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Planning**

What is the role of regional capitals and metropolises in structuring the territorial dynamics at the local, regional and national scales in Mexico?

The case of the city of Hermosillo, Sonora

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Diana.

Summary

In this research paper, the author of “What is the role of regional capitals and metropolises in structuring the territorial dynamics at the local, regional and national scales in Mexico? The case of the city of Hermosillo, Sonora”, the Architect Diana López Domínguez, observes the relation that some Mexican cities have with their surrounding settlements to understand what role they are playing on development at regional scale. In order to do that, first, some definitions about metropolization are presented and different scenarios of territorial dynamics are explained then, the context of Mexico at national and regional scale is described having a solid background to work with. The methodology for this empirical work is to organize and compare indicators giving an outlook about the cities’ situation and conclude what is their role based on the previous observation. To prove this method, two metropolitan cities were selected: the city of Hermosillo, Sonora, which in the last few years, is having an unoriented development, along with the city of Culiacan, Sinaloa due to their likeness with the first one.

Key words: Metropolization models, territorial dynamics, regional metropolization, Hermosillo (Mexico), regional impacts.

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List of acronyms

CCSPJP: (*Consejo Ciudadano para la Seguridad Pública y la Justicia Penal*) Citizen Council for Public Safety and Criminal Justice

CDMX: (*Ciudad de México*) Mexico City

CONAPO: (*Consejo Nacional de Población*) National Population Council

CPI: City Prosperity Index

GA: Great Agglomerations

GDP: Gross Domestic Product

HRA: House Rent Allowance

IMPLAN: (*Instituto Municipal de Planeación Urbana*) Municipal Urban Development Plan

INCAV: (*Índice de Calidad de Vida*) Quality of Life Index

INEGI: (*Instituto Nacional de Estadística y Geografía*) National Institute of Statistics and Geography

INSEE: (*Institut National de la Statistique et des Études Économiques*) French National Statistics Office

ISACS: (*Índice de Satisfacción con Servicios*) Index of Satisfaction with Services

ISR: Indian Revenue Service

ITAE: (*Indicador Trimestral de la Actividad Económica Estatal*) Trimester Indicator of Economic Activity of the State

LGAHOTDU: (*Ley General de Asentamientos Humanos, Ordenamiento Territorial y Desarrollo Urbano*) General Law of Human Settlements, territorial Planning and Urban Development

MA: Medium Agglomerations

MASL: Meters Above Sea Level

MRSC: Municipal Research and Services Center

MZ: Metropolitan Zones

OECD: Organization of Economic Cooperation and Development

ONU: (*Organización de las Naciones Unidas*) United Nations

RBI: Reserve Bank of India

SEDATU: (*Secretaría del Desarrollo Agrario, Territorial y Urbano*) Secretariat of Agrarian, Territorial and Urban Development

SEDESOL: (*Secretaría del Desarrollo Social*) Secretariat of Social Development until 2018, now known as Secretariat of Welfare (*Secretaría de Bienestar*)

SEGOB: (*Secretaría de Gobernación de México*) Secretary of the Government of Mexico

SMST: Small and Medium Sized Towns

SUN: (*Sistema Urbano Nacional*) National Urban System

UN: United Nations

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General introduction

In a world where globalization is everything these days, the rapid growth of the urban areas is imminent. In Mexico, as well as in the rest of the world, the population of the cities is increasing, due to many factors, some of them reaching great dimensions, becoming a part of the metropolises' classification. This development has generated changes and new challenges in terms of mobility and urban connectivity, provision of public services, housing, security, education and employment, as well as environmental complications, among others.

The past will shape the future of each city, but it will not determine it; urban results are largely a consequence of public policies. Cities are, in part, what we choose them to be, therefore, the cities of the next century will be the result of the urban planning, hoping for them to become a proper home for the millions of people who will live in them economically, socially, environmentally and politically speaking.

The main objective of this research work is to analyze what is the role of the metropolises and regional capitals in structuring the territorial dynamics at the local, regional and national scales. In order to do that, a series of definitions will be given in to immerse the reader in the world of the metropolization. Also, the territorial dynamics and some cities classifications will be mentioned.

The metropolization is a very important phenomena, reason why various institutions and researchers have been responsible for studying it and bringing solutions to this sort of urban arrange. The real issue begins when is obviously noticeable that the metropolises have been studied, but just at the global scale, meanwhile, at the regional and local scales the created material is very scarce.

It is important to make a differentiation between the global, national, regional and local scales since the interaction and affectations of the metropolises is not the same when it comes to the surrounding settlements than when it is related to its collaboration with other states within their own country or with other countries. The metropolization of the urban centers leads to a future with new public policies, as well as a rearrange in the public budget allocation, which should match the needs and requirements of the metropolitan zones (MZ).

The actors play also an important role in the metropolization since thanks to them the development can be possible. The main actors, beside the political support, are the private investors, the tourism (national or international) and the talent, that can be cultural, scientific or in any other area, which attracts more talent, more investors or more tourism to the region.

An extensive bibliography, mainly data collected by Mexican governmental institutions, will be reviewed to prove and to justifying this objective in the country of Mexico, by identifying the literary material and data that allows to classify the cities according to their main characteristics and the interaction between them and their surroundings. Also, a comparison table made by some obtained indicators from diverse indexes will be helpful in the orientation of further researches.

Before getting deeper in the analysis some other bibliography about Mexico's geographical, economic and political situation will be reviewed to give the context of the further investigation. The case study proposed for this analysis takes place in two Mexican cities, specifically comparing the city of Hermosillo, Sonora and Culiacan, Sinaloa due to their likeness. Both cases correspond to a capital city and metropolis with a narrow long-term vision and which expansion has been mostly oriented by political and economic interests, having little or nothing to do with the interests of the community.

By the end of this work, the reader would have the tools to analyze the regional capitals by the given indicators and to understand their role at the regional scale.

PART 1: METROPOLIZATION AND TERRITORIAL DYNAMICS

Chapter 1: Cities and metropolises

The metropolization of the urban areas is a major factor in the development of a country. It is essential to introduce some definitions such as: What a capital city is? What a metropolis is? What is the difference between a capital city and a metropolis? What is the meaning of territorial dynamics? What does the territorial organization mean and how is it applied? In order to deeply comprehend and deal with the subject of this document. Also, during the first chapter, the required scope of the territorial scales will be clarified.

Since these concepts can be defined in various ways, according to the field of study, in this particular case, the definitions were obtained from specialized dictionaries and literature related to the field of urban planning, also from scientific articles, where the authors, are giving their own definition according to their study area.

1.1 Main concepts: The background of metropolization

The first definition we will refer is the **capital city**. A capital city is where the government seats and serve as the administrative center of a region (state) or country. According to Richard Kleinschmager, "the term (...) capital city began to be used in the XVII century. It comes from the Latin root caput which means 'head'. The capitals are the cities where the main political powers, the government of the states as well as the parliamentary assemblies settle (...) Some argue that a good capital should be the most important city in the country (or the state) although there are exceptions to the rule..." (Denise Pumain, 2006, translated from French by the author).

The second definition is the **metropolis**. The term metropolis was originally defined a relationship between various settlements and a certain city. In the ancient Greece, a metropolis was the source or home city of a colonial settlement. Also, it refers to a city of great extension and with many inhabitants. Denise Pumain wrote down that metropolis (μητρόπολις) comes from the "Indo-European root mater, 'mother', (...) and polis, 'city'" which means home city but also implies the connotation of a capital or global city. "The concept of a city, the mother-country (...) when it does not have the meaning of a mother-country, the metropolis (...) designates a major city, which dominates by its weight and (...) influence a territory, regional or national" (Denise Pumain et al., 2006, translated from French by the author).

Another concept of metropolis refers to the urban expansion, to the considerable size of population that is displaced denoting a functional and economic integration of different municipal demarcations, for what it involves to a different municipal governments in a single territorial unit, characteristic that is mentioned in the new General Law of Human Settlements, Territorial Planning and Urban Development (LGAHOTDU). Due to their size and the concentration of human capital, infrastructure and functions, some metropolises can be strategic or position themselves in a high hierarchy in the national urban system.

A main difference between a capital city and metropolis should be pointed out. The first includes exclusively the delimited territorial extension of the city, while the second concept may cover one city or more, even including several municipalities, depending on various factors such as the distances between them or the relations they have established. On many occasions, the metropolis ends up absorbing smaller territories, making them part of the same urban, economic and social project. Both definitions need to be visibly identified, because, even though a capital city could be a metropolis, not all the metropolises are capital cities and we are going to differentiate them according to their role.

Now that we know the difference between capital city and metropolis, we will talk about one of the most essential concepts for this work: the **metropolization**. According to Denise Pumain (2006, translated by the author from French), metropolization “is a term... used to describe the spreading process of very large cities, as well as their structure around, not as a single center but multiple centralities, which emerged because of the diversification of urban activities, the plurality of assembled populations, the increase of the mobility enabled by the increase of the communications instead of the multiplicity of urban life forms”. In the same definition it is said that metropolization have problems of organization and articulation depending on many mobility forms, which must be made compatible at different scales of time and space, it also implies a better coordination of the local authorities and intermunicipal governance (B. Jouve, C. Lefèvre, 1999).

As well, the **territorial dynamics** concept “(...) is understood not as a mere physical space but as a living element in relation to which the development processes are established, and where personal and social changes affect the present and future potentialities of the spatial framework (...). The territorial dynamics is produced, in part, by the modification of internal factors, which along with other external factors, originate processes of change that affect the positioning of territories in the face of their potential” (M. C. Pérez González, M. Jiménez García, 2012, translated from Spanish by the author). As an effect derived from the territorial dynamics, each spatial framework can modify its factors of attraction-repulsion according to decisions related

to migration, investment, expansion or destruction of the business tissue, etc., and is where the social-economic entities and their contribution to the employment generation, individual as well as collective, are a key factor in the development of the territory (J. L. Monzón Campos et al., 2010, translated from Spanish by the author). One of the main subjects of this research work is to analyze those factors and find how they affect the development of the territory at the local, regional and national scales.

For a long time, the definition of a **region** and its characteristics has been an exercise carried out by many specialists such as geographers, agronomists and urban planners, among others, to have detailed elements that allow a diagnosis of the territory under study; also by planners, statesmen or economists who require a classification in order to assign programs or economic resources to support transformation, change and regional or urban development of the territory in question.

When we talk about the different scales is important to define their reach area. This work pretends to analyze the country of México, for this reason, the scales that we use go according to its political division, which we will talk about in a posterior chapter. The **local scale** is geographically related to the **city** or, in some cases, the **municipality** territorial extension and, at the same level of government (mayorality). The **regional scale** goes further, to the state territorial extension and the reach of its government, ergo the state government. The bigger scale, the **national scale**, is related, as the name implies, to the **country** territorial extension and its centralized government, which is the president of the Mexican republic.

At last, is also necessary to point the difference between two concepts that could be easily confused: **urban growth** and urban development. The first of them, refers to the territorial expansion of the surface of the city, as well as the increase of its population. Also represents a productive transition, passing from the primary activity to a secondary or tertiary activity sectors. Meanwhile, **urban development** is the process of adaptation and ordering through the exercise of the territorial urban planning based on physical, economic and environmental aspects. Is an oriented intervention to a quantitative and qualitative transformation of the living conditions of the population, the conservation and adequate use of the natural resources, as well as the improvement of the economy?

1.1.1 The metropolization process

The population increase, together with the economic and productive changes that have stimulated the relocation of economic activities, have triggered an accelerated urban expansion, not only in cities where the resident population increases rapidly, like in developing countries in Asia and Africa, but also in those where it grows at low rates, becoming a serious problem of land consumption, urban population dispersion, which paradoxically boosts the process of metropolization, as a result of the expansion of the cities over their territories or their peripheries, or integrating them functionally. However, the territorial overflow of the functional and economic relations has not been accompanied by policies, tools or instruments of planning, management or governance consistent with this complex reality of cities.

The metropolis works as a space where there is human capital, access to job opportunities, education, health care, resources and infrastructure. However, there is urbanization that expands, that occupies spaces selectively, exclusive zones for the population with higher incomes, in contrast to areas where there is poverty, lack of services and infrastructure; a city that grows at the same time than the real estate market, where spatial segregation occurs due to the appropriation of public space, with problems such as insecurity, stress, deficient public transport system, pollution, unequal water supply or lack of it, vehicular congestion, an unequal distribution of income and opportunities. Undoubtedly, much of what happens in the future will be linked to the decisions made in the cities, especially in the larger ones, since they concentrate the services and the industry. It is estimated that almost two thirds of the Gross Domestic Product (GDP) of Latin America and the Caribbean comes from these (UN-Habitat, 2012).

1.2 The classification of the cities

After establishing some definitions and had a slight explanation of the territorial and governmental context in Mexico, is important to acknowledge that several cities classifications have been made according to different aspects: size, density, population, socio-economic profiles, main productive activities (L. Unikel Spector, 1971. A. Hamdouch, 2016), etc. In this section, classifications from diverse countries will be explained in order to analyze and compare them and then, later in the paper, create a new classification according to the needs of this empirical research work.

1.2.1 France

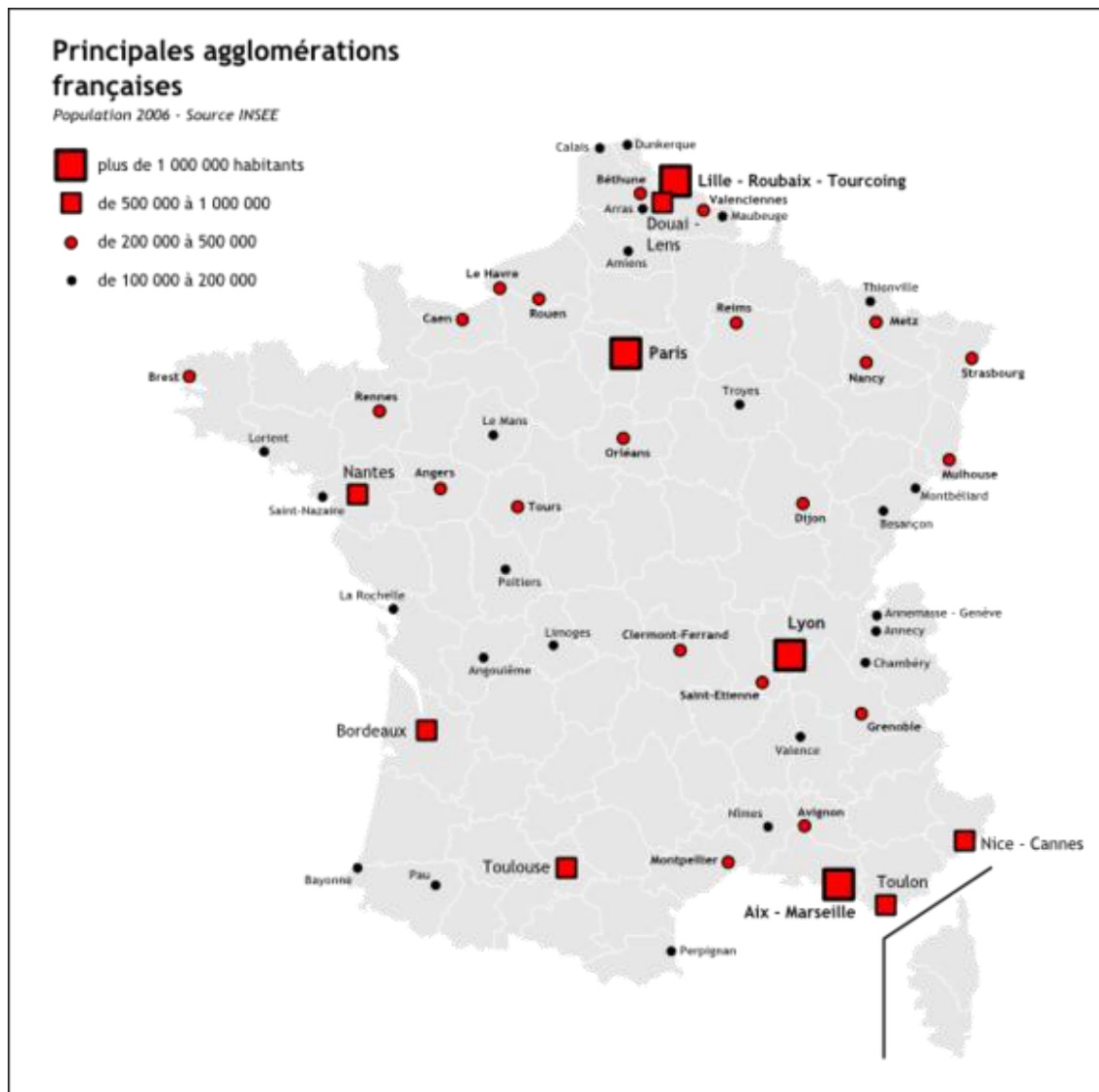


Figure 1.2.1.1: Map of France: cities. Reference: Map France (<http://www.map-france.com/>)

Using the example of France, a town with a population below 5,000 inhabitants is considered a small city, between 5,000 and 100,000 is considered a medium sized city and above 100,000 inhabitants, a large city (Figure 1.2.1.1). Also, the French National Statistics Office (INSEE) has classified economic activities of the Small and Medium Sized Towns (SMST) into productive, residential and public spheres.

However, the mixed profile should be added to the equation in order to explain the dynamics of some towns that are focusing in more than one economic activity (A. Hamdouch, 2016). Due to the big difference in population size between the countries of Mexico and France, it is understandable that those classifications cannot apply to the Mexican cities. Also, the way of

living and many other factors that should be taken into consideration are on the table but is it possible to take a classification and adjust the parameters according to the country to analyze.

1.2.2 India

Since is a much-diversified country, many standards also can be observed across different ranks of cities in India. One of those classifications allow to rank cities due to the House Rent Allowance (HRA) into Class X, Y and Z, commonly known as Tier-1, Tier-2 and Tier-3 respectively. This classification also allows the government to provide income tax exemptions through the Indian Revenue Service (ISR) (Government of India, 2011).

The Tier-1 cities are the top class, with better standards of living and better job opportunities; but gradually, while going down in the classification, is noticeable that Tier-2 and Tier-3 cities are developing as fast as the fastest growing cities all over the world; coming with better job offers and better education opportunities, thanks to their rapid income growth, planed urbanization and skilled younger population, to mention some indicators. In 2014, according to the last Union Cabinet update, was possible to find, in the first rank (Tier-1), eight cities: Ahmedabad, Bangalore, Chennai, Delhi, Hyderabad, Kolkata, Mumbai and Pune. The Tier-2 include cities the like: Agra, Bhiwandi, Chandigarh, Goa, Jaipur and Nagpur, among others. The rest of the cities go within the Tier-3 category.

There is another existing classification based on the population. The Reserve Bank of India (RBI), classifies the urban centers, based on population, into six ranks:

- Tier-1: 100,000 inhabitants and above
- Tier-2: 50,000 to 99,999 inhabitants
- Tier-3: 20,000 to 49,999 inhabitants
- Tier-4: 10,000 to 19,999 inhabitants
- Tier-5: 5,000 to 9,999 inhabitants
- Tier-6: less than 5,000 inhabitants

Also, according to the population wise classification of centers in:

- Metropolitan center: 1,000,000 inhabitants and above
- Urban center: 100,000 to 999,999 inhabitants
- Semi-urban center: 10,000 to 99,999 inhabitants
- Rural center: up to 9,999 inhabitants

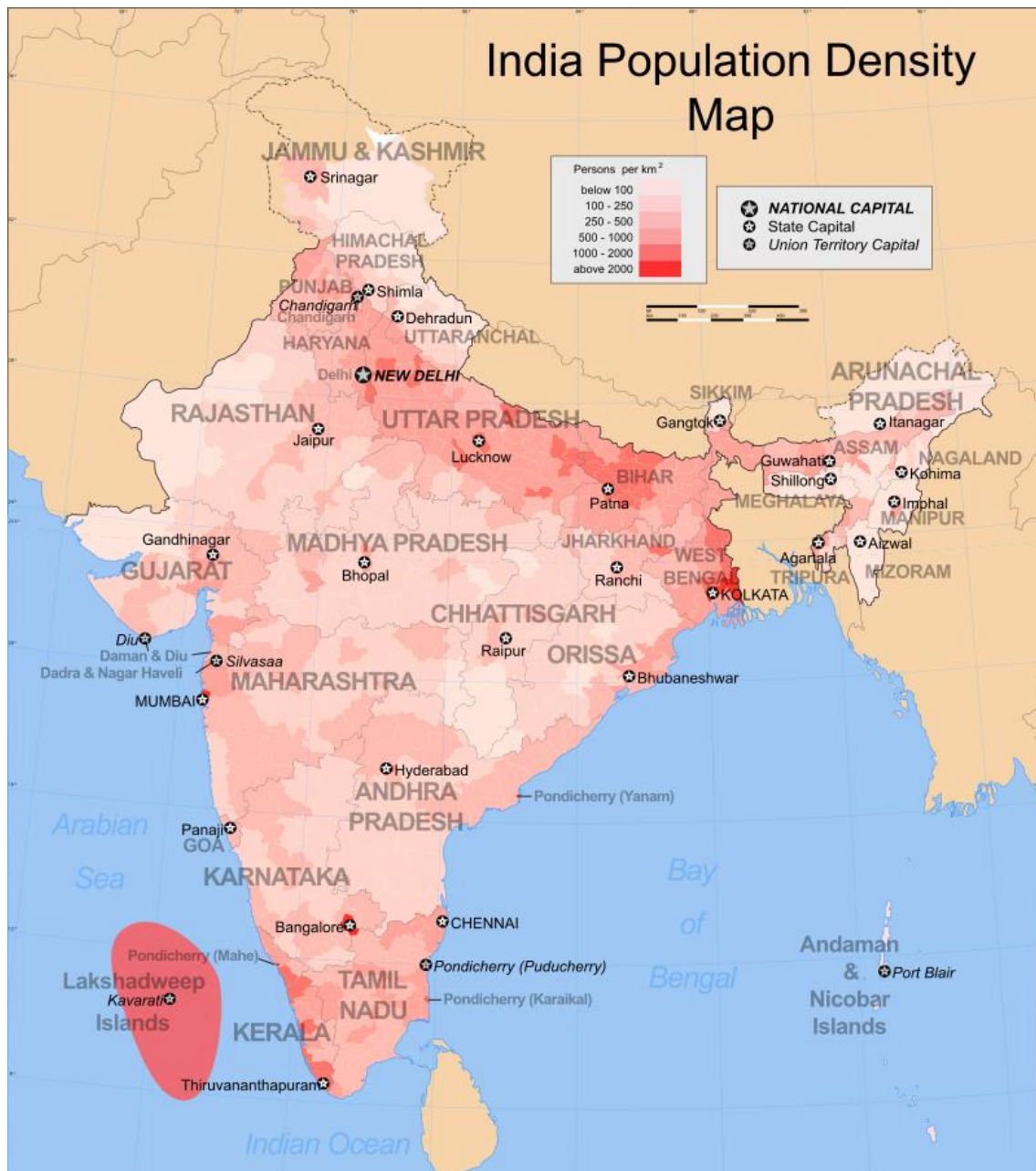


Figure 1.2.2.1: Map showing the population density of each district in India. Reference: Census of India 2001.

1.2.3 United States of America

Another classification that could be developed, is according the number of inhabitants, the one made by the Municipal Research and Services Center (MRSC, 2017) in Washington, USA has these four classifications (Figure 1.2.3.1):

- “A first-class city is a city with a population of 10,000 inhabitants or more (...) that has adopted a charter (...).

- A second-class city is a city with a population over 1,500 inhabitants (...) that does not have a charter and does not operate as a code city under the Optional Municipal Code (...).
- A town has a population of less than 1,500 inhabitants (...) and does not operate under the Optional Municipal Code (...). (...) In 1994, the state legislature increased the population threshold required for incorporation from 300 to 1,500 (...). Since an area cannot incorporate unless it has 1,500 inhabitants, and since a town, by definition, must organize with less than 1,500 inhabitants, it is no longer possible to incorporate as a town.
- Unclassified cities are holdovers from the pre-statehood era, when cities could adopt their own territorial charters (...).”

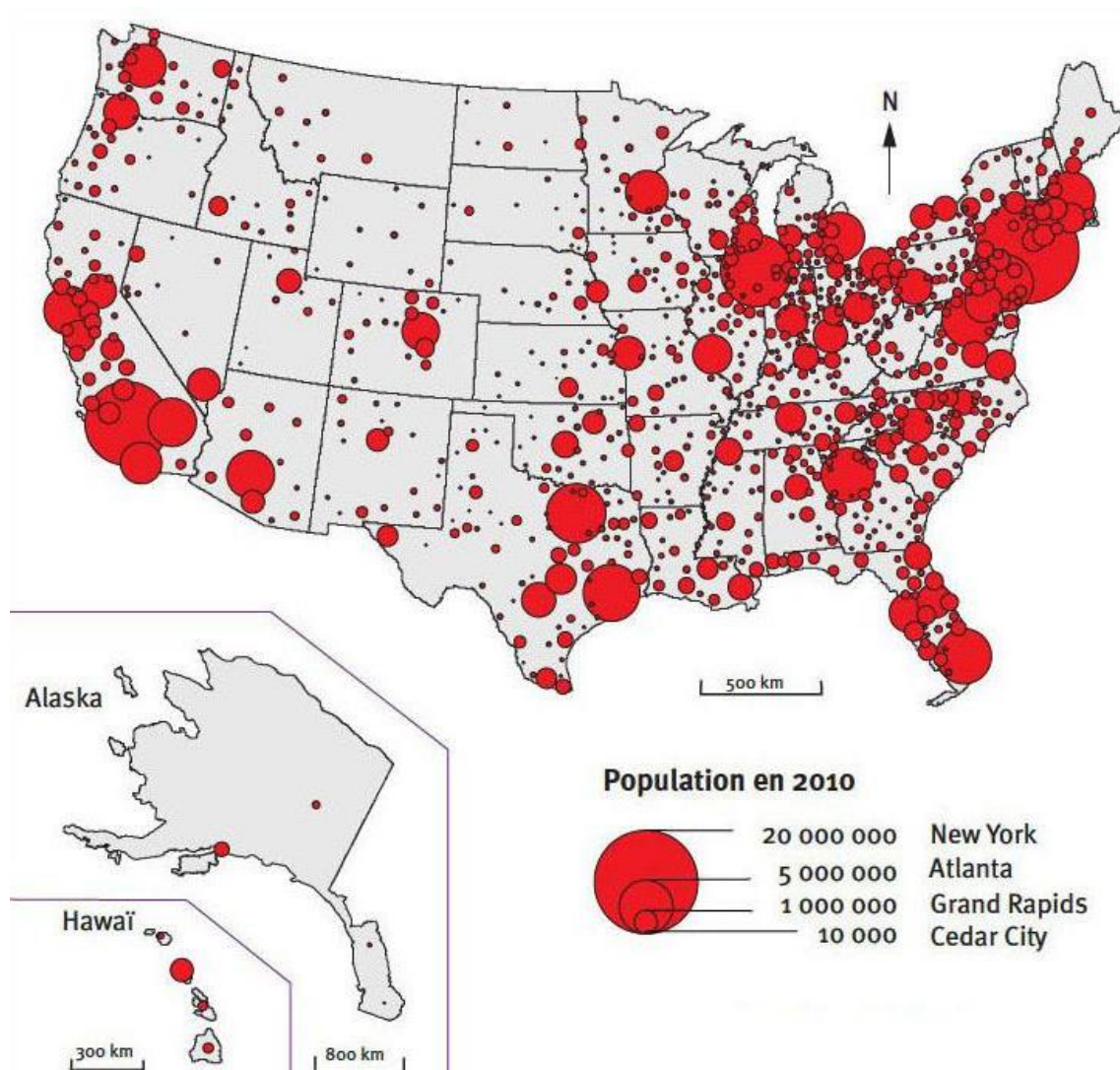


Figure 1.2.3.1 The population of the 917 cities in the United States in 2010. Reference: *The Social and Spatial Divisions of Intermediate Cities in the United States*. CAIRN.

1.2.4 Mexico

In Mexico there is an existing classification made by the Federal Government, the Secretariat of Social Development (SEDESOL) and the National Population Council (CONAPO). It is called National Urban System (SUN) and has been updated in 2018. “This publication identifies and updates the features of 401 cities, classified in metropolitan areas, conurbations and urban centers, which have been identified with official and available geostatistical information sources. For the national territory (...) sociodemographic and economic information is also offered for each of these cities. The metropolitan areas delimited by Secretariat of Agrarian, Land, and Urban Development (SEDATU), CONAPO and the National Institute of Statistics and Geography (INEGI), are characterized by their size and intense functional integration; the conurbations by the physical continuity between two or more localities that constitute a conglomerate, while the urban centers are individual localities” (Secretaría de Gobernación, 2018, translated from Spanish by the author).

To facilitate the analysis of localities, according to the 1960 INEGI census, five groups have been made, ranking the localities based on their population fluctuation (Figure 1.2.4.1):

- 1º: 10,000 y 25,000 inhabitants
- 2º: 25,001 y 50,000 inhabitants
- 3º: 50,001 y 100,000 inhabitants
- 4º: 100,001 y 1,000,000 inhabitants
- 5º: More than 1,000,000 inhabitants

With this analysis we are able to observe that there are entities where the small towns predominate, corresponding to the first group, such as the states of Veracruz, Guanajuato and Michoacán. Other entities are composed exclusively of localities that correspond to the first group, such as Tlaxcala, and some territories of Baja California Sur and Quintana Roo. There are also entities formed only by large localities, with more than 100,000 inhabitants, such as Baja California and Aguascalientes. Finally, we mention the special case of the Federal District, which is the only locality with more than 1,000,000 inhabitants.

This classification is important, since the problems that an entity with small towns majority could present will be different from those that have only large urban settlements and, consequently, and the means used to solve the issues will be also different (María Teresa Gutierrez de MacGregor, 2003, translated from Spanish by the author).

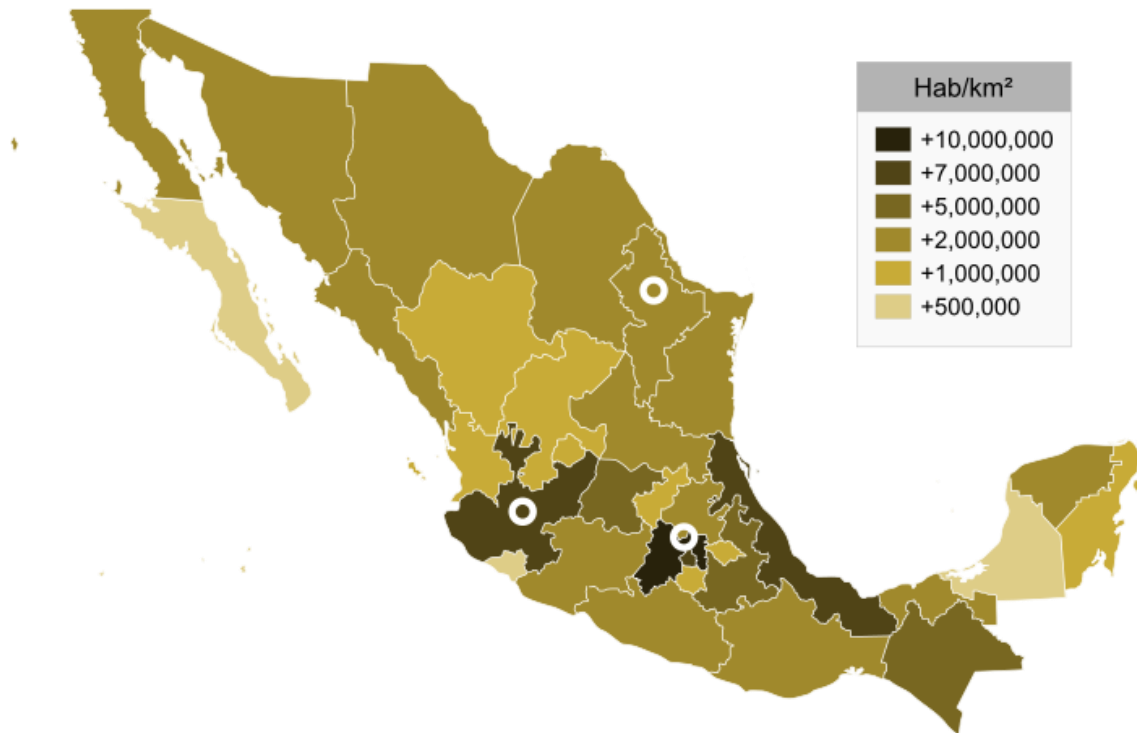


Figure 1.2.4.1: Map of Mexican states by population. Reference: INEGI, 2018.

1.3 Conclusion of Chapter 1

The first chapter was dedicated to introducing the concepts that are related to the work presented in the following chapters. Concepts such as capital city, metropolis and territorial dynamics in the field of urban planning have been identified to explain the main question of this research work, but it is essential to add the concept of metropolization to have a better understanding of what is going to be achieved with this research.

The difference between a capital city and a metropolis is noticeable and, as already mentioned, not all the metropolises are capital cities, but a capital city is or could become a metropolis according to its role in the territory, the scope of its influence and the generated effects. Also, we were able to define and to understand the territorial dynamics concept and its importance for this research work. Other concepts that were considered pertinent to define were the different territorial (and governmental) scales in the Mexican contexts since our research is based on that.

In the second part of the chapter, some cities classifications were explained where it is noticed that there is not only one possible way to sort out the urban centers. It is not just about their size or their location, many other factors are involved at the moment to decide to put a tag to a city. Their economies, the main activities, the functions and dynamics they have among other cities, etc. The classification of cities cannot be something static because the factors that rule them are in frequent change: the population size, the demographics, the productive activities, etc., so these must be reviewed constantly and make the relevant changes. This information will set the bases for the following chapters, where we will find a classification that suits the best for this research.

Chapter 2: Territorial dynamics models

2.1 Territorial dynamics

In the previous chapter, some classifications of cities made by different countries around the world were explained. For the second chapter, it is implied that a classification of the different regions of the country will be made based on qualitative and quantitative criteria: urban, economic, demographic, job and education opportunities, etc. In order to explain these classifications, some bibliography about regionalization was reviewed and information of the Population and Housing Census of INEGI will be systematized in the following work.

About the territorial dynamics, this chapter presents six interaction models that will be defined and explained how a metropolis behaves, to understand the relation between the metropolis (according to its size or previous classification) and their surrounding communities as well as the role of each of them based on different indicators. It is necessary to explain each one of them and then collect the necessary information for an accurate analysis.

For explanatory purposes of the descriptions below, it is important to clarify that any city that does not acquire the category of metropolis, will be named as community or small community.

2.1.1 Centripetal metropolis model

The first model of this classification could be described as centripetal metropolis model (Figure 2.1.1.1). This nature of interaction consists in one metropolis acting as a hub, while absorbing the economic activities of the surrounding communities, where none of them have a determined economic task but all of them work to financially maintain the main city, but it does not allow a community development around it.

In this model, it is possible to find several sources of employment in the suburban areas or in the small communities, as well as housing due to the convenience for workers to live close to their jobs; this issue leads to have diverse non-dense housing areas turning into infrastructure issues due to the urban sprawl. But, the public and private services, commerce and entertainment industries, even educational and cultural functions are located inside the city, generating a daily commutation.

The centripetal metropolis can be found at the local scale, for example, within a municipality where the same government oversees all the transport infrastructure which facilitates the

interaction and commutation between the communities and its capital city, but it is not required for the surrounding communities to have connection between them.

In the Figure 2.1.1.1 below, it is possible to observe that the small communities are directly serving and interacting with the metropolis but not the opposite way, this means that the financial support goes mainly for the bigger city. Also, there is no relation among the small communities and the growth is limited.

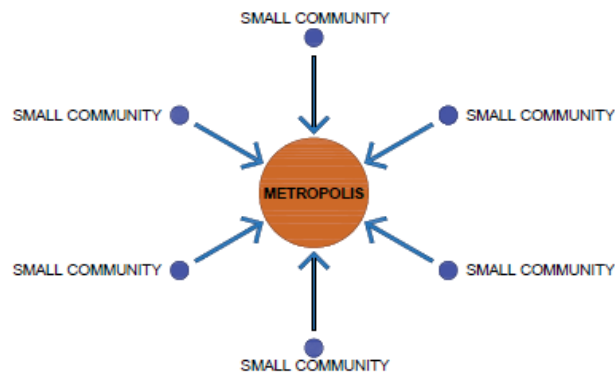


Figure 2.1.1.1: Model of a Centripetal Metropolis

2.1.2 Polycentric centrifugal metropolis model

The second interaction is known as a city with polycentric centrifugal dynamics. The term of polycentric centrifugal metropolis (Figure 2.1.2.1) is due to the tendency of cities towards sprawl and the formation of diverse centers dominated by single uses, so it is possible to suggest that there is no need for competition or absorption between centers.

It is described as an open and democratic spatial organization, and at the same time, annuls differences and suppresses any hierarchy among the small communities, this means that the metropolis serves and helps the surrounding communities to grow and develop putting at the disposal of the surrounding communities the services the metropolis has.

This model knows no limits between its own spatial scope and the scope of the surrounding communities, the population and the resources are evenly distributed among them and so all consumers have a similar purchasing power and demand for goods and services.

In one hand, thanks to the absence of competition between community activities, the sellers are able to maximize their profits, which means that each supplier has a monopoly over a vicinity. Also, consumers visit the nearest central places that provide the function they are demanding

minimizing the distances to be travelled (Walter Christaller, 1933). Each of these communities has the necessary services for its basic operation.

On the other hand, when a function or services is not available in the vicinity, the dependency in the use of private transport is a problem due to the transfer distances to the nearest town and the difficulties to develop an efficient public transport system capable of guarantee the fluid communication with the suburban communities. This resolution will lead to future pollution complications in the suburban and rural areas (Janet Abu-Lughod, 1999).

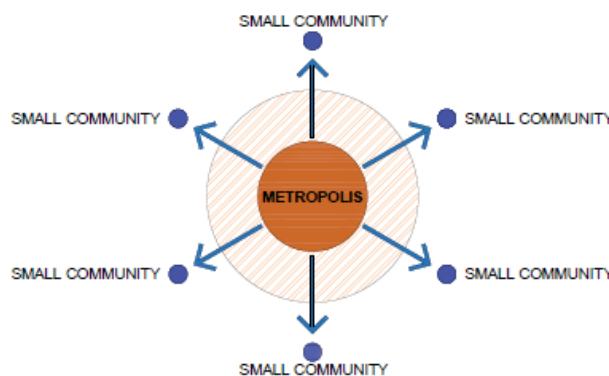


Figure 2.1.2.1: Model of a Polycentric Centrifugal Metropolis

At a regional scale (capital city of the state as the metropolis and the municipalities as the communities) this model shows that the capital city holds the main services and the surrounding centers take advantage of them. For example, the village that is exclusively dedicated to mining is able to use the airport located in the capital city, as well as the farming community can sell its products in the metropolis.

2.1.3 Polycentric reciprocal metropolis model

On this model is possible to find a variation of the previous one. The third interaction consists in the same polycentric metropolis model but with a limited number of centers. In this case the metropolis does not only provide support to some of their neighboring communities, but also receives it from them, so it can be called as a polycentric reciprocal metropolis (Figure 2.1.3.1). The difference with this organization is that it allows the development and growth of some of the surrounding centers without taking away the main responsibility of the metropolis, allowing its evolution as well; but also, as shown in the first model, the centripetal metropolis, the capital city is the responsible of the economic activities of the small communities around.

The transport infrastructure plays a very important role in this scenario because of it the necessary development could be conceivable. Roads and railways improve the connections between communities and facilitate the transport of goods and the provision of services. Also, is easy to have access to new service hubs due to the fact that some surrounding communities are dedicated to specific activities that cannot be found or are limited in the metropolitan area.



Figure 2.1.3.1: Model of a Polycentric Reciprocal Metropolis

The role of the metropolis in this model is to serve as an intermediary in the exchange of goods and services between the small communities and those developed hubs with which it interacts. For example, there is possible to have a hospital of specialties in one of the surrounding developed communities that will serve the entire region, so the capital and the rest of the communities are able to use it.

2.1.4 Concentric metropolis model

The fourth description defines a concentric metropolis model (Figure 2.1.4.1) where the urban sprawl of the metropolis practically devoured the surrounding centers. The small villages are no longer working as a unit to maintain the metropolis but now they are part of it, which brings an important and possibly uniform development to them in all aspects. The spatial boundaries are as far as the influence of the farthest community location.

The concentric metropolis is organized in a series of five rings:

1. The core zone or inner ring is where the main business and governmental activities take place, can be called the central business district;
2. The second ring is a mixed-use zone, formed by housing, entertainment, services and commerce interactions, and serves as a transition zone for the third ring

3. The inner suburbs, where industry and factories are located along with housing, commerce and services for the working class;
4. The outer suburbs are conforming the fourth ring, dedicated to a better housing zone for middle class people who seek to improve their quality of life;
5. The fifth ring and the last is called commuter zone where the agricultural lands and farms are located (Ernest Burgess, 2008).

This type of organization does not mean that each ring is dedicated exclusively to a specific use as in the previous models but also, between them, related services are conglomerated. For example, an educative area may attract well-educated (medium and high income) residents, restaurants, and bookstores, whereas an industrial zone may attract low income residences, fast-food and warehouses.

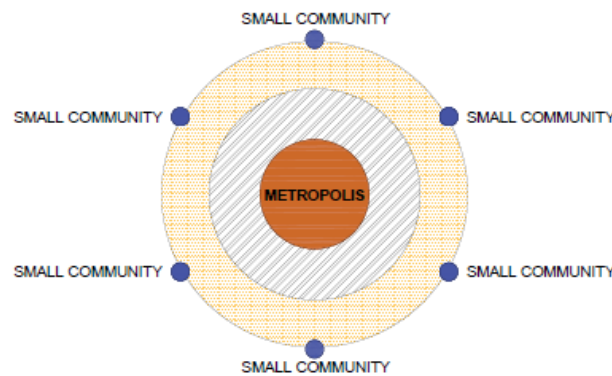


Figure 2.1.4.1: Model of a Concentric Metropolis

This interaction also brings with it new urban, social, financial and structural issues added to the problems of each community; while this development occurs, there is lack of infrastructure growth and the possibility of an unplanned urban development arises, which brings us to a future unsustainable city if the necessary measures are not taken on time.

The population is not evenly distributed, as well as the purchasing power, the strongest are those who take the profits, which leads to an inequitable development between the different ring levels, usually the core is the most profitable one and is also where the political power sits. This organizational model can be put on a scale of a municipality that has consumed the communities around it, becoming a megalopolis (depending on its size and number of inhabitants), that is the case of the Mexican cities of Monterrey, Guadalajara and the country capital México City.

2.1.5 Balanced reciprocal metropolis model

The fifth model to be discussed refers to a balanced urban development. The balanced reciprocal metropolis model (Figure 2.1.5.1) initiate as a response for the rapidly growth of the cities. Most of the cities around play a dominant role in terms of production and consumption but the urban areas grow so fast in the last years that there is a question mark on the capacity of most cities to provide adequate services, infrastructure, quality of life and amenities for their inhabitants.

According to this model, most of the future urban growth will occur in the suburban areas that are complex to manage; the boundaries of peri-urban areas become blurry and transitory as urban development extends into the rural and industrial land (B. Maheshwari, V. Singh, B. Thoradeniya, 2016).

It can be inferred that this model is a combination of the previous presented ones, the metropolis is not only devouring the surrounding centers but also has a strong reciprocal interaction with them and allows them to expand their boundaries and develop. The responsibility of this metropolis is to manage all the goods and services that are happening in the surroundings, also it must consider that the unplanned growth of the neighboring villages could complicate their management.

Balance is the strategic key in this model, it is important to prevent and avoid the insufficiency or lack of services and goods: water, food, means of transportation, housing, jobs, etc. If the goal is to achieve this model of metropolis organization, it is mandatory to take all the previous aspects in consideration and develop an infrastructure plan based on the future growth of the involved communities and their requirements.

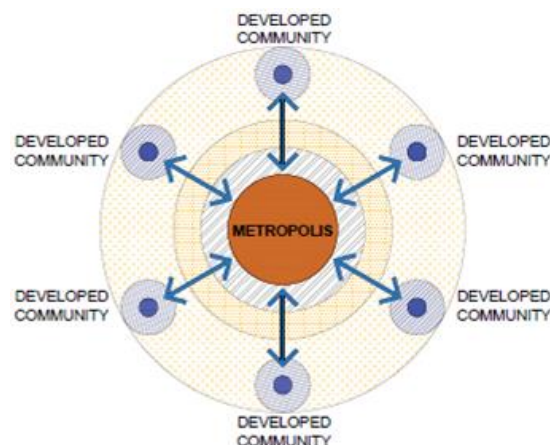


Figure 2.1.5.1: Model of a Balanced Reciprocal Metropolis

2.1.6 Polycentric balanced metropolis model

The sixth and last model to describe is the polycentric balanced metropolis model (Figure 2.1.6.1), is the ideal model to follow since makes reference to a correlation, principally, among many balanced reciprocal metropolis models, making it the most complete and complex of this classification.

In this model there is no hierarchy of cities because each of them is focused on fulfill the requirements of their own needs for its inhabitants but at the same time pursue to support and complement the needs of the cities that are around. Having many centers provide great benefits to the metropolises and their surroundings.

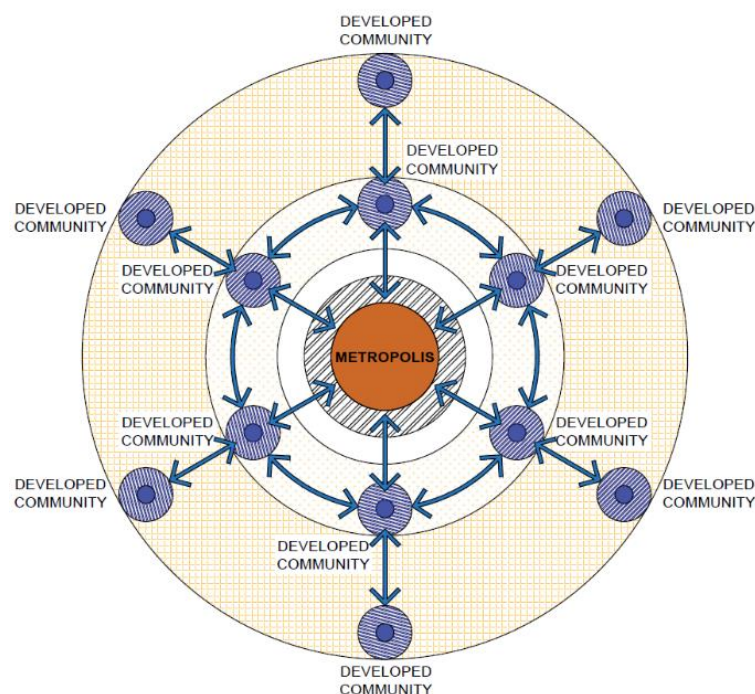


Figure 2.1.6.1: Model of a Polycentric Balanced Metropolis

To quote some of them we could say that there is a low-density level of the population due to its proper distribution among the centers. Feeling an appropriation of the culture of the community but at the same time having a globalized vision in terms of economy, education, services and tourism, all this within an atmosphere of urban cooperation.

There is a direct communication through good transport infrastructure assuring a spatial continuity making almost imperceptible the limit of the scope of its influence, as we can observe in Figure 2.1.6.2.

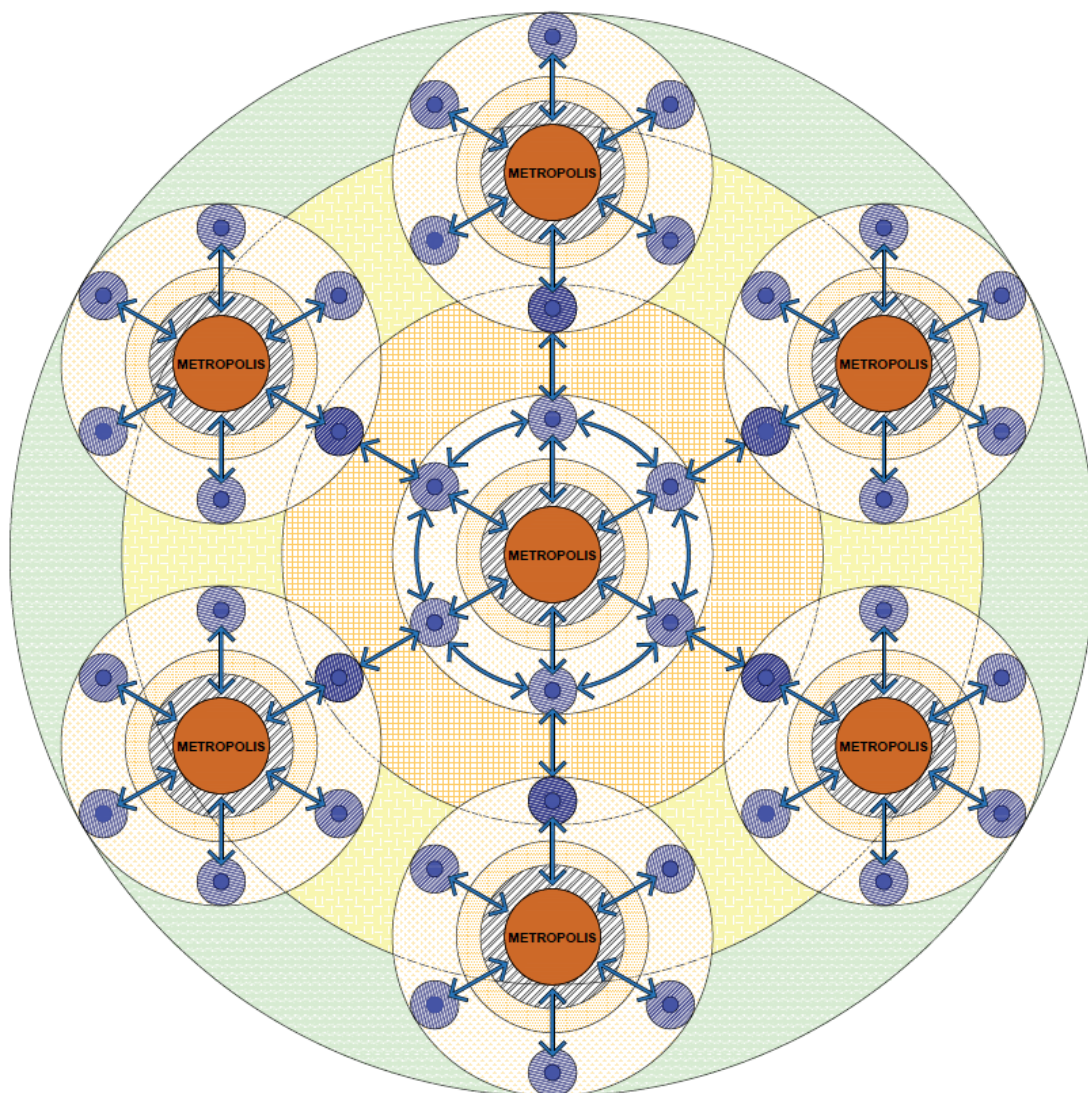


Figure 2.1.6.2: Model of a Polycentric Balanced Metropolis interacting with other metropolis models

2.2 Conclusion of Chapter 2

Six different models of territorial dynamics of the metropolises were presented and described in this chapter. The interaction of the metropolises with their surroundings was detailed, and some diagrams were shown to intend a clearer vision. Is understandable that the future of each metropolis should be to pursue a development where it can find a balanced cooperation with the surroundings, as presented in the last model: polycentric balanced metropolis. The growth should lead to an ideal model that works in all the possible ways: social, cultural, economic, educational, etc.

With the gathered information it is possible to analyze a sample of selected Mexican cities in order to perform an accurate classification and assign the role that each of them is playing in the territorial dynamics of Mexico at a local, regional and nation scale.

PART 2: THE ROLE OF CAPITAL CITIES AND METROPOLISES

Chapter 3: The issue of the city of Hermosillo, Sonora

Now that we have in mind some definitions related to metropolization and territorial dynamics and understood the six presented models where the interactions between cities were explained and illustrated hinting the territorial dynamics, it is accurate to present the issue that concern this research work, the development problem of the city of Hermosillo, Sonora; that will lead to the hypothesis that needs to be demonstrated.

As stated in the article of the Business Studies Journal, Territorial dynamics and social economy: A reflection with special reference in Andalucía facing the social changes (M.C. Pérez González, M. Jiménez García, 2012 translated from Spanish by the author), the Social Economy organizations, have principles and values deeply linked with the territory, which emerge from their own capacity of development and the functional and geographical connections that may be established from it.

The creation of employment, the ability to generate social and economic activities directly linked to fulfil the territorial needs, its impact on the risks of exclusion, its ability to put in value its own territorial identity, among other contributions, transform the institutions of social economy as agents involved in the regional process.

3.1 Issue

The city of Hermosillo, the capital of the state of Sonora, Mexico with a privileged location, 287 kilometers from the border with the United States of America, has suffered a considerable increase in its urban and economic development during the past 30 years due to the changes presented by the inclusion of new economic activities in the region, brought by the opening of the Ford Assembly Plant. The varied main economic activities of Hermosillo: industrial, commerce, agriculture, livestock, fishing and gastronomy, favor the capital city to develop as an important metropolis, but if we compare its development with similar metropolis in the country, it has not been the expected or the optimal one (Ayuntamiento de Hermosillo). The current focus of the Municipal Urban Development Plan (IMPLAN) is mainly based on the guiding axis of infrastructure, urban image and sustainable development of the city, which consists primary on the maintenance and improvement of avenues and streets; the expansion and maintenance of green areas and parks in order to improve the urban image; the expansion and maintenance of the storm drain to increase the sustainable methods; the creation of new

public spaces such as community centers and sports areas (IMPLAN), aspects that helps to improve the quality of life of the inhabitants but do not contribute notoriously to their economic and social development, also have little or nothing to do with the territorial dynamics at any scale, with the surrounding towns and cities, with the neighboring states or with the northern country.

Due to this statement, it is possible to recognize there is a lack of integral planning in the territorial dynamics of the capital city with the surroundings and all the interactions it has at various territorial scales, therefore, the importance of its role should be demonstrated, which leads us to generate the following hypothesis:

3.2 Hypothesis

The role of regional capitals and metropolises in structuring the territorial dynamics at diverse scales depend on the way they organize their relations among other territories in its regional sphere and how they interact to ensure their sustainability.

3.2.1 Why this subject?

There is plenty of information about metropolises and how to classify them according to their size, geography and statistical criteria, borders and coasts but when talking about their role and interaction in the territorial dynamics, there is little information about it. In Mexico, as in the world, the population of the metropolises has not stopped growing. Some of them have reached great dimensions, which has generated new phenomena and great challenges in terms of provision of public and private services, mobility, connectivity, housing, education and employment, safety and environmental care, just to name a few.

3.3 Conclusion of Chapter 3

An explanation about the problematic in the city of Hermosillo, Sonora was given in this chapter. In order to state the hypothesis, the previous information was reviewed and concluded with an important question that is required to be answered by the end of the study. To be able to confirm or refute this hypothesis will be necessary to follow a series of steps described in the methodology proposed in the following chapter.

Chapter 4: At the Mexican scale

To put in context the collected data, it is necessary to speak first of Mexico at different scales: the country, the states, the municipalities and the cities according to their geographical situation, their territorial distribution, its political division, their demographics, among other characteristics as history, social issues, education, economic background and its development, partnerships between states, relations with other countries, specifically with the neighbors in the borders, etc., that will allow to have an extensive perspective until get a narrow view that lead to the final goal of this research work that is the comparison and study of the two selected cities to be able to understand their role structuring the territorial dynamics at local, regional and national scales; and how is, despite having similar characteristics, the growth leading to different paths of development.

Information provided by governmental agencies related to Mexico's territorial organization is going to be used in this research since it is quite vast and accurate as well as the data and statistics provided by INEGI.

4.1 Mexico in context

Among the main countries in the world according to their surface, Russia, Canada and the United States of America have the first three places, while Mexico takes the 13th place in this category and the 5th in the American continent with 1,964,375 km² (INEGI, 2015). Also, with an estimated population of 123,982,528 inhabitants (INEGI, 2018), is the 11th most populous country in the world.

Located in the American continent, as part of the North America region, its geographic coordinates are:

- Latitude:
 - North: Monument 206, border with the United States of America, 32°43'06" North.
 - South: Suchiate River, border with Republic of Guatemala, 14°32'27" North
- Longitude:
 - East: Isla Mujeres south-east side, 86°42'36" West
 - West: Elephant Rocky Point of Isla de Guadalupe, 118°27'24"

The international limits of the continental territory are 3,155 km with the United States of America in the North, Guatemala with 956 km and Belize with 193 km in the South (INEGI, 1998), Gulf of Mexico and Caribbean Sea in the East and Pacific Ocean in the West resulting in a coastal line extension sum of 11,122 km (Sea around us, 2014) as shown in the detailed map of Mexico presented below (Figure 4.1.1). The frontier borders are conformed by nine states and the coastal line is followed by seventeen states.



Figure 4.1.1: Detailed map of Mexico (Mapa de México). Reference:

<http://www.mapademexico.com.mx/mapa-de-mexico-detallado>

The territorial organization of Mexico is the ensemble of norms and processes under which, the integral parts of the geographical area occupied by the country, divided and administered and their actual structure is a Federation.

The Federation leads to the form of government as a Federal Republic, which means that the country is governed by the people, who is represented by a Three Powers' System: Legislative Power, represented by the Congress, Judicial Power managed by the Supreme Court, and the President, who is the maximum authority as the holder of the Executive Power (Political

Constitution of the United States of Mexico, 1917, Articles 39, 40, 41, 49); all three powers ruled by the Political Constitution of the United States of Mexico.

Capitals, altitudes, length of coastline and municipalities by state

State	Capital	Altitude (masl)	Coastal line (km)	Municipal- ties (2016)
United States of Mexico			11,122	2,458
Aguascalientes	Aguascalientes	1870	N/A	11
Baja California	Mexicali	3	1493	5
Baja California Sur	La Paz	10	2131	5
Campeche	San Francisco de Campeche	10	425	11
Coahuila de Zaragoza	Saltillo	1700	N/A	38
Colima	Colima	500	142	10
Chiapas	Tuxtla Gutierrez	640	266	118
Chihuahua	Chihuahua	1561	N/A	67
Ciudad de México	N/A	2240	N/A	*16
Durango	Victoria de Durango	1860	N/A	39
Guanajuato	Guanajuato	2000	N/A	46
Guerrero	Chilpancingo de los Bravo	1250	522	81
Hidalgo	Pachuca de Soto	2000	N/A	84
Jalisco	Guadalajara	1550	351	125
México	Toluca de Lerdo	2680	N/A	125
Michoacán de Ocampo	Morelia	1920	228	113
Morelos	Cuernavaca	1510	N/A	33
Nayarit	Tepic	920	296	20
Nuevo León	Monterrey	530	N/A	51
Oaxaca	Oaxaca de Juárez	1560	568	570
Puebla	Heroical Puebla de Zaragoza	2135	N/A	217
Querétaro	Santiago de Querétaro	1820	N/A	18
Quintana Roo	Chetumal	10	1176	11
San Luis Potosí	San Luis Potosí	1860	N/A	58
Sinaloa	Culiacan Rosales	60	622	18
Sonora	Hermosillo	210	1209	72
Tabasco	Villahermosa	20	200	17
Tamaulipas	Ciudad Victoria	320	433	43
Tlaxcala	Tlaxcala de Xicohténcatl	2240	N/A	60
Veracruz	Xalapa-Enríquez	1420	720	212
Yucatán	Mérida	9	340	106
Zacatecas	Zacatecas	2440	N/A	58

N/A: does not apply *Delegations

Table 4.1.1: Table of capitals, altitudes, length of coastline and municipalities by state.

References: INEGI, 1998. INEGI, 2016.

Mexico is conformed, in their first level division, by 31 Free and Sovereign States, also called Federal Entities, and one Capital State where the capital of the country, Mexico City (CDMX), is located (Political Constitution of the United States of Mexico, 1917, Article 43).

Each state has a Governor as a political leader; and at the same time, each state is divided into municipalities or delegations (in the exclusive case of Mexico City), which are the basic unit of political division and administrative organization where the Mayor is in charge. In total, Mexico has 2,458 (INEGI, 2018) municipalities but the number per state varies, as illustrated in the table 4.1.1 above, and at the same time, they could be divided into commissaries for administrative purposes only.

4.2 Mexico and its metropolises

In Mexico, as in the world, the population of the metropolis does not stop growing. Some of them have already reached great dimensions generating new phenomenon and challenges to provide public services, mobility and connectivity infrastructure, housing, safety, job offers, educational facilities and environment care, to name some of them.

Some institutions have reunited efforts to make a study and delimitate the metropolitan zones of the country, which solicitate and receive economic support and financing from government for metropolitan works. This group of institutions is called the Interinstitutional Group and is formed by SEDATU, CONAPO and INEGI.

The metropolis category constitutes an enormous asset for the national development, a challenge for the territorial planning and urban development, also represent a great defy to understand and address their vulnerability to disasters caused by natural and anthropogenic phenomena. There is no doubt that the metropolitan population will continue to grow and that the territorial ordering and public policies of the three levels of government must implement effective measures to guarantee their well-being.

Mexico is one of the most populated nations, due to total and urban population, among other fourteen countries, according to the census made in 2014 and 2015 by United Nations (UN) and in 2014 for urban population, occupying the 10th place of the most populated countries in the world with a total population of 127,017,000 inhabitants and the 8th with 99,245,000 inhabitants living in urban areas, which means that more than 78% of Mexicans live in urban areas.

For a city to be contemplated as a Metropolitan Zone in Mexico, there are some criteria that have to be taken into consideration:

- I. A minimum of 100,000 inhabitants (OECD) with a high urban density level.
- II. The definition of functional urban area is composed by a densely populated urban nucleus and its influence area (can be a municipality).
- III. According to the size of the cities, the OECD propose two categories: 1. Great Metropolitan Zones with more than 1.5 million inhabitants and 2. Metropolitan Zones with less than 1.5 million inhabitants.
- IV. The commuting zone is also considered to delimitate the scope of the Metropolitan Zones without taking into consideration the urban delimitations.
- V. The name of the Metropolitan Zones could not be the same as the city name according to the scope of them.
- VI. The population density must be 2,000 inhabitants per squared kilometer. (Delimitation of Metropolitan Zones of Mexico, 2015)

4.3 A closer view: The state of Sonora

In a narrower context, the state of Sonora, with a territorial extension of 179,355.10 km², is located in the Northeast region of Mexico, having as northern border the United States of America, in the south limits with the state of Sinaloa, at the east with Chihuahua and at the west with the state of Baja California and the Gulf of California (Figure 4.2.1). It is also the 2nd biggest state and 5th less densely populated of the country.

Divided into 72 municipalities, Hermosillo, with 16,927 km² (INEGI, 2015) is where the capital is established and is the most populated city of the entity with a population of 884,273 inhabitants (UN, 2015).

4.2.1 Economic activities

Political relations have been made and the State of Sonora has an important economic growth due to the investments made in the entity. According to INEGI, Sonora has experimented an annual economic growth of 0.9% during the past year, pointing out that this growth was almost constant during the last years. The data, provided from the Trimester Indicator of Economic Activity of the State (ITAE) by INEGI, are driven mainly by the

production in the primary sector, which in the first trimester of 2018 showed an important growth in its workforce of 10% in the construction sector, about 2% in mining and 4% in the service sector (Uniradio Noticias, 2018). The establishment of the Stamped and Assembly Plant of Ford Motor Co. (O. F. Contreras, J. Carrillo, 2006) is one of the biggest triggers so far, bringing to the city the creation of a new industrial park to establish a new chain of suppliers (O. F. Contreras et al., 2010), helping the economic growth even more.



Figure 4.2.1: Map of the state of Sonora. Reference: Water security Network.

<http://www.watersecuritynetwork.org/wp-content/uploads/2016/04/map-1.jpg>

4.2.2 Sonora-Arizona Commission

Due to the proximity to the United States of America, there are strong relations with our closest neighbor, the state of Arizona. Three Sonoran cities play an important role in this relation: Hermosillo, as the capital and Nogales and Agua Prieta as relevant border cities. That is why was important to propose the creation of an organism to mediate the relation between both states.

The Sonora-Arizona Commission is a binational organization that has consolidated its operation through four strategic areas, a situation that evidences the integration of issues and problems according to the importance acquired in the region (International Liaison and Cooperation Office, 2015). Those areas are:

1. Sustainability
2. Quality of life
3. Competitiveness
4. Safety

4.2.3 Urban image

The urban image is a reference of authentic social development. Sonora has copied some of the American urban planning of its Arizonan metropolises, like Tucson and Phoenix: grids with long avenues, wide constructions, large paving slabs, few green areas (...) (Richard Sennett, 2004) and it is all reflected in the actual urban layout of some of the Sonoran cities but, by doing that, they are lacking their own city identity.



Figure 4.2.3.1: Aerial picture of the layout of Hermosillo, Sonora. Reference:

<http://www.reydocbici.com/sonora.html>



Figure 4.2.3.2: Street layout of Hermosillo, Sonora. Reference: Google Earth 2019.



Figure 4.2.3.3: Aerial picture of Obregon City, Sonora, 1995. Reference: Cia. Mexicana Aerofoto S.A. <https://obson.wordpress.com/2011/02/05/espectaculares-fotos-del-trazado-original-de-ciudad-obregon/>

It is true that both share the arid desert climate and the limitation of resources (Programa de Arquitectura de la Universidad de Sonora, 2012), causing the materials and constructive processes used for building also being shared, but structures must reflect the culture of the place they are landed, using local materials and workforce. This influence can be clearly appreciated in the old town of Hermosillo (Figure 4.2.3.1 and 4.2.3.2) and the cities of Obregon (Cajeme)

(Figure 4.2.3.3 and 4.2.3.4) and Agua Prieta (Figure 4.2.3.5 and 4.2.3.6), with a well-structured squared layout, with regional plants in big places and big pavement roads.

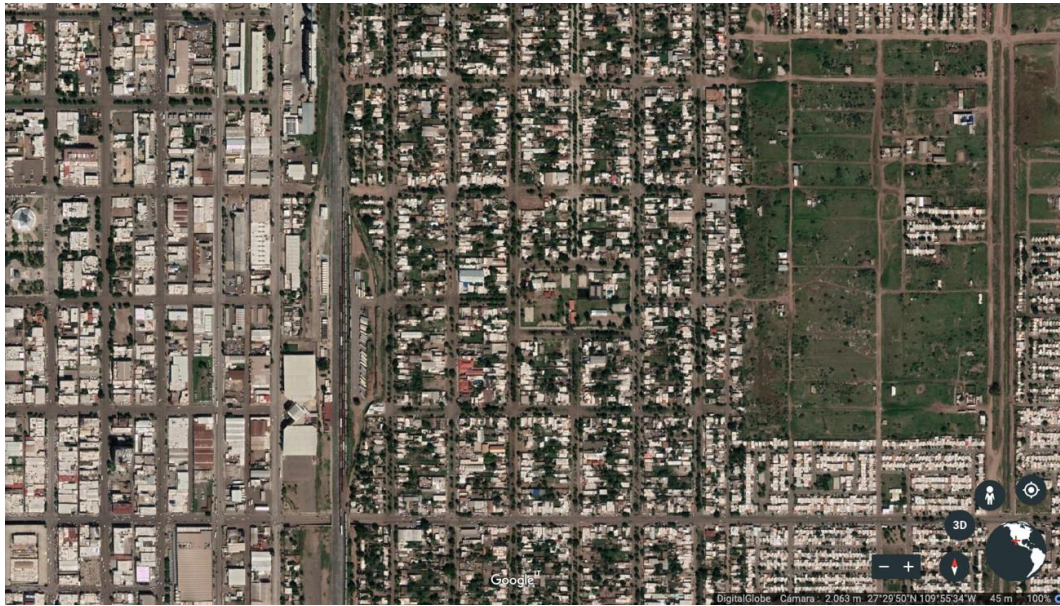


Figure 4.2.3.4: Street layout of Obregon, City. Reference: Google Earth 2019.



Figure 4.2.3.5: Aerial picture of the border between cities: Douglas, Arizona (north) and Agua, Sonora (south). Reference: Bigstock. <https://www.bigstockphoto.com/es/image-214717246/stock-photo-above-the-border-wall-at-douglas-arizona-usa-looking-south-into-agua-prieta-mexico>



Figure 4.2.3.6: Street layout of Agua Prieta, Sonora. Reference: Google Earth 2019.

4.4 Conclusion of Chapter 4

In chapter 4 the characteristics of the Mexican territory were presented to have a clear panorama about the situation of the country that is going to be studied in this document. Its geographical location in the north of the American continent; its borders with the United States of America Guatemala and Belize, its territorial extension and population size, being the 11th most populous country in the world; its territorial and political structure with a list of the 32 states that has some important features of each of them. Then, the text proceeded with a deeper analysis, to one of the Mexican states: Sonora. The economic activities and the agreements with the neighbor country; its urban image, in some cities showed as an intended copy of the American cities. In the state of Sonora, the city of Hermosillo rules as a capital city which is the main character of the study case and the object of comparison, according to the methodology that will be presented in the next chapter.

PART 3: THE ROLE OF THE CAPITAL CITIES STRUCTURING THE TERRITORIAL DYNAMICS AT THE LOCAL, REGIONAL AND NATIONAL SCALES IN MEXICO

Chapter 5: Methods and indicators for the empirical work

5.1 Where to look? What to do?

In order to prove the hypothesis previously presented, it is essential to display a series of data, as studies, statistics and surveys, collected by Mexican governmental institutions and private agencies; and analyze it to fulfill the final objective: verify or refute the initial theory. Since the research is being done from Polytech Tours, in France and the access to primary data is limited.

For this reason, most of the resources are part of secondary data, which means that the data has been collected for a different purpose than the required for this study, therefore there is no access to the original collected data and the results have already been interpreted and categorized, but the data will be reorganized and studied again in order to achieve the desired objectives.

5.1.1 The sources of information

A way to achieve this point is looking for information about each listed city such as historical documents (GOB.MX), demographics (INEGI), territorial characteristics (INEGI) published on governmental (national, state and local) websites; history books, atlas, scientific and newspaper articles about the economic development and history as well as in the Political Constitution of Mexico, which is the one that concentrate all that matter about the governance of the country. This type of information is needed and available for public at free access at any time.

Also, there are plenty of articles about the economic growth in Hermosillo, mostly newspaper ones, but barely a few of them are scientific ones; so, as they are not very reliable. The use of them is going to be limited and just for statement purposes in the final research document.

In one hand, as first sources, we will take the collected data from the City Prosperity Index (CPI) of Mexico 2015 and 2018, made by ONU Habitat; the Peace Index 2018, made by the Institute for Economics and Peace; and the Index of Most Livable Cities of Mexico 2018, made by Strategic Communication Cabinet (Gabinete de Comunicación Estratégica) to measure social aspects according to some parameters, such as quality of life, the people's perception about health services, the ease of finding a job, the economy of their State, the compliance with

their governates and the obtained results, the feeling of security and peace, among other approaches.

In the other hand, Indexes as the Intercensal Survey 2015 and the Sociodemographic Panorama of Mexico 2015, made by INEGI; the Statistical and Geographical Yearbook of Mexico 2017, made also by INEGI; and the National Urban System 2018, made by three governmental entities together: Secretary of the Government of Mexico (SEGOB), SEDATU and General Secretary of CONAPO, will help to collect data related to the geographical aspects of the place, such as location, cities typology, average population growth rate, poverty index, weather conditions and ecological characteristics.

The data provided by the aforementioned indexes is presented by tables and graphics with percentages and ratings, comparisons, images, maps with explanatory legends, and also some texts giving a deeper information, or an interpretation of the material previously shown.

This data will be classified and grouped in various indicators to facilitate the understanding and analysis of the information; these indicators will give us a clear idea of the panorama of each city to be treated. Some of these studies have been updated or are in the process of being updated, so, by the date of this research work, the papers to be used are going to be the ones published until December 2018.

5.1.2 Methodology

The method to be use for this empirical research work is the comparison. In order to do that, first: make a selection of all the capital cities and the possibility to add to the list of two most important cities of each of the 32 states of Mexico, according to the indexes above mentioned, to have a broader vision and a better understanding about what is happening and how is the country being managed. Which means that, by end of this step, a list of around 96 cities will be proposed. It is possible that some states have more than two important cities or in some states, there could be just one.

Second: make a list of the most important characteristics (indicators) that could be observed in the selected cities, such as territorial surface, location, population, density, demographics (age, gender, race, education level, income level, etc.), productive activities, infrastructure, urbanism typology, quality of life, etc. dividing them into qualitative and quantitative indicators, consulting the information collected by governmental entities and private agencies in the stated indexes. As a side note, it is necessary to consider that this information may be influenced by

some political objectives depending on the final purpose of the study made. Some indicators could be explained in order to state their importance and have a more precise analysis.

The third step is building a comparison table and fill it with the information found to be able to compare the enlisted cities, separating the table into different categories according some important aspects, such as the treated scale and the document where the information was taken. And fourth, classify and reclassify (in case there is a previous classification presented) the cities according to the observed results.

To help with the classification, it is possible to refer to the Chapter 1.2, the classification of the cities to find the most appropriate city typology and its roles in accordance with their context. It is shown that there are several methods of city classification. The classification of a city cannot be something static because the factors that rule them are in frequent change: the population size, the demographics, the productive activities, etc., so these bibliographies must be reviewed constantly and make the relevant changes by the time the research is elaborated. Once the classification has been made, as a fifth step, two cities with similar characteristics among the list should be picked to present a deeper analysis and compare their development throughout their history. Since this research work is about the city of Hermosillo, one of the selected cities will be it; the selection of the second city will be made according to the offered results by the comparison table.

Based on all this collected information, the sixth step is to make an exhaustive analysis of how, despite being two cities with similar characteristics such as social, territorial, political, economic, etc., their development has not led to a parallel result. There are other individual aspects that are involved and must be considered to have a fair progress and notice what is possible to change in the short, medium and long term to have a takeoff in the development of the city.

5.1.3 Indicators

For an evaluation is possible to find quantitative and qualitative indicators. The first group refers to some characteristics that can be measured and can be expressed with a quantity unit, for example the surface of a territory in squared kilometers (km²) or the population in number of inhabitants.

The qualitative type indicators are relevant to the quality level of a service or product and nothing has to do with the quantity but a lot with the processes, efficiency and productivity it

produces; for example, the quality of life, the quality on education, the quality of the infrastructure. Next some indicators will be explained in order to have a wide understanding of why is important to consider them.

5.1.3.1 Territory

Indicators such as surface area, location and region, altitude, climate, borders, population and density will help to understand and compare the physical aspects of the territory to be discuss.

5.1.3.2 Education

The data given for illiterate people and educated people of 15 years old or more is relevant to have a notion of which percentage of the population have been received education at any level, which level is the most reachable and if it is possible to have a development in the city or if it can be influenced by this sector of the population.

5.1.3.3 Education displacements to other municipality, state or country

The mobility data in education (percentage of displacements) can help to understand the interaction between municipalities in the same state, between some states with other states within the country, and with other countries around the world.

What is the highest level of education they can get in their homeland? Why people are moving from his place of residence to study? Is because there is not enough educational infrastructure, because of the quality of the education? Is the career offer related to the offer of employment in the region? These questions will be answered in the results of this work.

5.1.3.4 Job displacements to other state or country

This indicator will lead to the understanding of which percentage of people and why are they moving inside the country to different cities or to different states, or to some other countries.

Which aspects attract people to this cities or which factors are pushing people away of their home town? Is that the job offer is not enough for the population? Is that the economic activities are not compatible with the educational offer? The quality of life of the destination city is better than the one in the actual city? What are the conditions of the mobility infrastructure? The main

goal of this changes is to find better job opportunities with better salaries and better work conditions.

5.1.3.5 Income from another country

The percentage of income coming from a foreign source can help to comprehend the economic relations between the city or the state and another country. With this indicator is possible to analyze if the percentage is proportional to the job displacements and if this other indicator is the main cause of this behavior.

5.1.3.5 Services availability

This indicator helps to understand the development of the discussed city, the higher the percentage, the greater the development of the entity. Public services such as potable water, electricity, garbage recollection, public lighting, green areas, sewer system and paving are some of the considered infrastructures for this indicator. Also, the access to services like internet, pay television, landline and cellular phone are taking in consideration.

5.2 Conclusion of Chapter 5

The objective of the presented data collection is to gather information together of the most important Mexican cities to make a comparison and an accurate classification to determine their role as capital city or metropolis in the geographical, economic, social and political aspects of the country at different scales: local, regional and national. But after that, it is still required to organize the collected data, that is why, through this method, the idea is to join and compare relevant information that allows demonstrate the hypothesis of this research work. A series of steps were described and need to be followed to accomplish satisfactorily the classification. One of the selected cities, as has already been said, will be Hermosillo, Sonora, capital city of the state of Sonora, which is the main object of this investigation, due to its historical growth and current development, should have an oriented urban development according to its main economic activities and the territorial organization that is having. At the same time, another similar city will be picked according to the spatial situation but in a different condition of growth to analyze the factors that leads to different ways of development.

Chapter 6: The case study

After following the steps of the methodology described in Chapter 5 and collect the information found in the documents mentioned above, was possible to complete a comparison table with the most helpful indicators for this research. Finally, in this chapter, the results of this table will be shown, and conclusions are going to be made from there.

6.1 The comparison table results

The comparison table is attached as an Annex 6.1.1 for demonstrative purposes but here is a detailed inform for the most relevant results. According to this table was possible to bring a list of the five most similar cities to Hermosillo. Among them, in order ascendant of similarity, is possible to find:

1. Chihuahua, Chihuahua
2. Santiago de Querétaro, Querétaro
3. Victoria de Durango, Durango
4. Saltillo, Coahuila de Zaragoza
5. Culiacan, Sinaloa

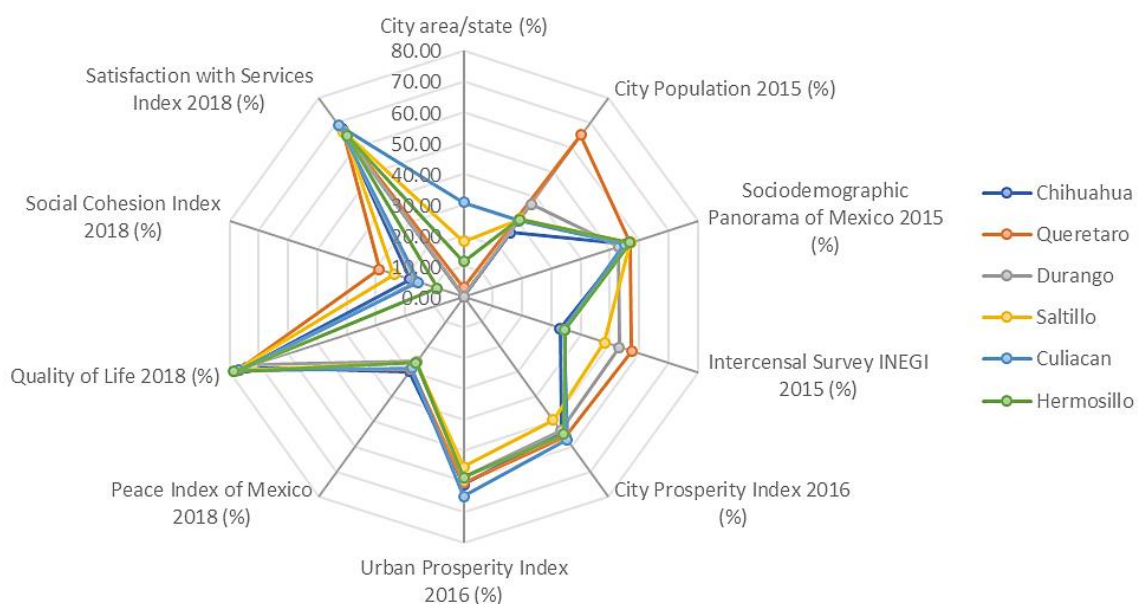


Figure 6.1.1: Comparison of Indicators and Indexes between the 5 selected cities.

According to the qualitative and quantitative studied indicators, the most similar city to Hermosillo is Culiacan, Sinaloa with a general 38.83% of likeness. Above is presented a series of radar charts of the 5 cities mentioned before with the results of the general comparison of the indicators used between the cities. Below, is possible to take a detailed look of the same charts separated by city.

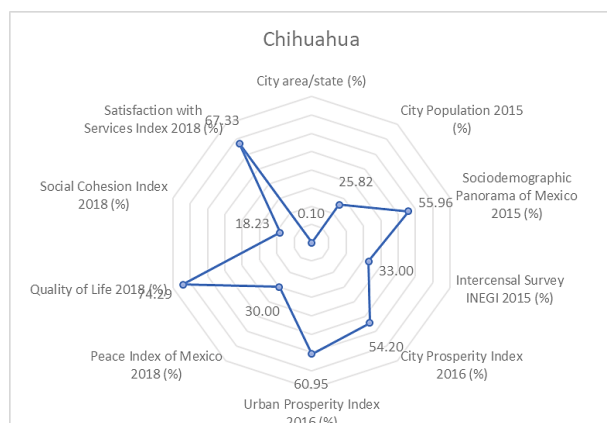


Figure 6.1.2: Indicators and Indexes values of Chihuahua, Chihuahua.

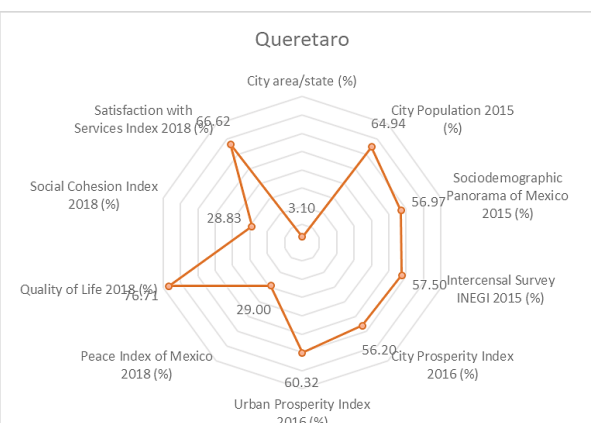


Figure 6.1.3: Indicators and Indexes values of Santiago de Queretaro, Queretaro.

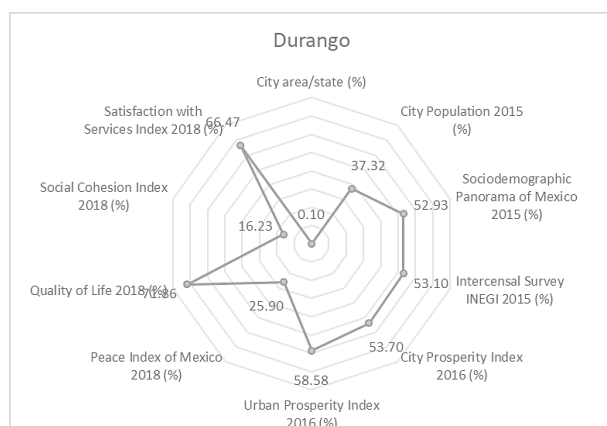


Figure 6.1.4: Indicators and Indexes values of Victoria de Durango, Durango.

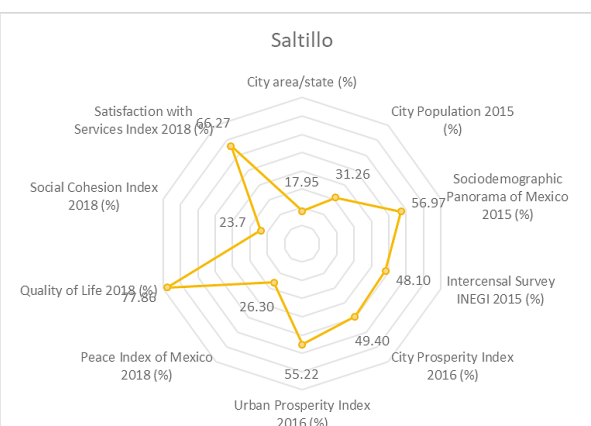


Figure 6.1.5: Indicators and Indexes values of Saltillo, Coahuila.

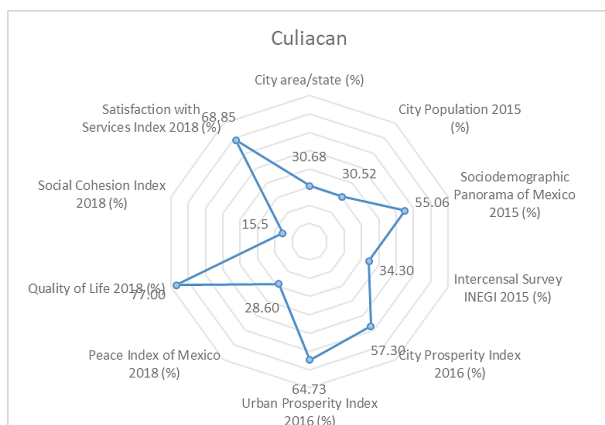


Figure 6.1.6: Indicators and Indexes values of Culiacan, Sinaloa.

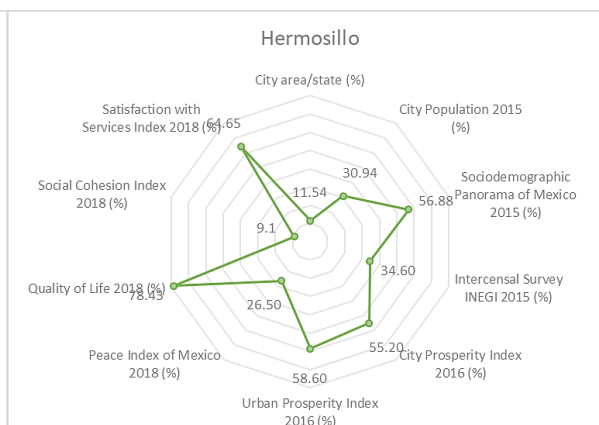


Figure 6.1.7: Indicators and Indexes values of Hermosillo, Sonora.

6.2 Introduction of the cities

Now an introduction of both cities, Hermosillo and Culiacan, will be made to comprehend the background where the results given by the indicators were generated. Location, demography, economic situation and quality of life are some of the factors that are going to be explained in this summary.

6.2.1 Hermosillo, Sonora

The city of Hermosillo is located in the central region of the state, 287 km from the border with the city of Nogales, Arizona in the United States, and 107 km from the coast of the Gulf of California (Figure 6.2.1.1) with an altitude of 210 MASL and is traversed by the Federal Highway Mexico 15.

According to the Intercensal Survey 2015 (INEGI), the municipality of Hermosillo has 884,342 inhabitants, most of them living in the capital city, having around 30% of the entire population of the state.

6.2.1.1 Economy

When the city was established, the main productive activities of the region were agriculture and livestock because of the proximity with the Sonora River, but in the early 80's they change to the services industry and manufacturing thanks to the settlement of some international companies of the automotive area (Ford Motor Company and its suppliers).

Nowadays, the space industry (TE Connectivity) established in the state is taking an important role in the economic sector of the region and also at the national level, due to having a young and specialized population thanks to local universities, a relatively cheap workforce and a strategic location near the United States.

Even though farming is no more one of the main activities, there are some agricultural lands and farms remaining and the farmers' culture prevails, seeing reflected in the urban outline of the city, its early architecture and the warm treatment of the people, like in the small towns.

It is imaginable that the urban development of a region goes according to its economic growth but in the case of the capital of the state of Sonora, things have been a little bit different. Hermosillo could be currently considered as an underdeveloped regional capital but about to flourish due to recent major governmental and private investments.

6.2.1.2 Education

Hermosillo has three main public educational institutions, the biggest and most important one is The Universidad de Sonora with 46 careers; also, there is Technological Institute of Hermosillo and Technological University of Hermosillo with careers more oriented to the engineering field; not to mention the great offer of private universities.

6.2.1.3 Development and quality of life

Since 2013, the capital has been catalogued several times as one of the most livable cities in México by the Strategic Communications Cabinet (2013, 2016 and 2018), the study is based in a series of surveys applied to the inhabitants of 76 Mexican cities to be answered according to their perception and way of living. The discussed topics were about quality of life, social cohesion, performance of the authorities and satisfaction with public services, the union of the community and the productivity.

In 2015, the municipality was the first one in Latin-America to be recognized by the Organization of Economic Cooperation and Development (OECD) because it reached a record of 97% progress in the implementation of the 270 recommendations of the best practices that will transform the work of the administration for the well-being of the community and the competitiveness of the municipality.

Also, Hermosillo was named one of the most prosperous cities of Mexico as reported in the Final Municipal Report for the City Prosperity Index 2016 (ONU Habitat, 2016) according to

indicators like productivity, infrastructure, quality of life, equity and social inclusion, sustainability and governance.



Figure 6.2.1.1: Location of the municipality of Hermosillo. Reference: City Prosperity Index 2018 - Hermosillo. UN Habitat.

6.2.2 Culiacan, Sinaloa

Officially known as Culiacan Rosales, founded in 1531, is a city in the northwest of Mexico and the capital of Sinaloa. Located in the center and with a population of 675,773 inhabitants (INEGI 2010), is the most populated city and the largest one of Sinaloa (Figure 6.2.2.1), concentrating more than 30% of its population.

With an altitude of 54 masl is located 708 km away from Guadalajara (one of the three most important cities of the country) and 688 km, to the north, from Hermosillo in the neighbor State. The city is connected by roads to the north, south, east, west and southeast of the entity, most of them interconnected with the Federal Highway Mexico 15 whose purpose is to cross or surround the city to go from Nogales, Sonora to Mexico City.

There is a dam in the city, the Sanalona Dam, which collect and controls the waters that comes from four rivers arriving to the capital: Humaya River, Tamazula River, Culiacan River and San Lorenzo River.

6.2.2.1 Economy

Sinaloa leads the national food industry market, and Culiacan leads the state agricultural production with 5 million tons of corn approximately. Also, is the main producer of vegetables as tomato, cucumber, chili, eggplant, gourd; fruits like mango, melon and watermelon; and grains like beans, soybeans, safflower, rice, wheat and sorghum. The red tomato is the most representative crop, so much so that the baseball team has the name of Tomateros de Culiacan. The livestock also plays an important role in the economic activity of the region. The Breeding and fattening of cattle, goats, sheep and pigs and the production of the meat and milk derived from these species place Culiacan in the national leadership of this industry.

There are some governmental programs for the genetic improvement of the animal species in order to obtain higher efficiency. Also, the poultry industry has an important development breeding and fattening hundreds of thousands of chickens per year, giving an important contribution to the municipal GDP.

6.2.2.2 Education

In the educational sector, there are two public institutions, the Autonomous University of Sinaloa and the Technological Institute of Culiacan which offers careers mainly focused on the field of engineering; without leaving aside the great offer of private institutions.



Figure 6.2.2.1: Location of the municipality of Culiacán. Reference: City Prosperity Index 2018 - Culiacán. UN Habitat.

6.2.2.3 Quality of life

Culiacan contributes 48.4% of the state GDP and, in 2005, had a Human Development Index (HDI) of 0.8634, occupying the 3th position in the state.

In security matters, in 2016, was considered the second most violent city in the country, after Acapulco, Guerrero; and at an international level, occupy the place 17th according to the Citizen Council for Public Safety and Criminal Justice (CCSPJP) with 518 homicides per year due to the violence generated by the drug cartels.

6.2.2.4 Sisters cities

In 2007, in collaboration with the Zhongshan City Council, Popular Republic of China, Culiacan signed an agreement in terms of tourism, culture, economy and scientific exchange. Also, the city has fraternity with some cities in the United States as Manhattan Beach, California and Saint Paul, Minnesota; and Wakayama, Wakayama in Japan.

6.3 Hermosillo, Sonora VS Culiacan, Sinaloa

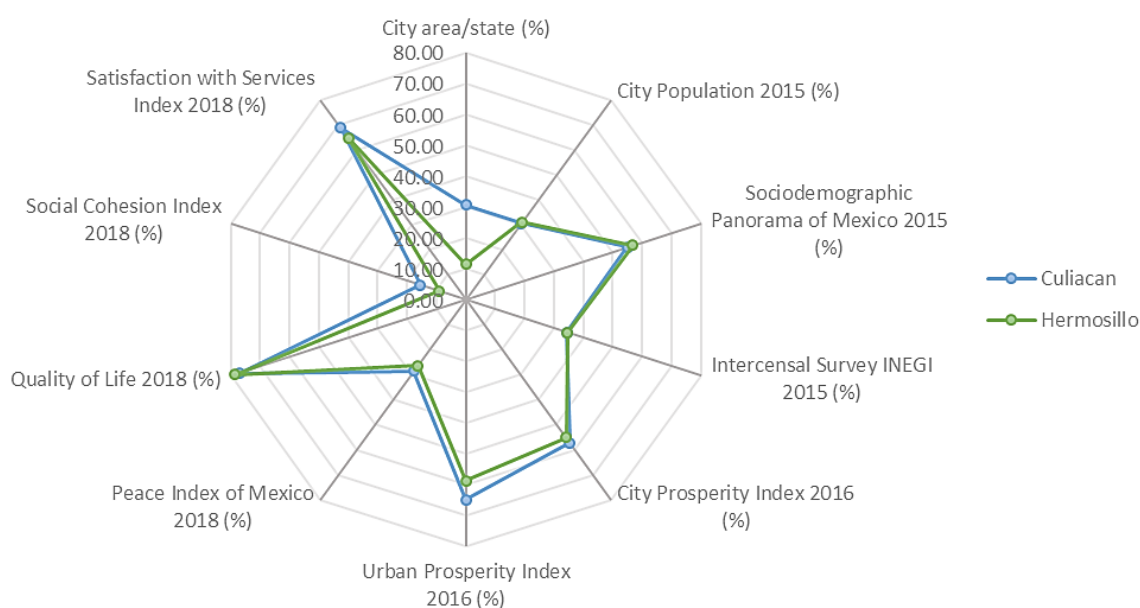


Figure 6.3.1: Comparison of Indicators and Indexes between Hermosillo and Culiacan

A table of comparison is presented below, showing the collected data of the previously described cities. Is easily understandable which city is having better qualities (marked in bold) according to each indicator. At the end, is possible to conclude to which city the scale is tilted.

INDICATOR	HERMOSILLO, SONORA	CULIACAN, SINALOA
NATIONAL SCALE (MEXICO)		
Area	1,964,375 km ²	
Population	119,530,753 inhabitants (2015)	
STATE SCALE		
Territory		
Region	Northwest	Northwest
Area	179,355.10 km ²	57,365.40 km ²
Coastal Line	1,209 km	622 km
Enabled Sea Ports	7 ports	6 ports
Physiographic Provinces	II. Sonoran Plain III. Sierra Madre Occidental IV. Northern Sierras and Plains VII. Pacific Coastal Plain	III. Sierra Madre Occidental VII. Pacific Coastal Plain
Climate	A. Dry weather B. Mild weather C. Warm weather	A. Dry weather B. Mild weather C. Warm weather
Population	2,662,480 inhabitants (2010) 2,850,330 inhabitants (2015)	2,767,761 inhabitants (2010) 2,966,321 inhabitants (2015)
% of the national population	2.39%	2.48%
Sociodemographic Panorama of Mexico 2015		
Median age	28 years old	28 years old
Housing services availability		
Potable water	86.00%	80.90%
Sewer system	92.40%	93.90%
Sanitary service	97.70%	96.5%
Electricity	98.00%	99.30%
Internet	42.10%	33.80%
Pay Television	54.60%	51.90%
Flat screen TV	40.30%	39.40%
Computer	43.30%	34.50%
Cellular phone	89.50%	88.40%
Landline	32.60%	30.00%
Education (+15 y/o)		
Without education	2.70%	4.70%
Basic	49.80%	48.20%
Medium Superior	24.80%	23.90%
Superior	21.90%	23.00%
Literacy (-24 y/o)	98.30%	98.60%
Literacy (+25 y/o)	96.20%	94.10%
Economics		

Active population (+12 y/o)	52.80%	49.80%
Intercensal Survey INEGI 2015		
Education (+15 y/o)		
Without education	2.20%	4.20%
Displac. to another municipality	2.00%	2.10%
Displac. to another state or country	1.20%	0.20%
Job		
Displac. to another municipality	3.70%	3.40%
Displac. to another state or country	1.70%	0.80%
Income from another country	4.30% of homes	5.90% of homes
Peace Index Mexico 2018		
Ranking	14	27
MUNICIPALITY SCALE		
Territory		
Population	784,342 inhabitants (2010)	858,638 inhabitants (2010)
% of the state population	29.46%	31.02%
CITY SCALE		
Territory		
Area	207 km ²	176 km ²
Altitude	210 MASL	60 MASL
Population	784,342 inhabitants (2010) 869,669 inhabitants (2014) 884,273 inhabitants (2015)	858,638 inhabitants (2010) 910,982 inhabitants (2014) 905,265 inhabitants (2015)
Population growth rate	1.60% per year	1.50% per year
Urban Prosperity Index 2016		
Agglomerations		
Classification	Medium agglomerations	Great agglomeration
City Prosperity Index (CPI)	55.20%	57.30%
Productivity	65.00%	55.30%
Infrastructure	63.50%	64.20%
Quality of life	64.30%	55.20%
Social inclusion	71.90%	71.60%
Sustainability	31.70%	78.90%
City classification		

Size	Metropolitan zone	Metropolitan zone
Metropolitan zone	MZ-3	MZ-3
Role	Capital city	Capital city
Index: Most Livable Cities of Mexico 2012		
Quality of life		
INCAV - Quality of life index	86.00%	78.00%
Education satisfaction	35.00%	37.00%
Sense of safety	21.60%	-34.20%
ISACS – Index of Satisfaction with Services		
General index	Highly satisfied	Highly satisfied
Sport and cultural events	51.90%	37.90%
Tourism promotion	36.40%	31.70%
Public services	36.20%	31.76%
Public hospitals maintenance	39.00%	40.10%
Country progress perception	-55.00%	-55.70%
Index: Most Livable Cities of Mexico 2013		
Quality of life		
INCAV - Quality of life index	81.60%	76.70%
Index: Most Livable Cities of Mexico 2016		
Quality of life		
INCAV - Quality of life index	64.60%	67.80%
Education satisfaction	70.00%	72.50%
Job satisfaction	52.50%	47.50%
Sense of safety	-47.50%	-47.50%
Social cohesion	67.50%	70.00%
ISACS – Index of Satisfaction with Services		
General index	70.50%	70.90%
Sport and cultural events	74.00%	74.00%
Tourism promotion	73.00%	73.00%
Public services	71.60%	72.00%
Public hospitals maintenance	70.00%	70.00%

Index: Most Livable Cities of Mexico 2018		
Quality of life		
INCAV - Quality of life index	69.13%	66.99%
Happiness	86.00%	85.00%
Education satisfaction	83.00%	82.00%
Job satisfaction	80.00%	79.00%
Economic situation	74.00%	72.00%
Sense of safety	-17.00%	-11.00%
Social cohesion	59.30%	57.00%
Interest in politics	-15.00%	0.50%
ISACS – Index of Satisfaction with Services		
General index	40.67%	47.47%
Sport and cultural events	71.00%	75.00%
Tourism promotion	71.00%	76.00%
Public services	69.60%	74.80%
Public hospitals maintenance	71.00%	71.00%

Table 6.3.1: Comparison table Hermosillo VS Culiacan.

6.3.1 Comparison analysis

As seen in the Table 6.3.1, both cities are located in the northwest region of the Mexico. Sonora, having three times more surface than Sinaloa, also have a larger coastal line (two times larger) with 7 ports, against the 6 of Sinaloa, but Sinaloa is having more population with a 2.48% of the national population, against the 2.39% of Sonora. In both cases, the medium age of the population is 28 years old.

Talking about the availability of services in the houses, the Sonora presents better number with the availability of services like potable water, sanitary service, internet, pay television, flat screen television, computer, landline and cellular phone, while Sinaloa presents better numbers with sewer system and electricity.

In education, Sonora is having a better level and a bigger percentage of educated people with 96.20% against 94.10% of Sinaloa. According to the Intercensal Survey INEGI 2015, the

education displacements to other municipalities in Sonora and Sinaloa are at the same level with 2% against 2.10% respectively but to other countries are more obvious in Sonora.

With the economically active population Sonora is leading with a 52.80% against 49.80% of Sinaloa, also the job displacements are more noticeable in Sonora than in Sinaloa, with 3.70% against 3.40% to other municipalities, and 1.70% against 0.80% to other countries, but surprisingly, Sinaloa is getting more income from other countries than Sonora.

At the local scale, the municipality of Culiacan is having 31.02% of the total state population against 29.46% of the total population of Sonora living in Hermosillo. Both cities are considered as metropolitan zone MZ-3, which means that both cities are MZ due to its size (more than 500,000 inhabitants) and the fact that are running as capital cities, but Hermosillo is classified as medium agglomeration (MA) meanwhile Culiacan is in the group of the great agglomerations (GA) next to the biggest cities of Mexico.

In 2012, according to the Index of Most livable cities of Mexico, Hermosillo showed better results in the INCAV – Quality of Life Index with an 86% of approval, meanwhile Culiacan reached 78%, both cities with a highly satisfied qualification in the ISACS – Index of Satisfaction with Services, with a similar percentage in the perception of the organization of sport and cultural events, tourism promotion, public services infrastructure and public hospitals maintenance. There is one indicator where the results were negative and is about the country progress with -55%, which means that citizens agreed that the development of the country is not the expected one. Where the difference is very notorious is in the scale of the sense of safety, where Hermosillo got a mark of 21.60%, against the negative note of -34.20% for Culiacan, according to people's perception.

The data for the Index 2013 is very similar but in 2016, the numbers changed. The INCAV is higher for Culiacan with 67.80% against 64.60% for Hermosillo. In general terms, people are more satisfied with the education level and the social cohesion in Culiacan than in Hermosillo, but the job satisfaction percentage in Hermosillo is 52.5% meanwhile Culiacan got 47.5% of people's satisfaction.

For the Index 2018, is possible to find that Hermosillo recover its position with better numbers for the Quality of Life Index, adding happiness, better economic situation and also better numbers in the sense of safety with a major improvement in the percentage of people's perception for the city of Culiacan.

6.3.2 Regional capitals and its role

After comparing those two cities is possible to conclude that the interaction with their surroundings is very important at the regional scale. The way that a regional metropolis behave with the settlements around them brings a new collaboration path to the economic activities, the infrastructure expansion, the social interaction, the private investments, education and job development, etc.

If the city maintains a close relation within the neighbor communities, the growth and development of their relations will be stronger and suddenly becoming a Polycentric Balanced Metropolis and, in the ideal scenario, interacting with other metropolis models.

In the case of Hermosillo, the city has a strong interaction within the other communities of the municipality, specifically with San Pedro del Saucito, Poblado Miguel Alemán and Bahía de Kino. This bond has made the economic activities, specially agriculture and tourism, growth in the region, attracting investors from all around the state and also the United States.

Hermosillo has also grown in the cultural sector, spreading and adopting cultural events to and from all around the state, as in the case of Fiestas del Pitic, Festival Cervantino and Festival Alfonso Ortiz Tirado (in Alamos, Sonora), to mention some of them.

If we talk about health, is possible to find a co-relation, like in the model of a Concentric Metropolis, where Hermosillo and Obregon City (Cajeme) share and complement their health services, with the General Hospital of Obregon City and Hermosillo, also the Specialty Hospital of Obregon City.

When talking about Culiacan, Sinaloa, the economic activities are more diverse. Due to the strong agricultural activity, some investments have been done by international companies, giving to the capital city and its surrounding communities a rapidly growth in the past three decades; also, a strong development of infrastructure in matter of roads, and rural features.

The tourism plays an important role also. Being the most important city of the state, Culiacan has an exchange of products and tourists from and to other countries, principally the United States. The way of living in this region, allows the citizens to travel and adopt some foreign customs and habits. Its proximity to Mazatlán, one of the most important ports and beaches of Mexico, attracts international investors and tourism to the region.

On both cities, one indicator that appears to stop the voracious development of them, is the sense of safety of the population. This make people want to migrate or displace to another region to work or to study, expecting a better quality of life, even if the politics, the educational

offer, the job income, public and health services and some other aspects are the best ones according to its population.

Like the previously mentioned, there is an infinite list of characteristics that can be named to exemplify the importance of the relations and interaction between cities in the same region. Notably, this interaction will be different according to the set scale, becoming less strong and personal but with major benefits, primarily, economic ones.

6.4 Conclusion of Chapter 6

During this last chapter the previous methodology was commissioned. The two selected cities, Hermosillo and Culiacan were described. Their geographical location, economic activities, education and job, were some of the named features. After, was possible to observe, analyze and compare the two metropolises by a comparison table and also by some presented radar charts.

The similarities between those capital cities are making the analysis easy because is probable to exclude the resemblance factors and focus only in those that are making their development taking different paths.

General conclusion

After comprehending the background of the metropolization, six territorial dynamics models were explained in order to understand how a city interacts with its surroundings. All this with the object of immersing the reader into the context of the metropolises.

To continue with the theory, some classifications of cities, given by different countries along the world, were described. It is necessary to understand that there is just not one way to categorize the cities but many, according to different factors such as population number, surface size, income, interaction with other cities, etc. It is shown that there are several methods of city classification and depending of the factors taking into consideration it is possible to create new different ones.

To get in a national scale, the territorial and political organization of Mexico were explained with the finality of having a better understanding of what will be presented later. This information was relevant due to not all the countries have the same political powers and territorial divisions. Getting closer, the Sonora state was also described, giving an idea of the context where the issue is presented.

Important concepts were analyzed, and a significant background was provided to carry out an in-depth analysis of the metropolises of Mexico. A methodology to follow was stated along with the importance of some indicators. This information allows to classify and compare the selected cities according the collected data.

Taking as a focus of attention the territory of México, the main objective of this paper was to argue that, through the collection and analysis of data, there is a tendency towards development as an urban concentration which includes five differentiated forms of metropolis integration, either making clear the incorporation of the different economic activities of the region or marking the peculiarities of each of them. Explaining each of them it is possible to reach conclusions that help to understand the role of the city of Hermosillo as a regional capital among its territorial scope and the differences between Culiacan and their development.

In the understanding that the bibliography found on the issues addressed is vast, the use of it, to fill the comparison table for the research work, was limited, since most of it is based on data and statistics provided by governmental agencies rather than scientific analysis or research papers. Also, there are plenty of articles about the economic growth in Hermosillo, but barely a few of them are scientific ones; so, the use of them was also limited and just for statement purposes in this final paper.

There is still too much work to do within this subject and would be interesting if this work gets developed at different scales and in different countries to prove that the selected indicators are good to state the reason of the lack of development but also the role of the communities, or if is necessary to add, reduce or change some of them.

To continue with the work, it will be ideal to select some countries of Latin America due to the similarity of politics and territorial organization.

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Annex 6.1.1: Comparison Table of Mexican Cities

STATE																																
N O M	A B R E V I A T I O N	S T A T E	L O C A T I O N	STATISTIC AND GEOGRAPHIC YEARBOOK OF MEXICO 2017																A R E A	P O P U L A T I O N			A G E		H O U						
				P H Y S I O G R A P H I C P R O V I N C E S																							L O C A T I O N		C L I M A T E			
N U M B E R	A B R E V I A T I O N	S T A T E	R E G I O N	I. BAJA CALIFORNIA PENINSULA	II. SONORAN PLAIN	III. SIERRA MADRE OCCIDENTAL	IV. NORTHERN SIERRAS AND PLAINS	V. SIERRA MADRE ORIENTAL	VI. NORTH AMERICA GREAT PLAINS	VII. PACIFIC COASTAL PLAIN	VIII. NORTH GULF COASTAL PLAIN	IX. MESA DEL CENTRO	X. NEOVOLCANIC AXIS	XI. YUCATAN PENINSULA	XII. SIERRA MADRE DEL SUR	XIII. SOUTH GULF COASTAL PLAIN	XIV. CHIAPAS AND GUATEMALA	XV. CENTO AMERICAN MOUNTAIN	A L T I T U D E	C O A S T A L L I N E	E N A B L E D S E A P O R T S	A. DRY WEATHER	B. MILD WEATHER	C. WARM WEATHER	D. COLD WEATHER	STATE AREA (km2)	STATE AREA (mi)	STATE POPULATION 2010 (millabans)	STATE POPULATION 2015 (millabans)	STATE DENSITY 2015 (millabans/km2)	MEDIAN AGE (Years)	POTABLE WATER (%)
1	AG U	Aguascalientes	CN			I I I						I X	X						1,870	N A	N A	A	B			5,616.70	0.29	1,184,996	1,312,544	233.69	25	93.70
2	AG U	Aguascalientes	CN			I I I						I X	X						1,870	N A	N A	A	B			5,616.70	0.29	1,184,996	1,312,544	233.69	25	93.70
3	AG U	Aguascalientes	CN			I I I						I X	X						1,870	N A	N A	A	B			5,616.70	0.29	1,184,996	1,312,544	233.69	25	93.70
4	AG U	Aguascalientes	CN			I I I						I X	X						1,870	N A	N A	A	B			5,616.70	0.29	1,184,996	1,312,544	233.69	25	93.70
5	BC N	Baja California	N W	I	II														3	1,493	8	A	B			71,451.00	3.64	3,155,070	3,315,766	46.41	27	91.10
6	BC N	Baja California	N W	I	II														3	1,493	8	A	B			71,451.00	3.64	3,155,070	3,315,766	46.41	27	91.10
7	BC N	Baja California	N W	I	II														3	1,493	8	A	B			71,451.00	3.64	3,155,070	3,315,766	46.41	27	91.10
8	BC S	Baja California Sur	N W	I															10	2,131	16	A	B			73,909.40	3.76	637,026	712,029	9.63	28	79.60
9	BC S	Baja California Sur	N W	I															10	2,131	16	A	B			73,909.40	3.76	637,026	712,029	9.63	28	79.60
10	BC S	Baja California Sur	N W	I															10	2,131	16	A	B			73,909.40	3.76	637,026	712,029	9.63	28	79.60
11	CA M	Campeche	SE										X I		XII I				10	425	14			C		57,507.50	2.93	822,441	899,931	15.65	27	61.00
12	CA M	Campeche	SE										X I		XII I				10	425	14			C		57,507.50	2.93	822,441	899,931	15.65	27	61.00
13	CA M	Campeche	SE										X I		XII I				10	425	14			C		57,507.50	2.93	822,441	899,931	15.65	27	61.00
14	CH H	Chihuahua	N W			I I I	IV												1,562	N A	N A	A	B	C		247,456.00	12.60	3,406,465	3,556,574	14.37	27	89.30
15	CH H	Chihuahua	N W			I I I	IV												1,562	N A	N A	A	B	C		247,456.00	12.60	3,406,465	3,556,574	14.37	27	89.30
16	CH H	Chihuahua	N W			I I I	IV												1,562	N A	N A	A	B	C		247,456.00	12.60	3,406,465	3,556,574	14.37	27	89.30
18	CH P	Chiapas	S W												XII I	XI V	X V		640	266	1		B	C		73,311.00	3.73	4,796,580	5,217,908	71.17	23	49.90
19	CH P	Chiapas	S W												XII I	XI V	X V		640	266	1		B	C		73,311.00	3.73	4,796,580	5,217,908	71.17	23	49.90
20	CH P	Chiapas	S W												XII I	XI V	X V		640	266	1		B	C		73,311.00	3.73	4,796,580	5,217,908	71.17	23	49.90
21	C M X	Ciudad de México	CS										X						2,240	N A	N A	A	B			1,494.60	0.08	8,851,080	8,918,653	5,967.25	33	89.40
22	C M X	Ciudad de México	CS										X						2,240	N A	N A	A	B			1,494.60	0.08	8,851,080	8,918,653	5,967.25	33	89.40

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SOCIODEMOGRAPHIC PANORAMA OF MEXICO 2015																	ECONOMICS	INTERCENSAL SURVEY INEGI 2015										PEACE INDEX MEXICO 2018			
SING SERVICES AVAILABILITY			TICS AVAILABILITY					EDUCATION										PEACE INDEX MEXICO 2018													
SEWER SYSTEM (%)	SANITARY SERVICE (%)	ELECTRICITY (%)	INTERNET (%)	PAY TV (%)	FLAT SCREEN TV (%)	COMPUTER (%)	CELLULAR PHONE (%)	LANDLINE (%)	NO SCHOOLING 15+ VOI (%)	BASIC EDUCATION 15+ VOI (%)	MEDIUM SUPERIOR EDUCATION 15+ VOI (%)	SUPERIOR EDUCATION 15+ VOI (%)	NOT SPECIFIED SCHOOLING 15+ VOI (%)	LITERACY 15-24 VOI (%)	LITERACY 25+ VOI (%)	ECONOMICALLY ACTIVE POPULATION 15+ VOI (%)	LITERACY (%)	SCHOOLING 15+ VOI (%)	DISPLACEMENTS TO OTHER STATE (%)	EDUCATION DISPLACEMENTS TO OTHER STATE OR COUNTRY (%)	EDUCATION DISPLACEMENTS TO OTHER MUNICIPALITY (%)	JOB DISPLACEMENTS TO OTHER STATE OR COUNTRY (%)	JOB DISPLACEMENTS TO OTHER MUNICIPALITY (%)	INCOME FROM ANOTHER COUNTRY (%)	PEACE LEVEL 2018 - Ranking	PEACE LEVEL 2018 - M-Index	POSITIVE PEACE INDEX 2018 - Ranking				
98.80	99.00	99.60	35.60	48.10	48.30	38.70	86.30	38.80	3.10	54.30	21.80	20.70	0.10	98.90	96.30	53.70	2.60	9.70	1.70	0.50	4.70	2.00	12.40	7.10	13.00	2.23	3.00	2			
98.80	99.00	99.60	35.60	48.10	48.30	38.70	86.30	38.80	3.10	54.30	21.80	20.70	0.10	98.90	96.30	53.70	2.60	9.70	1.70	0.50	4.70	2.00	12.40	7.10	13.00	2.23	3.00	2			
98.80	99.00	99.60	35.60	48.10	48.30	38.70	86.30	38.80	3.10	54.30	21.80	20.70	0.10	98.90	96.30	53.70	2.60	9.70	1.70	0.50	4.70	2.00	12.40	7.10	13.00	2.23	3.00	2			
98.80	99.00	99.60	35.60	48.10	48.30	38.70	86.30	38.80	3.10	54.30	21.80	20.70	0.10	98.90	96.30	53.70	2.60	9.70	1.70	0.50	4.70	2.00	12.40	7.10	13.00	2.23	3.00	2			
96.60	99.40	99.30	49.30	57.20	52.70	46.90	91.20	41.40	3.00	51.90	25.50	19.40	0.20	98.80	97.20	56.00	2.00	9.70	0.60	1.80	0.70	4.40	1.10	6.10	30.00	3.95	16.00	2			
96.60	99.40	99.30	49.30	57.20	52.70	46.90	91.20	41.40	3.00	51.90	25.50	19.40	0.20	98.80	97.20	56.00	2.00	9.70	0.60	1.80	0.70	4.40	1.10	6.10	30.00	3.95	16.00	2			
96.60	99.40	99.30	49.30	57.20	52.70	46.90	91.20	41.40	3.00	51.90	25.50	19.40	0.20	98.80	97.20	56.00	2.00	9.70	0.60	1.80	0.70	4.40	1.10	6.10	30.00	3.95	16.00	2			
96.40	98.80	98.40	43.50	62.20	46.10	42.80	92.70	37.60	3.30	48.00	27.40	21.10	0.20	98.80	96.20	58.30	2.50	9.80	1.80	0.30	0.40	0.40	0.90	2.10	32.00	4.55	10.00	2			
96.40	98.80	98.40	43.50	62.20	46.10	42.80	92.70	37.60	3.30	48.00	27.40	21.10	0.20	98.80	96.20	58.30	2.50	9.80	1.80	0.30	0.40	0.40	0.90	2.10	32.00	4.55	10.00	2			
96.40	98.80	98.40	43.50	62.20	46.10	42.80	92.70	37.60	3.30	48.00	27.40	21.10	0.20	98.80	96.20	58.30	2.50	9.80	1.80	0.30	0.40	0.40	0.90	2.10	32.00	4.55	10.00	2			
92.00	95.10	98.10	29.50	63.30	39.90	29.60	79.60	23.60	7.60	51.70	20.30	20.30	0.10	98.30	91.00	51.70	6.60	9.10	1.50	0.90	2.30	1.20	4.70	1.90	3.00	1.48	5.00	2			
92.00	95.10	98.10	29.50	63.30	39.90	29.60	79.60	23.60	7.60	51.70	20.30	20.30	0.10	98.30	91.00	51.70	6.60	9.10	1.50	0.90	2.30	1.20	4.70	1.90	3.00	1.48	5.00	2			
92.00	95.10	98.10	29.50	63.30	39.90	29.60	79.60	23.60	7.60	51.70	20.30	20.30	0.10	98.30	91.00	51.70	6.60	9.10	1.50	0.90	2.30	1.20	4.70	1.90	3.00	1.48	5.00	2			
93.50	96.40	96.40	36.80	41.10	49.00	38.30	85.70	37.90	3.60	54.10	21.40	18.80	2.10	96.60	94.50	51.70	2.60	9.40	2.00	1.10	1.60	1.30	2.80	5.60	26.00	2.98	19.00	3			
93.50	96.40	96.40	36.80	41.10	49.00	38.30	85.70	37.90	3.60	54.10	21.40	18.80	2.10	96.60	94.50	51.70	2.60	9.40	2.00	1.10	1.60	1.30	2.80	5.60	26.00	2.98	19.00	3			
93.50	96.40	96.40	36.80	41.10	49.00	38.30	85.70	37.90	3.60	54.10	21.40	18.80	2.10	96.60	94.50	51.70	2.60	9.40	2.00	1.10	1.60	1.30	2.80	5.60	26.00	2.98	19.00	3			
88.60	96.50	97.50	11.10	26.10	21.40	13.90	59.50	11.80	14.60	57.20	16.40	11.70	0.10	95.50	79.60	44.50	14.80	7.20	2.30	0.30	3.30	0.80	7.10	2.20	5.00	1.57	31.00	3			
88.60	96.50	97.50	11.10	26.10	21.40	13.90	59.50	11.80	14.60	57.20	16.40	11.70	0.10	95.50	79.60	44.50	14.80	7.20	2.30	0.30	3.30	0.80	7.10	2.20	5.00	1.57	31.00	3			
88.60	96.50	97.50	11.10	26.10	21.40	13.90	59.50	11.80	14.60	57.20	16.40	11.70	0.10	95.50	79.60	44.50	14.80	7.20	2.30	0.30	3.30	0.80	7.10	2.20	5.00	1.57	31.00	3			
98.80	99.40	99.80	58.00	44.10	61.80	54.70	85.50	69.40	2.00	38.90	26.60	32.10	0.40	99.20	97.40	56.00	1.50	11.10	3.60	2.60	24.90	4.90	40.50	1.70	22.00	2.69	15.00	2			
98.80	99.40	99.80	58.00	44.10	61.80	54.70	85.50	69.40	2.00	38.90	26.60	32.10	0.40	99.20	97.40	56.00	1.50	11.10	3.60	2.60	24.90	4.90	40.50	1.70	22.00	2.69	15.00	2			
98.80	99.40	99.80	58.00	44.10	61.80	54.70	85.50	69.40	2.00	38.90	26.60	32.10	0.40	99.20	97.40	56.00	1.50	11.10	3.60	2.60	24.90	4.90	40.50	1.70	22.00	2.69	15.00	2			
96.60	98.80	99.50	37.30	45.60	51.50	35.90	85.10	39.10	2.50	54.10	21.40	21.50	0.50	98.60	96.60	51.40	2.00	9.80	1.80	0.90	3.80	2.90	13.60	3.70	4.00	1.51	8.00	2			
96.60	98.80	99.50	37.30	45.60	51.50	35.90	85.10	39.10	2.50	54.10	21.40	21.50	0.50	98.60	96.60	51.40	2.00	9.80	1.80	0.90	3.80	2.90	13.60	3.70	4.00	1.51	8.00	2			
96.60	98.80	99.50	37.30	45.60	51.50	35.90	85.10	39.10	2.50	54.10	21.40	21.50	0.50	98.60	96.60	51.40	2.00	9.80	1.80	0.90	3.80	2.90	13.60	3.70	4.00	1.51	8.00	2			
98.90	99.20	99.40	38.50	48.60	55.10	38.30	85.40	39.20	4.70	51.50	21.70	22.00	0.10	98.50	94.60	56.90	3.90	9.50	3.40	0.60	10.60	1.70	16.60	7.10	29.00	3.64	11.00	2			
98.90	99.20	99.40	38.50	48.60	55.10	38.30	85.40	39.20	4.70	51.50	21.70	22.00	0.10	98.50	94.60	56.90	3.90	9.50	3.40	0.60	10.60	1.70	16.60	7.10	29.00	3.64	11.00	2			
98.90	99.20	99.40	38.50	48.60	55.10	38.30	85.40	39.20	4.70	51.50	21.70	22.00	0.10	98.50	94.60	56.90	3.90	9.50	3.40	0.60	10.60	1.70	16.60	7.10	29.00	3.64	11.00	2			
92.40	95.90	97.70	27.10	39.20	41.80	29.70	79.20	33.10	3.40	59.50	20.20	16.70	0.20	98.60	95.40	45.90	3.20	9.10	1.40	1.80	3.80	5.00	8.20	10.00	11.00	2.04	7.00	2			
92.40	95.90	97.70	27.10	39.20	41.80	29.70	79.20	33.10	3.40	59.50	20.20	16.70	0.20	98.60	95.40	45.90	3.20	9.10	1.40	1.80	3.80	5.00	8.20	10.00	11.00	2.04	7.00	2			
92.40	95.90	97.70	27.10	39.20	41.80	29.70	79.20	33.10	3.40	59.50	20.20	16.70	0.20	98.60	95.40	45.90	3.20	9.10	1.40	1.80	3.80	5.00	8.20	10.00	11.00	2.04	7.00	2			
83.30	87.10	97.30	17.80	31.30	25.80	17.80	60.70	27.90	13.20	54.00	19.60	12.90	0.30	97.10	81.20	44.30	13.60	7.70	1.80	0.60	2.60	1.30	4.80	9.40	31.00	4.15	32.00	3			
83.30	87.10	97.30	17.80	31.30	25.80	17.80	60.70	27.90	13.20	54.00	19.60	12.90	0.30	97.10	81.20	44.30	13.60	7.70	1.80	0.60	2.60	1.30	4.80	9.40	31.00	4.15	32.00	3			
83.30	87.10	97.30	17.80	31.30	25.80	17.80	60.70	27.90	13.20	54.00	19.60	12.90	0.30	97.10	81.20	44.30	13.60	7.70	1.80	0.60	2.60	1.30	4.80	9.40	31.00	4.15	32.00	3			
93.90	95.80	99.10	26.70	36.20	57.50	27.30	75.50	34.50	7.70	60.60	18.40	13.20	0.10	98.70	91.00	50.00	6.30	8.30	0.90	0.70	3.30	2.40	9.10	9.40	19.00	2.54	18.00	2			
93.90	95.80	99.10																													

ITY INDEX 2016			NOM			NAME	AREA	POPULATION				STATISTICAL AND GEOGRAPHIC YEARBOOK OF MEXICO 2017	INTERCENSAL SURVEY INEGI 2015	INDEX: CIUDADES MÁS HABITABLES DE MÉXICO 2012									
MUNICIPALITY QUALITY OF LIFE 2016 (%)	MUNICIPALITY SOCIAL INCLUSION AND EQUITY 2016 (%)	MUNICIPALITY SUSTAINABILITY 2016 (%)	METROPOLITAN ZONE	CITY CLASSIFICATION	NOM CITY	CITY	CITY AREA (km2)	CITY POPULATION 2010 (inhabitants) INEGI	CITY POPULATION 2014 (inhabitants) OCEC	CITY POPULATION 2015 (inhabitants) ONU	CITY DENSITY 2015 (inhabitants/km2)	CITY ALTITUDE	POPULATION GROWTH RATE 2015	HCALV - Quality of Life index (%) 2012	EDUCATION SATISFACTION (%) 2012	SENSE OF SAFETY - Perennial (%) 2012	ISACS - General Index (%) 2012	MUNICIPAL SPORT AND CULTURAL EVENTS (%) 2012	TOURISM PROMOTION (%) 2012	PUBLIC SERVICES (%) 2012	Garbage recollection 2012	Lighting 2012	Green Areas 2012
69.70	72.50	34.80	MZ-1	B	CC	Aguascalientes	199.00	932,369	1,055,539	1,044,049	5,246.48	1,878	2.20	77.00	32.00	11.60	HS	45.10	36.90	41.36	56.30	45.00	46.60
				D	C	Calvillo	931.26	19,742				1,632	1.11										
				D	C	Rincón de Romos	372.90	28,529				1,952	1.15										
				D	C	Real de Asientos	547.74	3,928				2,168											
58.00	72.70	34.70	MZ-2	A	M	Tijuana	414.00	1,751,430	1,793,265	1,840,710	4,446.16	20	1.56	80.00	29.00	8.90	HS	40.10	32.20	31.78	49.80	34.00	28.80
59.40	74.20	77.70	MZ-4	B	CC	Mexicali	231.00	936,826	1,041,837	988,417	4,278.86	3	1.30	79.00	37.00	-15.40	HS	34.20	29.80	33.86	59.90	30.80	26.40
			MZ-4	C	M	Ensenada	51,952.30	466,814	531,683	486,639	9.37	20	1.62										
64.20	72.80	46.90	MZ-3	C	CC	La Paz	27.00	251,871	278,868	272,711	10,100.41	10	2.60	73.00	34.00	13.50	MS	33.00	34.60	22.80	48.10	22.70	18.90
				D	C	San José del Cabo	3,451.66	69,788				16	5.02										
				D	C	Cabo San Lucas	3,750.90	68,463				43	2.57										
71.00	70.90	28.20	MZ-3	C	CC	Campeche (San Francisco de)		259,005	278,897	283,025		3	2.00	64.00	25.00	31.40	LS	25.20	26.30	10.74	14.00	11.60	12.70
				C	M	Ciudad del Carmen	9,720.00	169,466	245,678			0	1.52										
				D	C	Champotón	6,088.00	30,881				10	2.23										
62.50	71.70	45.90	MZ-3	B	M	Ciudad Juárez	363.00	1,332,131	1,417,787	1,391,180	3,832.45	1,120	0.74	76.00	31.00	-23.00	LS	40.40	12.00	20.70	50.80	15.00	18.20
63.80	75.10	47.10	MZ-2	B	CC	Chihuahua	246.00	852,533	905,079	918,339	3,733.09	1,561	1.00	78.00	37.00	21.00	MS	55.50	35.40	29.06	49.80	23.70	30.70
73.30	70.30	52.10		C	M	Ciudad Cuauhtémoc		114,007				2,062	1.65										
57.90	64.60	42.80	MZ-1	B	CC	Tuxtla Gutiérrez	140.00	738,261	826,276	814,436	5,817.40	640	1.80	69.00	29.00	6.90	LS	27.70	42.20	18.04	32.40	13.10	21.50
52.90	69.10	63.90	MZ-4	C	M	Tapachula	303.00	320,451	429,768	348,156	1,149.03	200	1.51										
				C	M	San Cristóbal de las Casas	484.00	158,027	214,215			2,121	1.35										
			MZ-1	A	CC	Ciudad de México	2,370.00	20,116,842	20,404,259	20,892,724	8,815.50	2,240	3.00										
61.60	70.20	35.00		A	C	Iztapalapa	116.13	1,815,786		1,827,868	15,739.84	2,239		65.00	20.00	-29.40	LS	25.60	14.00	20.94	35.60	24.90	21.70
71.00	76.20	28.60		A	C	Gustavo A. Madero	94.07	1,185,772				2,230											
77.80	75.20	27.00		B	C	Álvaro Obregón	96.17	727,034				3,820											
63.70	73.60	28.70	MZ-1	B	CC	Saltillo	272.00	823,128	797,444	923,636	3,395.72	1,700	1.60	76.00	39.00	-24.40	HS	59.60	36.90	43.28	65.10	36.30	46.60
66.30	71.10	45.50		B	M	Torreón	246.00	608,836	1,348,608			1,120		61.00	30.00	-63.80	LS	33.20	16.60	20.56	40.40	15.80	23.50
			MZ-1	C	M	Monclova	1,480.00	339,462	367,307	363,753	245.78	520	1.06										
68.70	73.30	38.10		C	M	Manzanillo	1,578.40	130,035				13	1.95										
73.30	70.30	52.10	MZ-1	C	CC	Colima	1,668.20	334,240	371,308	359,392	215.44	500	2.00	76.00	40.00	-6.30	HS	40.20	34.80	37.30	65.30	35.60	42.20
63.80	70.70	41.40	MZ-1	C	C	Tecmán	834.77	85,689		152,790	183.03	33	1.73										
60.20	71.80	54.70	MZ-3	B	CC	Durango (Victoria de)	127.00	582,267	625,895	654,876	5,156.50	1,860	1.60	77.00	38.00	-19.90	HS	51.90	37.00	34.94	43.00	45.00	46.30
61.10	68.20	34.00		C	M	Gómez Palacio	844.07	257,352				1,150											
				C	C	Ciudad Lerdo	1,868.80	79,669				1,132											
51.20	60.60	33.30	MZ-3	B	M	Acapulco de Juárez	119.00	863,431	827,942	886,975	7,453.57	20	0.80										
51.70	53.60	38.70	MZ-2	C	CC	Chilpancingo de los Bravo	2,338.40	287,875	265,232	324,422	138.74	1,250	0.90	69.00	19.00	-40.40	LS	23.40	17.30	17.14	18.30	17.20	17.80
				C	M	Iguala	567.10	118,468	148,100			730	0.25										
67.50	71.40	46.40	MZ-3	A	M	León de los Aldama	231.00	1,609,504	1,775,758	1,768,193	7,654.52	1,800	0.95										
59.90	71.10	47.90		C	M	Irapuato	845.16	400,458	575,778	416,000	492.21	1,730	0.68										
64.10	68.80	37.00	MZ-2	B	C	Celaya	553.23	340,387	653,928	731,667	1,322.54	1,750	0.86										

INDEX: CIUDADES MÁS HABITABLES DE MÉXICO 2016											INDEX: CIUDADES MÁS HABITABLES DE MÉXICO 2018																		CIUDADES MÁS PRÓSPERAS DE MÉXICO 2016							
OHE SION	ISACS - Index of Satisfaction with Services										QUALITY OF LIFE					SOCIAL COHESION			ISACS - Index of Satisfaction with Services										AGGLOMERATIONS 2016							
SENSE OF SAFETY (N) 2016	ISACS - General Index (N) 2016	MUNICIPAL SPORT AND CULTURAL EVENTS (N) 2016	TOURISM PROMOTION (N) 2016	PUBLIC SERVICES (N) 2016	Garbage resolution 2016	Lighting 2016	Green Areas 2016	Sewer system 2016	Paving 2016	PUBLIC HOSPITALS MAINTENANCE (N) 2016	INCOV - Quality of life index (N) 2018	HAPPINESS (N) 2018	EDUCATION SATISFACTION (N) 2018	JOB SATISFACTION (N) 2018	ECONOMIC SITUATION (N) 2018	SOCIAL COHESION - General index (N) 2018	INTEREST IN POLITICS - Differential (N) 2018	SENSE OF SECURITY - Differential (N) 2018	ISACS - General Index (N) 2018	MUNICIPAL SPORT AND CULTURAL EVENTS (N) 2018	TOURISM PROMOTION (N) 2018	PUBLIC SERVICES (N) 2018	Garbage resolution 2018	Lighting 2018	Green Areas 2018	Sewer system 2018	Paving 2018	PUBLIC HOSPITALS MAINTENANCE (N) 2018	AGGLOMERATIONS 2016 NOM	PI 2016 - Urban Prosperity Index (N)	PRODUCTIVITY 2016 (N)	INFRASTRUCTURE 2016 (N)	QUALITY OF LIFE 2016 (N)	SOCIAL INCLUSION AND EQUITY 2016 (N)	SUSTAINABILITY 2016 (N)	
55.00	73.90	74.00	76.00	75.40	83.00	80.00	76.00	69.00	69.00	69.00	64.42	83.00	80.00	78.00	67.00	57.60	1.00	-9.00	47.39	76.00	73.00	72.40	77.00	75.00	73.00	71.00	66.00	68.00	G A	51.20	59.50	63.30	67.80	72.40	33.30	
																														SA						
																														SA						
																														SA						
47.50	63.10	71.00	72.00	67.20	75.00	66.00	68.00	67.00	60.00	69.00	65.31	84.00	75.00	77.00	69.00	57.10	7.00	-36.00	36.09	70.00	71.00	66.00	74.00	63.00	65.00	67.00	61.00	65.00	G A	57.10	62.00	56.70	57.90	72.50	39.90	
47.50	66.60	70.00	70.00	69.00	81.00	70.00	67.00	66.00	61.00	71.00	68.46	84.00	80.00	81.00	74.00	57.30	-1.00	-13.00	43.06	73.00	71.00	71.80	82.00	72.00	67.00	74.00	64.00	73.00	G A	56.80	57.10	57.90	59.40	74.20	77.70	
																														SA						
47.50	70.10	72.00	78.00	71.20	81.00	71.00	69.00	69.00	66.00	72.00	68.60	82.00	79.00	76.00	70.00	60.80	14.50	-17.00	43.15	71.00	79.00	70.60	81.00	71.00	69.00	69.00	63.00	72.00	SA	63.60	57.30	74.10	64.20	72.80	46.90	
																														SA						
																														SA						
65.00	66.30	76.00	75.00	69.40	76.00	70.00	69.00	67.00	65.00	69.00	62.92	78.00	79.00	73.00	62.00	57.50	-3.00	22.00	42.76	75.00	77.00	68.80	78.00	68.00	69.00	66.00	63.00	68.00	SA	51.50	54.80	70.70	71.00	70.90	28.20	
47.50	65.30	74.00	69.00	70.40	74.00	71.00	74.00	65.00	68.00	65.00	62.61	78.00	79.00	72.00	60.00	56.50	2.00	-50.00	43.89	72.00	68.00	69.00	69.00	69.00	73.00	66.00	68.00	63.00	SA							
																														SA						
52.50	56.80	69.00	67.00	64.80	79.00	63.00	64.00	62.00	56.00	67.00	64.33	83.00	76.00	78.00	70.00	54.90	-8.50	-35.00	39.34	73.00	66.00	66.80	78.00	63.00	68.00	63.00	62.00	68.00	G A	51.00	60.40	57.30	62.50	71.70	45.90	
50.00	62.50	71.00	71.00	68.20	77.00	70.00	67.00	66.00	61.00	67.00	65.47	82.00	79.00	76.00	69.00	59.20	9.00	-13.50	47.63	77.00	72.00	72.00	80.00	73.00	71.00	71.00	65.00	68.00	M A	54.20	58.80	65.80	62.30	75.90	46.90	
																														SA	49.70	55.70	62.00	57.30	73.40	37.90
47.50	48.90	65.00	67.00	61.40	68.00	62.00	64.00	57.00	56.00	60.00	63.81	81.00	81.00	74.00	66.00	56.50	13.00	-33.00	24.69	64.00	64.00	59.60	66.00	59.00	61.00	56.00	56.00	59.00	M A	47.40	57.50	58.30	54.00	64.60	39.40	
42.50	49.50	65.00	67.00	60.40	59.00	61.00	64.00	60.00	58.00	60.00	65.32	79.00	77.00	78.00	64.00	54.60	-22.00	-54.50	24.98	62.00	65.00	59.60	59.00	60.00	64.00	58.00	57.00	60.00	SA	55.80	51.00	63.70	52.90	69.40	63.40	
																														SA						
42.50	56.00	68.00	66.20	66.20	72.00	69.00	67.00	63.00	60.00	67.00	67.00	81.00	78.00	75.00	66.00	-	17.00	-	67.00	63.00	66.20	72.00	68.00	66.00	64.00	61.00	66.00	66.00	G A	55.30	65.20	66.90	68.30	73.20	39.40	
37.50	53.80	67.00	65.40	64.40	72.00	66.00	64.00	62.00	58.00	67.00	61.20	80.00	75.00	75.00	66.00	53.90	16.90	-47.80	30.86	65.00	59.00	62.20	70.00	62.00	62.00	60.00	57.00	64.00	G A							
37.50	55.90	67.00	65.00	66.20	73.00	68.00	67.00	63.00	60.00	67.00	61.44	76.00	71.00	71.00	63.00	54.60	17.70	-50.60	34.46	67.00	62.00	65.60	73.00	67.00	65.00	62.00	61.00	68.00	G A							
42.50	54.70	66.00	66.00	66.00	72.00	69.00	67.00	63.00	59.00	67.00	64.82	76.00	75.00	75.00	67.00	58.10	30.40	-37.10	35.99	65.00	63.00	67.60	75.00	71.00	66.00	65.00	61.00	64.00	M A							
57.50	79.00	79.00	77.00	76.20	86.00	79.00	76.00	73.00	67.00	73.00	69.28	83.00	80.00	83.00	74.00	59.10	20.00	-8.00	46.37	72.00	72.00	75.00	85.00	75.00	72.00	73.00	70.00	66.00	M A	49.40	63.80	54.60	60.60	74.00	30.80	
50.00	62.10	74.00	67.00	68.00	77.00	74.00	69.00	61.00	59.00	69.00	65.84	83.00	78.00	79.00	72.00	59.20	20.50	0.50	42.13	71.00	67.00	68.80	76.00	76.00	69.00	61.00	62.00	66.00	G A	53.30	56.60	62.20	64.20	70.00	41.40	
																														SA						
50.00	71.80	73.00	76.00	72.00	76.00	75.00	73.00	69.00	67.00	71.00	65.80	86.00	83.00	80.00	66.00	55.60	11.00	-21.00	48.86	74.00	74.00	74.40	81.00	77.00	73.00	71.00	70.00	70.00	SA	54.20	60.40	61.10	68.70	73.30	38.10	
47.50	77.80	79.00	77.00	74.80	85.00	74.00	75.00	73.00	67.00	73.00	65.00	80.00	79.00	78.00	66.00	59.90	25.00	-15.00	48.51	75.00	75.00	73.00	84.00	70.00	71.00	74.00	66.00	69.00	SA	58.30	53.60	69.70	71.60	74.50	49.80	
																						0.0							SA	51.52.64.63.66.39.						

[illegible]

N O M		N A M E	LOCATION	STATISTIC AND GEOGRAPHIC YEARBOOK OF MEXICO 2017																	A R E A	POP U L A T I O N		AGE	H O U							
				PHYSIOGRAPHIC PROVINCES																												
				L O C A T I O N																												
NUMBER	ABBREVIATION		REGION	I. BAJA CALIFORNIA PENINSULA	II. SONORAN PLAIN	III. SIERRA MADRE OCCIDENTAL	IV. NORTHERN SIERRAS AND PLAINS	V. SIERRA MADRE ORIENTAL	VI. NORTH AMERICA GREAT PLAINS	VII. PACIFIC COASTAL PLAIN	VIII. NORTH GULF COASTAL PLAIN	IX. MESA DEL CENTRO	X. NEOVOLCANIC ARCS	XI. YUCATAN PENINSULA	XII. SIERRA MADRE DEL SUR	XIII. SOUTH GULF COASTAL PLAIN	XIV. CHIRASANO GUATEMALA	XV. CENTRO AMERICAN MOUNTAIN	ALTITUDE	COASTAL LINE	ENABLED SEAPORTS	A. DRY WEATHER	B. MILD WEATHER	C. WARM WEATHER	D. COLD WEATHER	STATE AREA (km²)	STATE AREA (%)	STATE POPULATION 2010 (millions)	STATE POPULATION 2015 (millions)	STATE DENSITY 2015 (inhabitants/km²)	MEDIAN AGE (years)	POTABLE WATER (%)
60	MOR	Morelos	CS										X		XII				1,511	N A	N A		B	C	D	4,880.00	0.25	1,777,227	1,903,811	390.13	28	61.50
61	MOR	Morelos	CS										X		XII				1,511	N A	N A		B	C	D	4,880.00	0.25	1,777,227	1,903,811	390.13	28	61.50
63	NA Y	Nayarit	W			II				VII			X		XII				920	296	5	A	B	C		27,858.00	1.42	1,084,979	1,181,050	42.40	27	72.10
64	NA Y	Nayarit	W			II				VII			X		XII				920	296	5	A	B	C		27,858.00	1.42	1,084,979	1,181,050	42.40	27	72.10
65	NA Y	Nayarit	W			II				VII			X		XII				920	296	5	A	B	C		27,858.00	1.42	1,084,979	1,181,050	42.40	27	72.10
68	NLE	Nuevo León	NE				V	VI			VII								530	N A	N A	A	B			64,156.30	3.27	4,653,458	5,119,504	79.80	28	95.30
69	NLE	Nuevo León	NE				V	VI			VII								530	N A	N A	A	B			64,156.30	3.27	4,653,458	5,119,504	79.80	28	95.30
70	NLE	Nuevo León	NE				V	VI			VII								530	N A	N A	A	B			64,156.30	3.27	4,653,458	5,119,504	79.80	28	95.30
72	OAX	Oaxaca	S W										X		XII	XIII	XI V	XV	1,560	568	4	A	B	C		93,757.40	4.77	3,801,962	3,967,889	42.32	26	38.80
73	OAX	Oaxaca	S W										X		XII	XIII	XI V	XV	1,560	568	4	A	B	C		93,757.40	4.77	3,801,962	3,967,889	42.32	26	38.80
74	OAX	Oaxaca	S W										X		XII	XIII	XI V	XV	1,560	568	4	A	B	C		93,757.40	4.77	3,801,962	3,967,889	42.32	26	38.80
75	PU E	Puebla	E				V						X		XII				2,135	N A	N A	A	B	C	D	34,309.10	1.75	5,779,829	6,168,883	179.80	26	56.50
76	PU E	Puebla	E				V						X		XII				2,135	N A	N A	A	B	C	D	34,309.10	1.75	5,779,829	6,168,883	179.80	26	56.50
77	PU E	Puebla	E				V						X		XII				2,135	N A	N A	A	B	C	D	34,309.10	1.75	5,779,829	6,168,883	179.80	26	56.50
79	QU E	Querétaro	CN				V					I X	X						1,822	N A	N A	A	B	C		11,701.00	0.60	1,827,937	2,038,372	174.20	26	80.40
80	QU E	Querétaro	CN				V					I X	X						1,822	N A	N A	A	B	C		11,701.00	0.60	1,827,937	2,038,372	174.20	26	80.40
81	QU E	Querétaro	CN				V					I X	X						1,822	N A	N A	A	B	C		11,701.00	0.60	1,827,937	2,038,372	174.20	26	80.40
83	RO O	Quintana Roo	SE											X I					10	1,176	14			C		44,706.00	2.28	1,325,578	1,501,562	33.59	26	82.00
84	RO O	Quintana Roo	SE											X I					10	1,176	14			C		44,706.00	2.28	1,325,578	1,501,562	33.59	26	82.00
85	RO O	Quintana Roo	SE											X I					10	1,176	14			C		44,706.00	2.28	1,325,578	1,501,562	33.59	26	82.00
86	SIN	Sinaloa	N W			II				VII									60	622	6	A	B	C		57,365.40	2.92	2,767,761	2,966,321	51.71	28	80.90
87	SIN	Sinaloa	N W			II				VII									60	622	6	A	B	C		57,365.40	2.92	2,767,761	2,966,321	51.71	28	80.90
88	SIN	Sinaloa	N W			II				VII									60	622	6	A	B	C		57,365.40	2.92	2,767,761	2,966,321	51.71	28	80.90
89	SLP	San Luis Potosí	CN				V					I X							1,861	N A	N A	A	B	C		61,138.00	3.11	2,585,518	2,717,820	44.45	27	64.50
90	SLP	San Luis Potosí	CN				V					I X							1,861	N A	N A	A	B	C		61,138.00	3.11	2,585,518	2,717,820	44.45	27	64.50

91	SLP	San Luis Potosí	CN					V				I X					1,86 1	N A	N A	A	B	C		61,138 .00	3.1 1	2,585, 518	2,717, 820	44. 45	27	64. 50		
94	SO N	Sonora	N W		II	I I I	IV			VII							210	1, 20 9	7	A	B	C		179,35 5.10	9.1 3	2,662, 480	2,850, 330	15. 89	28	86. 00		
95	SO N	Sonora	N W		II	I I I	IV			VII							210	1, 20 9	7	A	B	C		179,35 5.10	9.1 3	2,662, 480	2,850, 330	15. 89	28	86. 00		
96	SO N	Sonora	N W		II	I I I	IV			VII							210	1, 20 9	7	A	B	C		179,35 5.10	9.1 3	2,662, 480	2,850, 330	15. 89	28	86. 00		
98	TA B	Tabasco	SE											XIII	XI V		20	2 0 0	5			C		24,731 .40	1.2 6	2,238, 603	2,395, 272	96. 85	27	65. 80		
99	TA B	Tabasco	SE											XIII	XI V		20	2 0 0	5			C		24,731 .40	1.2 6	2,238, 603	2,395, 272	96. 85	27	65. 80		
10 0	TA B	Tabasco	SE											XIII	XI V		20	2 0 0	5			C		24,731 .40	1.2 6	2,238, 603	2,395, 272	96. 85	27	65. 80		
10 1	TA M	Tamaulipas	NE					V	VI		VII I						320	4 3 3	4	A	B	C		80,250 .00	4.0 9	3,268, 554	3,441, 698	42. 89	28	84. 70		
10 2	TA M	Tamaulipas	NE					V	VI		VII I						320	4 3 3	4	A	B	C		80,250 .00	4.0 9	3,268, 554	3,441, 698	42. 89	28	84. 70		
10 3	TA M	Tamaulipas	NE					V	VI		VII I						320	4 3 3	4	A	B	C		80,250 .00	4.0 9	3,268, 554	3,441, 698	42. 89	28	84. 70		
10 6	TL A	Tlaxcala	E										X				2,24 2	N A	N A	A	B			4,018. 00	0.2 0	1,169, 936	1,272, 847	316 .79	28	84. 70		
10 7	TL A	Tlaxcala	E										X				2,24 2	N A	N A	A	B			4,018. 00	0.2 0	1,169, 936	1,272, 847	316 .79	28	84. 70		
10 8	TL A	Tlaxcala	E										X				2,24 2	N A	N A	A	B			4,018. 00	0.2 0	1,169, 936	1,272, 847	316 .79	28	84. 70		
10 9	TL A	Tlaxcala	E										X				2,24 2	N A	N A	A	B			4,018. 00	0.2 0	1,169, 936	1,272, 847	31 6.7 9	28	84. 70		
11 0	VE R	Veracruz de Ignacio de la Llave	E					V			VII I		X		XII	XIII	XI V	XV	1,42 0	7 2 0	1 0	A	B	C	D	71,827 .00	3.6 6	7,643, 194	8,112, 505	112 .95	29	56. 30
11 1	VE R	Veracruz de Ignacio de la Llave	E					V			VII I		X		XII	XIII	XI V	XV	1,42 0	7 2 0	1 0	A	B	C	D	71,827 .00	3.6 6	7,643, 194	8,112, 505	112 .95	29	56. 30
11 2	VE R	Veracruz de Ignacio de la Llave	E					V			VII I		X		XII	XIII	XI V	XV	1,42 0	7 2 0	1 0	A	B	C	D	71,827 .00	3.6 6	7,643, 194	8,112, 505	112 .95	29	56. 30
11 3	YU C	Yucatán	SE										X I				9	3 4 0	1 2	A		C		39,525 .00	2.0 1	1,955, 577	2,097, 175	53. 06	28	75. 10		
11 4	YU C	Yucatán	SE										X I				9	3 4 0	1 2	A		C		39,525 .00	2.0 1	1,955, 577	2,097, 175	53. 06	28	75. 10		
11 5	YU C	Yucatán	SE										X I				9	3 4 0	1 2	A		C		39,525 .00	2.0 1	1,955, 577	2,097, 175	53. 06	28	75. 10		
11 6	YU C	Yucatán	SE										X I				9	3 4 0	12 .0 0	A		C		39,525 .00	2.0 1	1,955, 577	2,097, 175	53 .0 6	28	75. 10		
11 7	YU C	Yucatán	SE										X I				9	3 4 0	12 .0 0	A		C		39,525 .00	2.0 1	1,955, 577	2,097, 175	53 .0 6	28	75. 10		
11 8	ZA C	Zacatecas	CN			I I I		V				I X	X				2,44 1	N A	N A	A	B	C		75,285 .00	3.8 3	1,490, 668	1,579, 209	20. 98	26	76. 30		
11 9	ZA C	Zacatecas	CN			I I I		V				I X	X				2,44 1	N A	N A	A	B	C		75,285 .00	3.8 3	1,490, 668	1,579, 209	20. 98	26	76. 30		
12 0	ZA C	Zacatecas	CN			I I I		V				I X	X				2,44 1	N A	N A	A	B	C		75,285 .00	3.8 3	1,490, 668	1,579, 209	20 .9 8	26	76. 30		
12 1	ZA C	Zacatecas	CN			I I I		V				I X	X				2,44 1	N A	N A	A	B	C		75,285 .00	3.8 3	1,490, 668	1,579, 209	20 .9 8	26	76. 30		

SOCIODEMOGRAPHIC PANORAMA OF MEXICO 2015																ECONOMICS	INTERCENSAL SURVEY INEGI 2015										PEACE INDEX MEXICO 2018		
SING SERVICES AVAILABILITY			TICS AVAILABILITY						EDUCATION								PEACE INDEX MEXICO 2018												
SEWER SYSTEM (N)	SANITARY SERVICE (N)	ELECTRICITY (N)	INTERNET (N)	PAY TV (N)	FLAT SCREEN TV (N)	COMPUTER (N)	CELLULAR PHONE (N)	LANDLINE (N)	NO SCHOOLING 15+ Y/O (N)	BASIC EDUCATION 15+ Y/O (N)	MEDIUM SUPERIOR EDUCATION 15+ Y/O (N)	SUPERIOR EDUCATION 15+ Y/O (N)	NOT SPECIFIED SCHOOLING 15+ Y/O (N)	LITERACY 15-24 Y/O (N)	LITERACY 25+ Y/O (N)	ECONOMICALLY ACTIVE POPULATION 15+ Y/O (N)	ILLITERACY (N)	SCHOOLING 15+ Y/O (N)2	REPLACEMENTS TO OTHER STATE (N)	EDUCATION DISPLACEMENTS TO OTHER STATE OR COUNTRY (N population)	EDUCATION DISPLACEMENTS TO OTHER MUNICIPALITY (N population)	JOB DISPLACEMENTS TO OTHER STATE OR COUNTRY (N population)	JOB DISPLACEMENTS TO OTHER MUNICIPALITY (N population)	INCOME FROM ANOTHER COUNTRY (N household)	PEACE LEVEL 2018 - Ranking	PEACE LEVEL 2018 - Marks	POSITIVE PEACE INDEX 2018 - Ranking		
97.20	98.20	99.30	35.30	34.90	37.50	31.90	79.00	43.10	5.80	53.00	22.80	18.10	0.30	98.50	92.90	53.00	5.00	9.20	3.90	1.30	17.10	3.00	22.80	6.80	24.00	2.89	28.00	3	
97.20	98.20	99.30	35.30	34.90	37.50	31.90	79.00	43.10	5.80	53.00	22.80	18.10	0.30	98.50	92.90	53.00	5.00	9.20	3.90	1.30	17.10	3.00	22.80	6.80	24.00	2.89	28.00	3	
95.10	95.60	97.90	30.60	44.30	38.10	31.10	80.50	32.80	5.50	53.40	22.20	18.70	0.20	98.50	93.00	51.30	5.00	9.10	2.80	1.50	6.10	3.40	9.10	10.10	8.00	1.97	17.00	2	
95.10	95.60	97.90	30.60	44.30	38.10	31.10	80.50	32.80	5.50	53.40	22.20	18.70	0.20	98.50	93.00	51.30	5.00	9.10	2.80	1.50	6.10	3.40	9.10	10.10	8.00	1.97	17.00	2	
95.10	95.60	97.90	30.60	44.30	38.10	31.10	80.50	32.80	5.50	53.40	22.20	18.70	0.20	98.50	93.00	51.30	5.00	9.10	2.80	1.50	6.10	3.40	9.10	10.10	8.00	1.97	17.00	2	
97.60	99.30	99.70	50.30	50.80	66.40	45.10	87.40	51.20	2.20	50.40	22.80	24.20	0.40	98.60	97.00	53.00	1.60	10.20	9.40	0.20	17.60	0.80	40.40	2.30	21.00	2.58	2.00	2	
97.60	99.30	99.70	50.30	50.80	66.40	45.10	87.40	51.20	2.20	50.40	22.80	24.20	0.40	98.60	97.00	53.00	1.60	10.20	9.40	0.20	17.60	0.80	40.40	2.30	21.00	2.58	2.00	2	
97.60	99.30	99.70	50.30	50.80	66.40	45.10	87.40	51.20	2.20	50.40	22.80	24.20	0.40	98.60	97.00	53.00	1.60	10.20	9.40	0.20	17.60	0.80	40.40	2.30	21.00	2.58	2.00	2	
74.30	95.00	95.00	13.60	22.60	21.30	16.20	54.20	19.10	11.80	58.60	16.10	11.60	1.90	95.90	80.20	42.20	13.30	7.50	3.40	0.90	10.00	1.10	16.50	6.70	12.00	2.10	29.00	3	
74.30	95.00	95.00	13.60	22.60	21.30	16.20	54.20	19.10	11.80	58.60	16.10	11.60	1.90	95.90	80.20	42.20	13.30	7.50	3.40	0.90	10.00	1.10	16.50	6.70	12.00	2.10	29.00	3	
74.30	95.00	95.00	13.60	22.60	21.30	16.20	54.20	19.10	11.80	58.60	16.10	11.60	1.90	95.90	80.20	42.20	13.30	7.50	3.40	0.90	10.00	1.10	16.50	6.70	12.00	2.10	29.00	3	
91.10	97.50	98.70	22.90	26.90	29.60	23.80	69.50	29.70	7.90	56.20	19.00	16.50	0.40	97.90	88.30	47.90	8.30	8.50	2.10	0.50	6.40	2.70	12.30	4.80	7.00	1.88	22.00	3	
91.10	97.50	98.70	22.90	26.90	29.60	23.80	69.50	29.70	7.90	56.20	19.00	16.50	0.40	97.90	88.30	47.90	8.30	8.50	2.10	0.50	6.40	2.70	12.30	4.80	7.00	1.88	22.00	3	
91.10	97.50	98.70	22.90	26.90	29.60	23.80	69.50	29.70	7.90	56.20	19.00	16.50	0.40	97.90	88.30	47.90	8.30	8.50	2.10	0.50	6.40	2.70	12.30	4.80	7.00	1.88	22.00	3	
95.20	96.30	99.10	38.00	51.00	59.70	38.80	84.20	36.40	5.60	52.10	20.90	21.20	0.20	98.80	93.20	54.40	4.50	9.50	2.00	0.70	6.70	2.10	16.20	4.30	10.00	2.01	4.00	2	
95.20	96.30	99.10	38.00	51.00	59.70	38.80	84.20	36.40	5.60	52.10	20.90	21.20	0.20	98.80	93.20	54.40	4.50	9.50	2.00	0.70	6.70	2.10	16.20	4.30	10.00	2.01	4.00	2	
95.20	96.30	99.10	38.00	51.00	59.70	38.80	84.20	36.40	5.60	52.10	20.90	21.20	0.20	98.80	93.20	54.40	4.50	9.50	2.00	0.70	6.70	2.10	16.20	4.30	10.00	2.01	4.00	2	
97.00	97.80	98.90	38.00	57.20	46.40	33.40	89.40	23.00	4.50	50.90	25.80	18.60	0.20	98.70	94.30	59.00	3.90	9.60	1.60	0.60	1.10	0.05	3.50	2.00	17.00	2.45	20.00	3	
97.00	97.80	98.90	38.00	57.20	46.40	33.40	89.40	23.00	4.50	50.90	25.80	18.60	0.20	98.70	94.30	59.00	3.90	9.60	1.60	0.60	1.10	0.05	3.50	2.00	17.00	2.45	20.00	3	
97.00	97.80	98.90	38.00	57.20	46.40	33.40	89.40	23.00	4.50	50.90	25.80	18.60	0.20	98.70	94.30	59.00	3.90	9.60	1.60	0.60	1.10	0.05	3.50	2.00	17.00	2.45	20.00	3	
93.90	96.50	99.30	33.80	51.90	39.40	34.50	88.40	30.00	4.70	48.20	23.90	23.00	0.20	98.60	94.10	49.80	4.20	9.50	1.30	0.20	2.10	0.80	3.40	5.90	27.00	3.05	14.00	2	
93.90	96.50	99.30	33.80	51.90	39.40	34.50	88.40	30.00	4.70	48.20	23.90	23.00	0.20	98.60	94.10	49.80	4.20	9.50	1.30	0.20	2.10	0.80	3.40	5.90	27.00	3.05	14.00	2	
93.90	96.50	99.30	33.80	51.90	39.40	34.50	88.40	30.00	4.70	48.20	23.90	23.00	0.20	98.60	94.10	49.80	4.20	9.50	1.30	0.20	2.10	0.80	3.40	5.90	27.00	3.05	14.00	2	
86.40	96.90	97.40	26.70	43.00	50.60	27.90	72.30	32.80	6.50	56.90	19.70	16.70	0.20	98.50	90.90	46.70	6.30	8.80	2.10	0.50	5.90	1.80	13.40	8.30	18.00	2.47	13.00	2	
86.40	96.90	97.40	26.70	43.00	50.60	27.90	72.30	32.80	6.50	56.90	19.70	16.70	0.20	98.50	90.90	46.70	6.30	8.80	2.10	0.50	5.90	1.80	13.40	8.30	18.00	2.47	13.00	2	
86.40	96.90	97.40	26.70	43.00	50.60	27.90	72.30	32.80	6.50	56.90	19.70	16.70	0.20	98.50	90.90	46.70	6.30	8.80	2.10	0.50	5.90	1.80	13.40	8.30	18.00	2.47	13.00	2	
92.40	97.70	98.00	42.10	54.60	40.30	43.30	89.50	32.60	2.70	49.80	24.80	21.90	0.80	98.30	96.20	52.80	2.20	10.00	2.60	1.20	2.00	1.70	3.70	4.30	14.00	2.23	9.00	2	
92.40	97.70	98.00	42.10	54.60	40.30	43.30	89.50	32.60	2.70	49.80	24.80	21.90	0.80	98.30	96.20	52.80	2.20	10.00	2.60	1.20	2.00	1.70	3.70	4.30	14.00	2.23	9.00	2	
92.40	97.70	98.00	42.10	54.60	40.30	43.30	89.50	32.60	2.70	49.80	24.80	21.90	0.80	98.30	96.20	52.80	2.20	10.00	2.60	1.20	2.00	1.70	3.70	4.30	14.00	2.23	9.00	2	
97.00	97.00	99.30	20.70	48.20	37.50	24.60	78.90	17.60	4.80	52.70	23.50	18.80	0.20	98.30	92.30	46.60	5.40	9.30	2.20	0.60	5.70	2.60	12.50	1.50	25.00	2.97	30.00	3	
97.00	97.00	99.30	20.70	48.20	37.50	24.60	78.90	17.60	4.80	52.70	23.50	18.80	0.20	98.30	92.30	46.60	5.40	9.30	2.20	0.60	5.70	2.60	12.50	1.50	25.00	2.97	30.00	3	
97.00	97.00	99.30	20.70	48.20	37.50	24.60	78.90	17.60	4.80	52.70	23.50	18.80	0.20	98.30	92.30	46.60	5.40	9.30	2.20	0.60	5.70	2.60	12.50	1.50	25.00	2.97	30.00	3	
91.10	98.90	98.80	36.60	48.40	56.10	31.50	85.30	35.00	3.70	53.40	23.10	19.40	0.40	98.30	95.30	50.40	3.00	9.40	1.80	0.90	3.70	2.20	7.50	4.40	23.00	2.74	12.00	2	
91.10	98.90	98.80	36.60	48.40	56.10	31.50	85.30	35.00	3.70	53.40	23.10	19.40	0.40	98.30	95.30	50.40	3.00	9.40	1.80	0.90	3.70	2.20	7.50	4.40	23.00	2.74	12.00	2	
91.10	98.90	98.80	36.60	48.40	56.10	31.50	85.30	35.00	3.70	53.40	23.10	19.40	0.40	98.30	95.30	50.40	3.00	9.40	1.80	0.90	3.70	2.20	7.50	4.40	23.00	2.74	12.00	2	
91.10																													

ITY INDEX 2016			NOM			NAME	AREA	POPULATION				STATISTICAL AND GEOGRAPHIC YEARBOOK OF MEXICO 2017	INTERCENSAL SURVEY INEGI 2015	INDEX: CIUDADES MÁS HABITABLES DE MÉXICO 2012									
MUNICIPALITY QUALITY OF LIFE 2016 (%)	MUNICIPALITY SOCIAL INCLUSION AND EQUITY 2016 (%)	MUNICIPALITY SUSTAINABILITY 2016 (%)	METROPOLITAN ZONE	CITY CLASSIFICATION	NOM CITY	CITY	CITY AREA (km2)	CITY POPULATION 2010 (inhabitants) INEGI	CITY POPULATION 2014 (inhabitants) OECD	CITY POPULATION 2015 (inhabitants) ONU	CITY DENSITY 2015 (inhabitant/km2)	CITY ALTITUDE	POPULATION GROWTH RATE 2015	QUALITY OF LIFE			ISACS - Index of Satisfaction with Services						
														WCAV - Quality of life index (%) 2012	EDUCATION SATISFACTION (%) 2012	SENSE OF SAFETY - differential (%) 2012	ISACS - General index (%) 2012	MUNICIPAL SPORT AND CULTURAL EVENTS (%) 2012	TOURISM PROMOTION (%) 2012	PUBLIC SERVICES (%) 2012	Garbage recollection 2012	Lighting 2012	Green Areas 2012
				C	M	Jiutepec	70.45	162,427				1,354											
			MZ-1	C	M	Cuautla de Morelos	1,037.30	154,358	324,149	475,441	458.34	1,294	1.38										
64.10	75.90	82.00	MZ-1	C	CC	Tepic	1,983.30	429,351	470,624	471,026	237.50	920	1.90	75.00	31.00	25.50	MS	37.20	37.10	24.94	39.70	22.60	28.80
62.80	98.60	47.90		C	C	Valle de Banderas	773.30	7,666				60											
				D	C	Santiago Ixcuintla	12.07	18,241				14	1.04										
68.40	74.80	24.90	MZ-1	A	CC	Monterrey	958.00	4,226,031	4,823,452	4,689,601	4,895.20	530	2.10	75.00	35.00	-32.60	MS	33.00	23.60	29.10	52.40	28.40	24.80
68.60	77.10	33.20		B	M	Guadalupe	151.30	673,616				480	2.10	75.00	35.00	-32.60	MS	33.00	23.60	29.10	52.40	28.40	24.80
67.20	79.10	39.60		B	M	Apodaca	183.50	523,370				405	2.10	75.00	35.00	-32.60	MS	33.00	23.60	29.10	52.40	28.40	24.80
61.30	59.50	31.60	MZ-1	B	CC	Oaxaca de Juárez	218.00	619,367	805,102	671,447	3,080.03	1,560	0.90	73.00	15.00	10.40	LS	18.10	25.80	13.92	21.30	15.30	16.40
				C	M	San Juan Bautista Tuxtepec	933.90	101,810				21	0.83										
				C	M	Santo Domingo Tehuantepec	965.80	42,082	168618mm	179,957	186.33	35	0.63										
66.80	61.30	57.90	MZ-1	A	CC	Puebla de Zaragoza	440.00	2,728,790	2,342,519	2,941,988	6,686.34	2,135	1.40	77.00	31.00	-18.80	MS	38.40	33.50	26.38	44.00	23.00	27.70
			MZ-1	C	M	Tehuacán	553.57	248,716	366,663	344,603	622.51	1,628	1.11										
				D	C	San Martín Texmelucan	82.67	75,518	182,740			2,252											
64.10	70.20	41.00	MZ-1	B	CC	Querétaro, Santiago de	363.00	1,161,458	1,273,803	1,323,640	3,646.39	1,820	2.40	83.00	32.00	46.60		38.40	49.80	37.40	61.20	39.70	42.00
65.80	71.00	38.60		C	M	San Juan del Río	799.90	138,878	273,414			1,928	1.45										
				C	C	El Pueblito		71,254				1,811											
68.70	75.10	65.00	MZ-1	B	M	Cancún	199.00	677,379		763,121	3,834.78	5	2.93	79.00	23.00	-26.80	MS	25.50	44.50	32.48	47.00	27.80	33.90
61.10	69.80	27.60	MZ-3	C	CC	Chetumal		244,553	262,442	224,080		10	2.40	73.00	26.00	-1.40	LS	22.60	27.30	20.40	27.80	24.40	26.70
57.40	75.00	33.30		C	M	Playa del Carmen		149,923				8	4.35										
56.80	70.90	82.00	MZ-3	B	CC	Culiacán Rosales	176.00	858,638	910,982	905,265	5,143.55	60	1.50	78.00	37.00	-34.20	HS	37.90	31.70	31.76	51.40	30.30	30.00
61.50	69.70	57.60	MZ-4	C	M	Mazatlán	54.00	438,434	465,125	502,547	9,306.43	10	1.09										
62.00	71.60	46.00		C	M	Los Mochis	61,242.00	261,554		284,000	4.64	10	1.37										
68.20	69.50	51.00	MZ-1	B	CC	San Luis Potosí	212.00	1,065,039	1,288,885	1,159,039	5,467.17	1,860	1.10	70.00	28.00	-54.30	LS	24.50	16.10	17.76	33.60	14.50	21.60
66.50	68.40	28.90		C	M	Soledad de Graciano Sánchez	280.95	255,015				1,850											
				C	M	Ciudad Valles	2,396.00	124,644	177,480			83	0.95										
64.30	71.90	31.70	MZ-3	B	CC	Hermosillo	207.00	784,342	869,669	884,273	4,271.85	210	1.60	86.00	35.00	21.60	HS	51.90	36.40	36.20	63.20	36.30	40.00
62.90	73.30	82.60		C	M	Ciudad Obregón (Cajeme)	44.00	304,285	457,196	334,000	7,590.91	30	1.43										
56.80	74.10	46.70	MZ-4	C	M	Nogales (Heroica)	44.00	220,292	251,125	233,952	5,317.09	1,200	1.60										
57.70	73.10	35.00	MZ-1	B	CC	Villahermosa	114.00	755,425	960,063	823,213	7,221.17	20	1.50	67.00	24.00	-46.00	LS	17.10	14.30	14.90	23.90	14.70	19.30
				C	C	Cárdenas (Heroica)	2,112.00	107,339				19	1.64										
				D	C	Comalcalco	723.20	48,353				7	-0.40										
58.50	75.20	50.30	MZ-2	B	M	Reynosa	181.00	727,150	834,750	773,089	4,271.21	40	1.62	74.00	38.00	-38.60	LS	45.10	19.40	26.02	26.80	24.40	35.00
55.10	68.90	45.30	MZ-4	B	M	Matamoros (Heroica)	111.00	489,193	523,701	520,367	4,687.99	10	1.05										
58.60	70.90	58.00	MZ-4	C	M	Nuevo Laredo	1,334.00	384,033	420,016	399,431	299.42	130	1.14										
74.70	70.00	39.80	MZ-1	C	CC	Tlaxcala de Xicohténcatl	3.52	499,567	339,214	540,273	153,486.65	2,240	1.80	67.00	23.00	4.80	LS	19.80	14.80	17.72	30.00	17.10	19.30
				D	C	Huamantla	30.50	51,996				2,498	1.33										
				D	C	Villa Vicente Guerrero (SPM)	12.66	60,001				2,291											
				D	C	Calculalaoan	9.98	27,451				2,591	1.59										

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INDEX: CIUDADES MÁS HABITABLES DE MÉXICO 2016												INDEX: CIUDADES MÁS HABITABLES DE MÉXICO 2018															CIUDADES MÁS PRÓSPERAS DE MÉXICO 2016								
OHE SION	ISACS - Index of Satisfaction with Services											QUALITY OF LIFE					SOCIAL COHESION			ISACS - Index of Satisfaction with Services											AGGLOMERATIONS 2016				
SENSE OF SAFETY (%) 2016	ISACS - General Index (%) 2016	MUNICIPAL SPORT AND CULTURAL EVENTS (%) 2016	TOURISM PROMOTION (%) 2016	PUBLIC SERVICES (%) 2016	Garbage recollection 2016	Lighting 2016	Green Areas 2016	Sewer system 2016	Paving 2016	PUBLIC HOSPITALS MAINTENANCE (%) 2016	HCAY - Quality of life index (%) 2018	HAPPINESS (%) 2018	EDUCATION SATISFACTION (%) 2018	JOB SATISFACTION (%) 2018	ECONOMIC SITUATION (%) 2018	SOCIAL COHESION - General Index (%) 2018	INTEREST IN POLITICS - differential (%) 2018	SENSE OF SECURITY - differential (%) 2018	ISACS - General Index (%) 2018	MUNICIPAL SPORT AND CULTURAL EVENTS (%) 2018	TOURISM PROMOTION (%) 2018	PUBLIC SERVICES (%) 2018	Garbage recollection 2018	Lighting 2018	Green Areas 2018	Sewer system 2018	Paving 2018	PUBLIC HOSPITALS MAINTENANCE (%) 2018	AGGLOMERATIONS 2016 INCM	GPI 2016 - Urban Prosperity index (%)	PRODUCTIVITY 2016 (%)	INFRASTRUCTURE 2016 (%)	QUALITY OF LIFE 2016 (%)	SOCIAL INCLUSION AND EQUITY 2016 (%)	SUSTAINABILITY 2016 (%)
62.50	71.20	74.00	77.00	72.00	80.00	71.00	74.00	68.00	67.00	70.00	66.39	83.00	78.00	77.00	66.00	56.40	-0.40	-34.50	35.94	68.00	69.00	66.00	74.00	66.00	67.00	63.00	60.00	63.00	SA SA SA SA	62.40	55.30	75.70	63.50	76.20	82.00
47.50	69.90	73.00	73.00	71.80	84.00	72.00	72.00	70.00	61.00	69.00	67.64	85.00	80.00	78.00	70.00	57.40	24.50	-35.10	43.57	71.00	70.00	72.00	83.00	74.00	70.00	71.00	62.00	66.00	GA	58.40	66.10	60.20	66.70	77.30	48.60
47.50	69.90	73.00	73.00	71.80	84.00	72.00	72.00	70.00	61.00	69.00	68.92	85.00	82.00	82.00	74.00	55.80	13.90	-24.40	64.16	69.00	72.00	73.00	83.00	76.00	72.00	73.00	61.00	68.00	MA						
47.50	69.90	73.00	73.00	71.80	84.00	72.00	72.00	70.00	61.00	69.00	66.24	82.00	82.00	78.00	72.00	56.30	17.60	-26.10	45.98	72.00	68.00	74.40	85.00	76.00	73.00	76.00	62.00	71.00	MA						
45.00	49.50	65.00	68.00	62.40	67.00	63.00	64.00	61.00	57.00	61.00	62.71	84.00	78.00	74.00	65.00	56.40	6.50	21.00	33.05	66.00	68.00	64.00	69.00	64.00	63.00	65.00	59.00	60.00	MA	50.70	55.00	58.60	65.20	58.20	40.30
50.00	65.40	72.00	79.00	69.80	79.00	72.00	71.00	65.00	62.00	71.00	62.50	79.00	77.00	71.00	65.00	55.50	8.50	-36.00	40.21	68.00	74.00	68.00	77.00	69.00	65.00	69.00	60.00	66.00	GA	54.80	62.00	59.90	65.10	64.30	58.00
40.00	53.80	65.00	63.00	65.00	72.00	62.00	66.00	63.00	62.00	67.00	61.37	77.00	68.00	74.00	60.00	53.60	-5.00	-65.00	30.84	61.00	61.00	63.60	68.00	62.00	63.00	63.00	62.00	62.00	SA						
52.50	72.20	75.00	80.00	73.20	81.00	76.00	78.00	67.00	64.00	69.00	66.56	83.00	83.00	80.00	71.00	59.50	32.00	-5.00	47.12	72.00	75.00	70.00	70.00	77.00	72.00	65.00	66.00	69.00	GA	56.20	65.10	64.30	63.70	70.60	42.30
50.00	65.30	70.00	82.00	68.60	75.00	69.00	70.00	65.00	64.00	65.00	65.37	82.00	77.00	81.00	68.00	57.80	-0.30	-48.50	39.13	67.00	79.00	68.00	72.00	66.00	70.00	69.00	63.00	66.00	MA	65.90	67.60	55.20	66.50	76.00	65.00
52.50	52.80	67.00	67.00	63.80	69.00	66.00	66.00	61.00	57.00	61.00	63.05	79.00	77.00	74.00	63.00	57.70	0.50	0.00	38.51	67.00	72.00	67.40	74.00	70.00	68.00	64.00	61.00	65.00	SA	54.00	55.00	66.50	61.10	69.80	27.60
47.50	70.90	74.00	73.00	72.00	80.00	74.00	73.00	69.00	64.00	70.00	66.99	85.00	82.00	79.00	72.00	57.00	0.50	-11.00	47.47	75.00	76.00	74.80	79.00	74.00	75.00	75.00	71.00	71.00	GA	57.30	55.30	64.20	55.20	71.60	78.90
50.00	70.40	75.00	80.00	71.60	77.00	73.00	75.00	66.00	67.00	67.00	66.63	85.00	80.00	79.00	72.00	56.60	-8.00	-7.00	50.76	77.00	85.00	75.60	80.00	76.00	76.00	71.00	75.00	69.00	SA	56.30	56.40	69.40	61.50	69.70	57.60
45.00	62.20	73.00	72.00	67.60	74.00	69.00	71.00	63.00	61.00	70.00	64.01	83.00	78.00	78.00	69.00	57.00	24.50	-49.50	37.63	74.00	71.00	68.00	78.00	67.00	68.00	65.00	62.00	69.00	GA	55.50	61.80	61.50	67.30	69.70	49.90
47.50	70.50	74.00	73.00	71.60	82.00	73.00	72.00	68.00	63.00	70.00	69.13	86.00	83.00	80.00	74.00	59.30	-15.00	-17.00	40.67	71.00	71.00	69.60	74.00	72.00	69.00	69.00	64.00	71.00	MA	55.20	65.00	63.50	64.30	71.90	31.70

42.50	63.90	71.00	69.00	66.80	71.00	69.00	68.00	67.00	59.00	71.00	67.26	83.00	82.00	82.00	70.00	57.40	-11.00	-33.00	38.46	72.00	67.00	67.80	81.00	65.00	64.00	70.00	59.00	70.00	SA	66.20	57.80	74.90	62.90	73.30	82.60	
																														SA	59.60	64.40	63.80	56.80	74.10	46.70
37.50	55.50	69.00	65.00	65.60	71.00	68.00	67.00	62.00	60.00	62.00	64.12	82.00	81.00	75.00	66.00	55.20	11.00	-71.00	32.02	63.00	61.00	65.20	74.00	65.00	65.00	61.00	61.00	61.00	MA	50.90	60.70	56.60	56.00	72.80	34.80	
																														SA						
																														SA						
37.50	51.00	67.00	63.00	60.20	63.00	63.00	63.00	57.00	55.00	66.00	66.03	85.00	77.00	80.00	69.00	55.10	-8.00	-74.00	42.70	75.00	68.00	71.00	76.00	73.00	72.00	61.00	73.00	72.00	MA	52.10	68.00	55.90	58.30	74.50	48.10	
40.00	61.20	72.00	67.00	63.20	59.00	69.00	69.00	61.00	58.00	69.00	65.61	86.00	76.00	76.00	70.00	56.10	3.00	-17.50	38.01	69.00	66.00	66.00	72.00	67.00	68.00	62.00	61.00	67.00	MA	49.70	56.80	57.90	55.10	68.90	45.30	
47.50	83.40	80.00	74.00	78.80	84.00	79.00	83.00	73.00	75.00	74.00	66.64	85.00	79.00	81.00	72.00	55.50	0.00	-49.00	46.29	76.00	68.00	73.00	81.00	73.00	76.00	67.00	68.00	69.00	SA	54.60	57.00	59.30	58.60	70.90	58.00	
52.50	53.60	64.00	66.00	64.60	67.00	66.00	67.00	63.00	60.00	63.00	63.20	82.00	80.00	73.00	68.00	55.20	11.00	-9.50	34.86	63.00	63.00	66.00	72.00	66.00	66.00	65.00	61.00	62.00	SA	53.90	53.70	64.80	68.70	69.90	44.90	
																														SA						
																														SA						
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40.00	56.60	68.00	72.00	65.00	74.00	65.00	65.00	61.00	60.00	63.00	64.84	83.00	81.00	75.00	66.00	56.60	-0.30	-21.50	39.31	68.00	75.00	67.60	80.00	67.00	66.00	63.00	62.00	69.00	MA	50.90	58.10	62.30	59.10	70.60	38.70	
42.50	58.80	70.00	68.00	67.20	70.00	69.00	72.00	64.00	61.00	61.00	64.05	82.00	81.00	77.00	65.00	58.70	27.00	-34.00	36.73	67.00	65.00	67.20	69.00	69.00	70.00	64.00	64.00	63.00	MA	50.60	54.20	62.10	61.30	68.00	40.40	
																														MA	49.20	63.60	51.30	57.90	70.20	31.50
72.50	76.40	80.00	81.00	74.00	79.00	75.00	77.00	70.00	69.00	71.00	67.53	81.00	81.00	77.00	68.00	60.40	14.50	56.00	54.17	80.00	80.00	75.80	80.00	74.00	79.00	75.00	71.00	71.00	GA	51.50	59.10	61.90	70.00	74.90	29.50	
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45.00	62.80	75.00	77.00	67.80	72.00	72.00	70.00	65.00	60.00	68.00	62.28	78.00	79.00	75.00	63.00	54.20	15.00	-54.00	36.03	71.00	72.00	66.40	71.00	69.00	67.00	65.00	60.00	67.00	SA	56.90	54.70	69.00	65.00	68.80	56.10	
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What is the role of regional capitals and metropolises in structuring the territorial dynamics at the local, regional and national scales in Mexico?

The case of the city of Hermosillo, Sonora

Abstract:

In this research paper, the author of "What is the role of regional capitals and metropolises in structuring the territorial dynamics at the local, regional and national scales in Mexico? The case of the city of Hermosillo, Sonora", the Architect Diana López Domínguez, observes the relation that some Mexican cities have with their surrounding settlements to understand what role they are playing on development at regional scale. In order to do that, first, some definitions about metropolization are presented and different scenarios of territorial dynamics are explained then, the context of Mexico at national and regional scale is described having a solid background to work with. The methodology for this empirical work is to organize and compare indicators giving an outlook about the cities' situation and conclude what is their role based on the previous observation. To prove this method, two metropolitan cities were selected: the city of Hermosillo, Sonora, which in the last few years, is having an unoriented development, along with the city of Culiacan, Sinaloa due to their likeness with the first one.

Keywords:

Metropolization models, territorial dynamics, regional metropolization, Hermosillo (Mexico), regional impacts.

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