened with the MAL.

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Process of diffused urbanization and territorial reconfiguration of Metropolitan Area of Leon

Metropolitan Area of Leon (MAL) is located west of the state of Guanajuato occupying an average area of 3087.00 km²; it is formed by a central city (Leon), and peripheral municipalities (Purísima del Rincón and San Francisco del Rincón Silao) of rururban character, with significant interactions with the central city. This area is the largest in the state of Guanajuato and ranks as the sixth most populous entity nationally and seventh national economy. The process of urbanization in the ZML responds to new spatial patterns of capitalist economic development on the one hand characterized by the concentration of population and economic activities mainly in industry, trade and services, and also for having urban facilities, but simultaneously by the dispersion and fragmentation, which gives rise to a diffuse urbanization and new centers or moving of the most important for other second hierarchy. One of the main phenomena occurring in the process of urbanization was that in the last decade the MAL had a population growth of 21.07% (from 1,414,196 people in 2000 to 1,791,896 inhabitants in step 2010) (INEGI, 2000, 2010).

As seen in Table 1, the population growth was heterogeneous in the four municipalities; in addition there is a large concentration of the population in some urban areas, Leo is the municipality with the largest population living in urban areas, and many rural sites with smaller populations, which, it should be noted, are located in a dispersed manner. That is, the urbanization of the MAL has involved a process of spatial redistribution of the population in its territory. The city of León in 2010 had 603 localities while Purísima del Rincón 106, San Francisco del Rincón Silao 194 and 400, which has a total of 1,303 locations throughout the MAL. Of these, only the county seat of Leon, has a population of 1, 238, 962 inhabitants; the municipalities of San Francisco del Rincón and Silao are the only ones with more than 70,000 inhabitants, and Purísima de Bustos and the Centro Familiar la Soledad, the latter in the city of Leon, are the only ones that have a population of between 30000- 45000 inhabitants. The town of Leon is one that has had a greater population growth and economic dynamism, at least until recently.

Municipality	Territorial Extension (km ²)	Total Population	Localities	Urban Localities	Rural Localities	Urban Population (%)
Leon	1219.67	1,436,480	603	11	592	93.11
Purísima del Rincón	290.6	68,795	106	1	106	63.25
San Francisco del Rincón	517.70	113,570	194	1	193	62.64
Silao	531.41	173,024	400	9	391	59.76

Source: Compiled using data from INEGI, Population and Housing Census 2010

The process of urbanization in the city of Leon has led to a socio-structure characterized by social and territorial fragmentation, which is clearly seen in the different types of housing construction and development of commercial activities and entertainment that have been deployed in the last

years. In the city are being made housing developments in an area have been under a scheme of subdivision with access control (for population groups with a certain level of income), in another they were housing projects of social housing (for population low income), which has disrupted the traditional fabric of the city center, because they have been abandoned areas. In addition, there have been irregular settlements in marginalized populations inhabiting (POTE, 2005: 51). Similarly, many of the rural communities are not integrated into the economic dynamics of the central city; in addition, there are imbalances between the city and the settlements that surround it. It is a fact that their rural communities have no economic growth, but on the contrary, there is poverty and exclusion, largely as a result of the abandonment of agricultural activity. This, because it has become an activity, that does not generate enough revenue to farmers to live. (DELGADO 2003:16). The municipality of Silao is also experiencing rapid urban growth associated with economic dynamics. For 15 years, Silao has become the place of transnational capital transfer, particularly with the arrival of companies from the automotive industry. In 1990 General Motors (GM) and some auto parts companies moved their productive capital to the town of Silao, causing significant changes in the socio spatial configuration of this municipality, and generally in the MAL as well as changes in the economy subsequent establishment of industrial parks. To date, five industrial parks have been built, which are geographic areas delimited and specially designed for the settlement of industrial plants in adequate conditions of location, infrastructure, equipment and services. Following the above they have arrived migrants to the municipality of Silao, who are employed by companies, significantly increasing the population in this town, which in turn has brought the expansion of the urban area with the construction of subdivisions (housing complexes closed) regular and irregular, developed mainly in the periphery of the municipal head of Silao. Important changes have also occurred in land use, giving rise to the emergence and expansion of a land market controlled by several real estate companies in places where industrial and urban development exists. It thus presents a dynamic of urban sprawl in surrounding rural communities to the county seat, where there have been some roads infrastructures and some services have been introduced, and have even been building housing complexes social, is say, for people with low incomes.

The town of Purísima del Rincón has had a significant population growth in the period of 2005-2010 grew at a rate of 4.2%, higher than that shown by the state of Guanajuato. Purísima del Rincón has experienced significant urbanization, there are currently 28 regular installments, 22 illegal subdivisions, and 13 divisions in process, which indicates the strong demand for housing in urban character of the town (Data from Urban Development Office of the Municipality, 2010). It should be noted that despite this urbanization process a large area of the town still has an agricultural use and that 61% of the area is intended for such activity, which remains important and predominantly sorghum, corn, potatoes and lesser wheat, alfalfa and some fruit scale. As regards the municipality of San Francisco del Rincón, has not had a significant population growth, but has shown an urban expansion characterized by the construction of residential

subdivisions, housing and infrastructure, it is also undergoing a process of conurbation with the city Purisima del Rincon and the municipality of Leon. In fact, because of its proximity to these municipalities, it can be said that is part of a functional unit. In general, it can say that the MAL has been integrated and developed by the expansion of cities, mainly the municipalities, in a pattern of diffused urbanization, i.e. the cities expand but scattered manner, mainly the central city (Leon), activities and population move to peri-urban areas, where rural activities coexist with activities and urban population (DELGADO, 2003). This process is manifested in different land uses: agricultural, residential, commercial, industrial, services, etc., in various types of buildings, and of course, where there are different people who are related and socially constructed territory. It should be stressed that this area has been shaped by the important process of conurbation of the town of Leon with the nearest towns: Silao, San Francisco del Rincon and Purisima del Rincon. Although it is noteworthy that it has developed an important metropolitan area comprising Leon and Silao, because in it there is a high concentration of population and industrial activity and important services. A major change is happening, it is that the city of Leon, who for many years was the dominant city, has begun to lose their importance, while Silao has gained weight in the metropolis, following the relocation of transnational corporations and national that cause urban peripheries grow, and in this case, even also some urban centers.

Undoubtedly, the MAL is undergoing a process of territorial reconfiguration due to the occurrence of several phenomena, including one of great importance: the relocation of economic activities, particularly industrial activities, but also trade and services, not only from one municipality to another, but also from city to country, and especially the relocation of transnational industries on their territory primarily in the city of Silao. From the arrival of the GM Corporation to the municipality of Silao, it began to occur a process of spatial concentration of production with the establishment of a network of companies linked to the automotive production, which has made Silao in a particular place automotive production and export, due to it has become part of transnational networks. Moreover, they have also been installed small factories and workshops of leather-footwear in the municipalities of San Francisco del Rincon and Purisima del Rincon, not only in the main towns, but also in the rural areas, because they offer hand cheap labor.

This relocation of economic activities have meant changes in land use, land that were previously used for agricultural activity are now being occupied for the installation of industries, industrial parks, shops, services and housing, which in turn has brought concentration of population and demand for water, drainage, electricity, schools, hospitals, transportation, etc. In such a way that today there is a coexistence between different land uses, uses both urban and rural, where increasingly diluted spatial boundaries that previously existed between them, which results in the forms of urban life and rural increasingly combine. An important phenomenon is happening is the creation of a land market, as real estate companies have been acquiring small ejido land and private property for the construction of housing complexes, buying cheap land and profiting by selling housing. The

reasons why farmers sell their lands are multiple and are related to the development model implemented in the field. It should be mentioned that several housing complexes that have been built on the outskirts of cities are popular type, formed by numerous houses, inexpensive, made with inferior materials, small size, and usually have just the essential services, drinking water, drainage, sewerage and electricity; for families of low and middle income, leaving out the most vulnerable people without access to housing supply. It notes that there are housing developments that are in a regular situation, i.e., that have been authorized by the government, but there are others who are not regularized, that is, that there is an informal land market. The reconfiguration of the MAL has meant the emergence of new growing imbalances between the municipalities of the metropolis and within them. Leon and Silao are considered as the fastest growing municipalities, while San Francisco del Rincon Purisima del Rincon and are more stagnant. However, they are all social fragmented and territorially, that is, on the one hand have residential or industrial areas that have all public services, and secondly, with large areas (peri-urban or rural) where the population lives in poverty, lacking urban infrastructure and where there is no territorial planning. The diffused urbanization process occurred in the MAL has had effects on the opportunities of its inhabitants and their freedom to decide and develop life who want to take, according to Amartya Sen this constitutes human development.

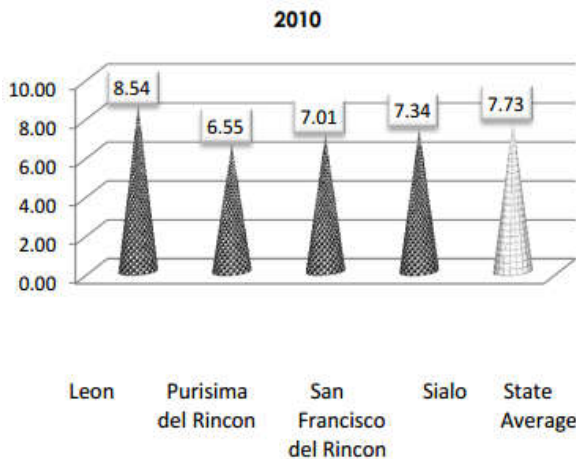
Human Development in the MAL

The human development according to Amartya Sen (1999) lies in the expansion of the freedoms that the members of society enjoy and that give them the life they desire and have reason to value. Freedom has two mutually interrelated components: processes and opportunities. The first are the potentialities and capabilities that a human being has to achieve a full life and allowing it to act, decide and choose freely about things that affect their lives. Opportunities and rights refer to the social and institutional conditions that contribute directly or indirectly to develop or expand the capabilities of people to achieve what they want in life (SEN, 1999: 14-18.) The United Nations Development Programme (UNDP) developed the Human Development Index (HDI) which, in addition to the economic dimension, includes the degree of social welfare, as important elements that allow us to measure the development achieved by a society.

The HDI is calculated from life expectancy, literacy rates, school enrollment rates and Gross Domestic Product per capita, these variables provide a rough measure of the essential social opportunities to live a long life, gain knowledge and access to an income (LEMAREQUIER AND PERAL, 2007). The MAL has had a heterogeneous human development. León has the highest HDI which has remained above 0.8, rated at a very high level of human development achieved. Meanwhile the municipalities of San Francisco del Rincon, Purisima del Rincon and Silao are classified within a high level of development, they present HDI values in the range of 0644-0694 (DE LA TORRE AND RODRÍGUEZ, 2014). Of these municipalities Silao is the one with the lowest HDI, is the one that has been less progress in human development. This means that in this locality have not been able to generate social and

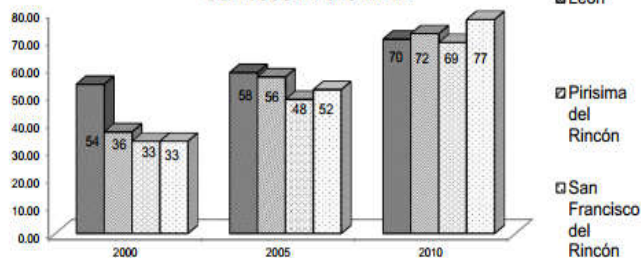
institutional conditions that allow people to expand their capabilities to achieve the life they want to have. Indeed, when it analyzed the level of education, essential for the formation of the person and to the development and growth of a society, it was found that the average schooling of the population of the MAL is about 7.73 years. The average schooling has increased heterogeneously; Leon is the municipality that has a higher level of education while Purisima del Rincon has the lowest (INEGI, 2010). (Graph 1)

Graph 1. Average schooling in the MAL



Source: INEGI, Population and Housing Census 2000, 2010 and Census of Population and Housing 2005

Graph 2. Percentage of the population with health services in the MAL

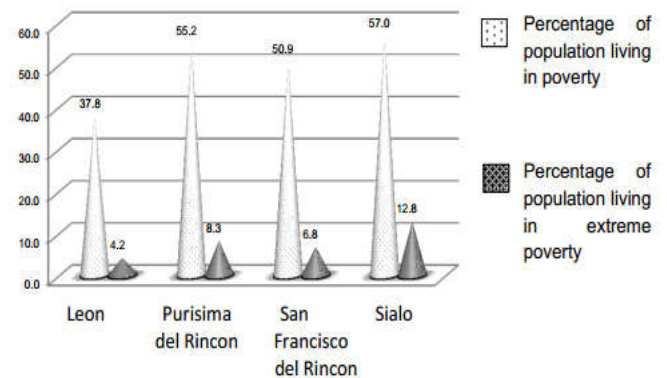


Source: INEGI, Population and Housing Census 2000, 2010 and Census of Population and Housing 2005

The level of education of a society is measured in terms of average years of schooling that has its population. In the case of MAL it can be seen that the majority of the population attends school only a few years, indicating that people do not have many opportunities to access secondary education or higher education, this is a serious restrictive access better jobs and higher wages. The opportunities of access to health services is another key indicator of human development achieved in a population, it is an indispensable means for the development of any society, to allow humans to get other freedoms in education, food, security social and income. Thus, health is indicative of the degree of social justice and equity conditions, or inequality, in which individuals live. In the case of MAL it was found that not all people enjoy this right, health services are not equally distributed among the municipalities or within them, which is a constraint for them to fully develop, improve their quality of life and social welfare. (Graph 2)

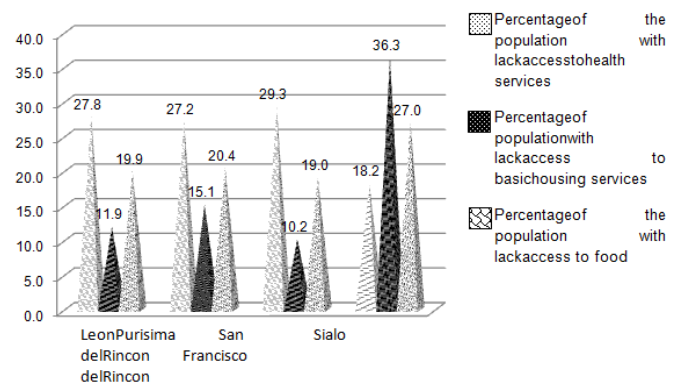
Since 2005, the number of inhabitants of the MAL with access to some health services increased significantly due to the implementation of Seguro Popular, becoming the main health service for the population without access to security institutions social, especially in the municipalities of Purisima del Rincon, San Francisco del Rincon and Sialo. The population in these municipalities still presents a significant lag in access to health services, as indicated by the index of marginalization and poverty. Indeed, one of the most important social problems in the MAL is the poverty in which they live a large segment of its population. According to the Consejo Nacional de Evaluación de la Política de Desarrollo Social (CONEVAL), a person is living in poverty when they have at least one social deprivation in six specific indicators: educational backwardness; access to health services; access to social security; quality of living spaces; basic services in the home; and finally, access to food; and that also has insufficient income to purchase goods and services required to meet their food and non-food needs. On the other hand a person living in extreme poverty, when they have three or more social deprivations of the six listed above, and therefore, are considered to fall below the minimum welfare line (CONEVAL, 2014).

Graph 3. Population in poverty and extreme poverty in 2010



Source: CONEVAL estimations based on the MCS-ENIGH 2010 and shows the Population and Housing Census 2010

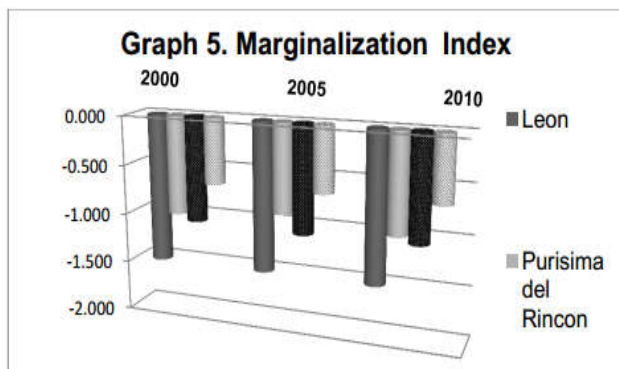
Graph 4. Percentage of population by type of deficiency in 2010



Source: Compiled with data from CONEVAL estimations based on the MCS-ENIGH 2008 and 2010

In 2010 about 50% of the population in each municipality of the MAL, had at least one social deprivation, so he was in

poverty. Regarding the population living in extreme poverty, there is a small but significant percentage within the MAL. Silao is the municipality with the highest number of people in both poverty while Leon is the municipality that has the lowest percentages. (Graph 3) Although there is a significant economic dynamic in the MAL the wealth distribution is inequitable which favors different types of lacks in large sections of the population. When it was analyzed the situation of poverty of the population, according to the kind of deprivation they have, is revealing that a significant percentage of the population in all municipalities have lacks in access to health services, followed by lack of access to food, in other words, they lack two essential conditions for good health, and to make what they want (Graph 4).



Source: CONAPO based on the INEGI. Population and Housing Census 2000 and 2010 Census of Population and Housing 2005

Needless to say, in the municipality of Silao's main deficiency is access to basic services in the home, followed by access to food, it puts their people at the highest levels of poverty and extreme poverty, and also in the higher rates of marginalization. This contrasts with the situation of Leon, which is the most economically developed city and has a very low degree of marginalization, while other municipalities have a low degree of marginalization. However, it is noteworthy that over ten years there is no substantial difference in this index; this shows that there has been no improvement in the living conditions of the population. (Graph 5). In relation to the employment and income of the population, both important indicators in the condition of marginalization, it is seen that in all municipalities the percentage of unemployed population from 2000 to 2010 increased: Leon went from 1.05% to 4.35%; Purisima del Rincon of 0.57% to 1.66%; San Francisco del Rincon of 0.61% to 2.4%; and Silao, from 0.93% to 5.98% (INEGI, 2000 and 2010). Silao again recorded the highest percentage of unemployed population, although it could be because it is the biggest attraction of the population has come to this city to seek employment for the alleged greater supply than there should be.

Conclusion

The urbanization process that exists in the MAL has not been a continuous, contiguous and quite structured growth, what has happened is that the main city has advanced over a heterogeneous and discontinuous territory, re-functionalizing the characteristics of rural space to promote their growth. These processes are related to significant changes in the economic, social and cultural, brought about by globalization

and new urban-rural relations, which have deepened inequality and social disparity, and are impacting on the reorganization of urban and rural spaces. All this has had an impact on the opportunities of its inhabitants and the freedom they have to decide and develop life who want to take, which, as noted, according to Amartya Sen is human development. Similarly, all those social and territorial changes are having repercussions on the possibility of building social, economic, political and culturally integrated entities, objectives established by the territorial approach to development and that it will be working along. The Human Development Index (education, health, income, etc.) achieved by MAL reflects both economic and social polarization and inequality between its inhabitants. So it can say that they don't have expanded their freedoms to have the life that they want and value, their skills and opportunities are scarce, consequently, human development still looks very far from achieving, despite the great economic transformations experienced by the region.

REFERENCES

- Barrios, S. 2000. *Las metrópolis al principio del nuevo milenio: una agenda para el debate*, Consejo Latinoamericano de Ciencias Sociales (CLACSO), Buenos Aires, Argentina.
- Cárdenas, E., Cortés, C., and Escobar, L. 2012. *Informe de Pobreza y Evaluación en el Estado de Guanajuato 2012*, Consejo Nacional de Evaluación de la Política de Desarrollo Social (CONEVAL) CONEVAL, México.
- Consejo Nacional de Evaluación de la Política de Desarrollo Social (CONEVAL) 2014. *Medición de la Pobreza, Glosario* (<http://www.coneval.gob.mx/Medicion/Paginas/Glosario.aspx>)
- Consejo Nacional de Población (CONAPO), *Indicadores Demográficos Básicos 1990-2010*. http://www.conapo.gob.mx/es/CONAPO/Proyecciones_Datos
- De La Torre, G. R. and Rodríguez, G. C. 2014. *Índice de Desarrollo Humano Municipal en México: Nueva Metodología*, Programa de las Naciones Unidas para el Desarrollo (PNUD), México.
- Delgado, J. 2003. La urbanización difusa, arquetipo territorial de la ciudad región, *Revista Sociológica* 18 (51) 13-48.
- Instituto Municipal De Planeación Del Municipio De León (Implan), 2005. Plan de Ordenamiento Territorial y Ecológico (POTE) para el Municipio de León. Implan, León Guanajuato.
- Instituto Nacional De Estadística, Geografía E Informática (Inegi), Censo de Población y Vivienda 2000.
- Instituto Nacional De Estadística, Geografía E Informática (Inegi), Censo de Población y Vivienda 2010.
- Instituto Nacional De Estadística, Geografía E Informática (Inegi), Conteo de Población y Vivienda 2005
- Lemaresquier, T and Peral, A. (2007) informe sobre Desarrollo humano, México 2006-2007, PNUD, México.
- Ortega, J. 2004. La Geografía para el siglo XXI, in Romero, J. (Coord.), *Geografía Humana. Procesos, riesgos e incertidumbres en un mundo globalizado*, Ariel, España, pp. 25-54.
- Ramírez, B. R. 2003. La vieja agricultura y la nueva ruralidad: enfoques y categorías desde el urbanismo y la sociología rural, *Rev. Sociológica* 18 (51) 49- 71.

- Salas, Q. H. 2005. "Globalización y procesos territoriales: la re significación del espacio rural", *Ponencia sin publicar presentada en el coloquio "Las ciencias sociales en el nuevo siglo"*, organizado por el Centro de Investigación en Ciencias Sociales de la Universidad de Guanajuato, noviembre, México.
- Sen, A. 1999. *Development as Freedom*. Anchor Books. A Division of Random House, New York.
- Zárate, M., Rubio, B. (N.D.) *Geografía Humana*, Sociedad, Economía y Territorial, Editorial Universitaria Ramón Areces, España.
