2. Sustainable Urban Social Development

Introduction

The international discourse around sustainability has mainly relied on the so-called three-*pillar model*. This model for sustainable development suggests three equally important dimensions for the achievement of strategic objectives: the environmental, economic and social dimensions. The model is based on two key arguments:

i. Human needs cannot be met just by providing a stable and healthy environment. Basic economic and social needs ought to be taken care of as well. Therefore, it is imperative, from the standpoint of sustainability, to transfer to future generations economic and social conditions that favor their development; and

ii. The environmental, the economic and the social are three individual interconnected systems that must be sustainable in the long term in order to maintain the progress of civilization. Advances toward sustainability can only lead to improvements in the three dimensions. This implies that the different policy objectives in each dimension of sustainable development must have equal priority and contribute to the sustainability of the other dimensions, and not be achieved at their expense (Littig and Grießler, 2005).

However, the fact of giving *equal priority* to the three dimensions of the three-pillar model is a theoretical, rather than practical, issue, as it is rare for it to occur in the real world. Often times, the *'win-win'* schemes of sustainable development only consider the economic dimension and, to a lesser extent, the environmental one, leaving the social dimension lagging behind even further (Omann and Spangenberg, 2002). In addition to this, there is a series of conceptual problems that, in practice, are yet to be resolved: What does "equal" priority mean? How can "equal priority" be given to the three dimensions? What happens with the trade-offs (positive and negative indirect effects) between them? So far, there are no generally agreed answers to these questions, and the debate is still open (Littig and Grießler, 2005).

While the idea of the "three pillars" is generally accepted, the most intense discussion has to do with the definition of their *key objectives,* the *strategies* to achieve them and the design of the *indicators* to measure achievements or gaps. As far as these objectives are concerned, the environmental ones appear to be the clearest, followed by the economic objectives. The strategies to achieve those objectives, however, are still vague and subject to intense debate (even if one accepts that sustainable development is not a *situation to achieve*, but a *continuous transition process:* Garrocho *et al.*, 2014; see the Introduction of this book). In the case of the social

objectives of sustainable urban development, the situation is much more complex, because there is not even a consensus as to what those objectives are (Omann and Spangenberg, 2002).

This chapter is divided into two sections. The first is aimed at better understanding the meaning of sustainable urban social development (SUSD) and, therefore, explores the following key topics:

i. The *relationship* between sustainability, equity, cohesion and social inclusion;

ii. The main *dimensions* of SUSD; and

iii. The *gears* that articulate the SUSD dimensions. This is the conceptual platform that serves as a basis for the second section of the chapter, the purpose of which is to *translate* the concepts outlined in section one into a series of priorities for Mexican cities and SUSD policy recommendations. The topics addressed in this second section are: the importance of public services, the metropolitan challenge, the need to have quality institutions, fighting poverty and inequality, improving health and education, expanding the offer and quality of modern and traditional basic services, addressing the problem of unoccupied dwellings and reducing insecurity and violence.

1. Basic concepts and ideas on sustainable urban social development

A large part of the problem of defining the objectives of the social dimension lies in the fact that *there is no clarity* as to the meaning of this dimension in the context of sustainable urban development (Littig, 2002). Also, there is no consensus around its *connection* to economic and environmental sustainability (Dempsey *et al.*, 2011). This indefinition of social sustainability makes its implementation really difficult (an issue that Becker *et al.*, 1999: 4, had already pointed out more than 15 years ago).[1]

Several attempts have been made to define social sustainability. On one hand, some maintain that long-term sustainable development only calls for a minimum of social requirements and, therefore, propose a *very specific definition*. Seen from this perspective, the objective of sustainable social development is to determine the *minimum of social requirements* and identify

1 Still, social sustainability is key to sustainable urban development and, therefore, it is essential for this book to explore its meaning. In general terms, the idea of sustainability is the persistence of certain necessary and desirable characteristics of individuals, their communities, institutions, organizations and the surrounding environment in the long term (v.g. for an indefinite period of time), as well as those of the relationships between society and environment. These relationships must be functional, inasmuch as they must ensure that future generations can meet their needs (Littig and Grießler, 2005). However, defining those needs and differentiating them from desires (in specific societies, places and times) involves a complex debate, even if their definition is linked to the idea of a dignified life (which can also have diverse and dynamic meanings depending on the social, spatial and temporal context it refers to). For this reason, it is important to understand that advancing toward sustainability involves maintaining and, better yet, improving, human wellbeing and the ecosystem, without one making progress at the expense of the other. In other words, understanding that people and the surrounding world are interdependent (Hodge and Hardi, 1997: 7).

the *critical challenges* for the appropriate functioning of society, in order to guarantee progress in the long run (Biart, 2002: 6). On the other hand, there is a current of thinking that links the idea of *social sustainability* to environmental protection, social justice and political participation, which involves a full theoretical and operational challenge (Littig and Grießler, 2005), especially if a global vision is adopted and the significant differences that exist between developed countries and the rest of the countries are taken into account (Becker *et al.*, 1999: 1).

The challenges in the conceptualization of social sustainability also result from the vague differentiation between their *analytical, normative and political aspects.* One of the reasons for this is the *broad and multifaceted connotation* of the term "social" (*v.g.*, that would even include the economic or the political). The point to highlight is that, when it comes to sustainability, development cannot be understood without its *previous requirements*, and these constitute an issue for social sciences, and not only natural sciences. In other words, social processes *shape* the society-nature interaction, in different temporal and spatial (*v.g.* global, regional, urban, local) scales. This issue has been raised by social sciences through a brief and challenging question: how can societies regulate and change their processes and structures so as to ensure the chances for development of future generations? (Littig and Grießler, 2005).

In this chapter, and all throughout the book, we do not maintain that social sustainability means the satisfaction of a minimum level of social rights (as in the *specific* definition by Biart, 2002), to then defend them against the primacy of economic policies and/or the predominance of the environmental dimension. Instead, our idea was to suggest *socio-spatial* structures and processes that influence the metabolic exchange between society and nature (more in the terms of Fischer-Kowalski and Haberl, 1993). We add that environmental sustainability is closely linked to diverse *structural attributes of societies* (*e.g.* social, intra- and inter-generational justice, values, ideologies, institutions, culture and history, among others). Thus, sustainability is a research topic with a huge *social content* that addresses the processes through which societies *manage* the material conditions of their reproduction, including the social, economic, political and cultural values and principles that guide the distribution and redistribution of resources (including environmental ones: Becker *et al.*, 1999: 4).

1.1 Factors and indicators of sustainable urban social development

Even in this uncertain landscape that revolves around the meaning of SUSD, the literature points to different dimensions and indicators of urban social sustainability. Littig and Grießler (2005), for example, suggest three dimensions of basic indicators to evaluate the social dimension of sustainability.

i. Satisfaction of basic needs and quality of life (*e.g.* income, poverty, income distribution, unemployment, education, housing conditions (*v.g.* decent housing), health, security, job satisfaction and environment, among others);

ii. Social justice (*e.g.* social equity, including gender equity, distributive justice of economic and non-economic goods, intra- and inter-generational justice, equal opportunities, social participation: Dempsey *et al.*, 2011; Nussbaum and Sen, 2002); and

iii. Social coherence (*v.g.* integration of individuals into significant social networks, participation in collective activities, solidary and tolerant attitudes toward minorities: migrants, the unemployed, homosexuals and indigenous people, among many others).

Dempsey et al. (2011), on the other hand, did a broad review of the literature and identified a series of key factors of urban social sustainability in the British context (see Table 2.1).[2]

2 Their sources include: Chan and Lee, 2008; Meegan and Mitchell, 2001; Turkington and Sangster, 2006; Jacobs, 1999; Bramley *et al.*, 2009; Yiftachel and Hedgcock, 1993; Urban Task Force, 1999; Hopwood *et al.*, 2005; Littig and Griessler, 2005; Burton, 2000a.

Table 2.1

KEY FACTORS

OF URBAN SOCIAL SUSTAINABILITY IN THE BRITISH CONTEXT

NON-PHYSICAL FACTORS

- EDUCATION AND TRAINING
- SOCIAL JUSTICE: INTER- AND INTRA-GENERATIONAL
- SOCIAL PARTICIPATION AND LOCAL DEMOCRACY
- HEALTH, QUALITY OF LIFE AND WELL-BEING
- SOCIAL INCLUSION (ERADICATION OF SOCIAL EXCLUSION)
- SOCIAL CAPITAL
- SAFETY
- FAIR DISTRIBUTION OF INCOME
- SOCIAL ORDER
- SOCIAL COHESION
- COMMUNITY COHESION (WITHIN AND BETWEEN DIFFERENT GROUPS)
- SOCIAL NETWORKS AND SUPPORT: SIGNIFICANT INTERACTIONS
- SOCIAL INTERACTION
- SENSE OF COMMUNITY AND BELONGING
- DECENT EMPLOYMENT
- RESIDENTIAL STABILITY AND SECURITY
- ACTIVE COMMUNITY ORGANIZATIONS
- CULTURAL TRADITIONS

PREDOMINANTLY PHYSICAL

- SUSTAINABLE URBAN DESIGN
- ATTRACTIVE PUBLIC REALM
- DECENT HOUSING
- LOCAL ENVIRONMENTAL QUALITY AND AMENITY
- ACCESSIBILITY TO LOCAL SERVICES AND FACILITIES / EMPLOYMENT / GREEN SPACE
- SPATIAL STRUCTURE OF CITIES AND THEIR NEIGHBORHOODS
- WALKABLE CITIES AND NEIGHBORHOODS: PEDESTRIAN FRIENDLY

SOURCE: DEMPSEY ET AL., 2011

Beyond the indicators identified by Dempsey *et al.* (2011), it is important to highlight the *overlaps* that exist between *the social* and *the physical*; in other words, those overlaps that geographers call the *socio-spatial*, understanding the social in its broadest analytical and operational sense (which includes the economic, the political and the cultural, among many other areas); and, on the *spatial* sphere, *spatial* structures and processes, vicinity/distance effects, accessibility and scale, among other aspects. The *scale* deserves a particular comment in this chapter. The factors of urban social sustainability can be related to multiple scales at the same time (*v.g.* multiscale) or specific scales. Social cohesion, for example, is more often analyzed on a national, regional, urban and neighborhood scale; employment on a regional and urban scale; environmental quality on the scale of large areas in the city; and significant social interactions on a neighborhood scale (Penninx *et al.*, 2004).[3]

1.2. Sustainability, equity, cohesion and social inclusion

In the academic world, there are different social sustainability indicators in contexts of coherence and balance with the rest of the systems that make up sustainable development (Holden and Linnerud, 2007). However, in practical terms, the key lies in their legitimate and efficient integration into public policies. While the study by Dempsey *et al.*, 2011 focuses on the United Kingdom, it is worth reviewing because the key urban social sustainability factors they identify are linked to three major concepts that are also highly relevant to Mexican (and Latin American) cities: *equity, cohesion and social inclusion* (*v.g.* fair and non-segregated cities).[4]

The basis of the social equity concept is that of the theories of social justice, distributive justice and equal conditions (Burton, 2000a: 1970), a concept directly associated with the most accepted definitions of sustainable development and clearly linked to socio-environmental integration (Hopwood *et al.*, 2005; Holden and Linnerud, 2007). Thus, a city is only *fair* to the extent there are no *exclusion* or discriminatory practices that prevent all from partaking of the benefits of living in a society (Pierson, 2002; Ratcliffe, 2000). In other words, it is a city with a fair distribution of the *benefits and costs* of living in society. Therefore, having a fair city is essential to achieving cohesion and social inclusion.

In a spatial sense, social exclusion and inequity can express themselves as *areas of deprivation* that can lead to poorer living conditions and less access to the opportunities for development the city offers. This translates into a distribution of *sub-benefits and added costs* for the weakest groups of society (Brook Lyndhurst, 2004; Macintyre *et al.*, 1993). Geographers (and other scholars specializing in cities) translate the concept of equitable city into *territorial justice* when access to opportunities and the distribution of costs tends to be equal in socio-spatial terms. Sociologists often refer to territorial justice as *horizontal equity* (Kay, 2005).

In this context, *accessibility* is a key indicator of social equity (Barton, 2000; Burton, 2000b) directly linked to the *constructed urban environment* (*v.g.* regulation of land use and densities, location of essential public and private services and facilities, design of public transportation routes, provision of diverse infrastructure). These issues have been studied in the context of Mexican cities for a long time (Garrocho, 1997; Garrocho and Campos, 2006).

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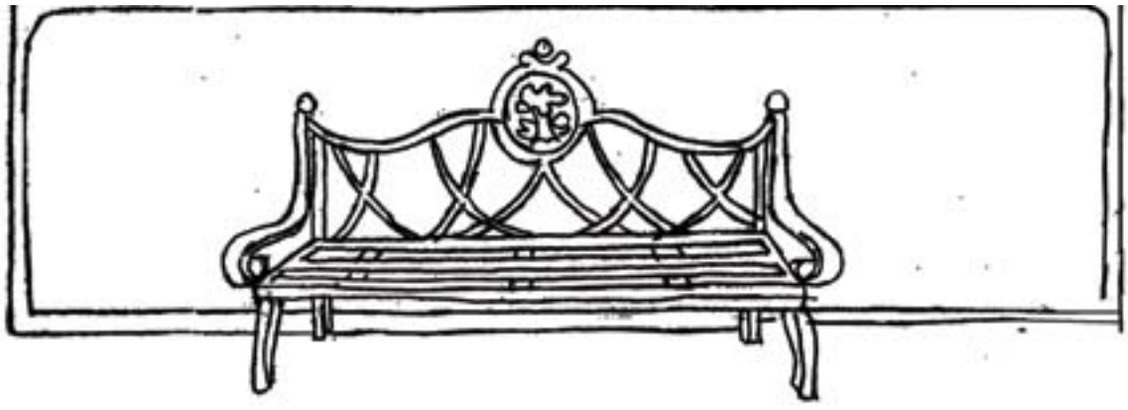
3 In temporal terms, the scale is also key: certain aspects of sustainable development can be analyzed in the short-term but others can only be analyzed in the mid or long-term.

4 An explanation of these concepts in the context of sustainable urban social development and the urban form can be found in Bramley and Power, 2009.

In this book we assume that, in order to advance toward urban sustainability, a vision that goes beyond the city, regions and countries is required (Haughton, 1999; see the Introduction and Chapter 1). Still, we also agree with Dempsey *et al.* (2011) that the local scale (*v.g.* the neighborhood) is fundamental for social sustainability in *everyday life*, particularly due to its influence on cohesion and social inclusion. In this regard, *accessibility* to the opportunities the city offers in terms of key everyday services (and their distance from risk areas: *e.g.* garbage dumps, areas vulnerable to disasters caused by natural phenomena) is also a priority (see Table 2.2).

In this regard, cohesion and social inclusion are key elements of the theory and design of policies that contribute to stronger (*v.g.* competitive, efficient) and fair (*v.g.* equitable, non-segregated) societies for present and future generations (Lister, 2000).[5] In essence, cohesion and social inclusion refer to a *social environment* and an *everyday space* that trigger *significant interactions* between individuals (*v.g. non-segregated cities*); to values, norms, and solidary and reciprocity institutions that guide social behavior (Coleman, 1988; Dempsey, 2008a); and also to the creation of *support networks* for the most vulnerable residents (among other relevant issues: Garrocho and Campos, 2015a). Thus, the community's sustainability depends on the social capacity, on different spatial scales (*v.g.* neighborhood, city), to sustain and reproduce themselves and function in a fair, efficient and efficacious way.[6]



5 Even Pope Francis has made reference to these issues in his famous Encyclical of 2015: "Many cities are huge, inefficient structures, excessively wasteful of energy and water. Neighborhoods, even those recently built, are congested, chaotic and lacking in sufficient green space. "We were not meant to be inundated by cement, asphalt, glass and metal, and deprived of physical contact with nature". (Pope Francis, 2015: 35).

6 Exactly the opposite of what some find, for example, in Mexico City: "…it is like, out there, the city did things to destroy people". (de Mauleón, 2015: 367).

The community's sustainability involves, among other aspects, the social interactions between its members (such as the establishment of *significant interactions:* sustainable, solidary, reciprocal, based on trust: Reardon and O'Sullivan, 2004); a certain level of stability in the community, both from a demographic (*v.g.* net migratory balance) and economic (*e.g.* quality and number of businesses, workers) standpoint; participatory and plural local collective institutions (both formal and informal: García and Madrigal, 1999); trust between the members of the community, including compliance with the law by citizens and governments, and enforcement of the law by the State (*e.g.* security of citizens and their assets, complying with contracts and protection from governments, among other aspects); a sense of belonging, identification and pride of being part the community (Dempsey *et al.*, 2011). In summary, an active, productive, inclusive, healthy and safe society (Burton and Mitchell, 2006) where residents wish to stay (Forrest and Kearns, 2001).

1.3. Main dimensions of sustainable urban social development

The community's sustainability refers to the different *socio-spatial processes of collective life* that can be grouped into five dimensions (Dempsey *et al.*, 2011):

i. Social interaction/Social networks in the community. These processes are a fundamental part of social capital (Forrest and Kearns, 2001; Putnam, 2000), and include trust and the density and intensity of interactions, as well as the collective acceptance of obligations and expectations (individual and social behavior models: Pennington and Rydin, 2000). These factors facilitate reciprocal actions, cooperation and social cohesion between diverse groups and generations (Putnam, 1993).[7] The issues of social interaction/social networks in the community emerge, in part, as a response to certain evidence of disintegration and segregation in the intra-urban space (Forrest and Kearns, 2001), not only by race or economic level (from the classic study of North American cities by Burgess, 1928) or health condition (a classic reference is Gabriel, 1925), but also evidence of segregation between age groups, which includes Mexican cities (segregation of the aged population: Garrocho and Campos, 2015b).

There is evidence that the *urban form* influences the generation/inhibition of social interactions through population density, a mix of land uses or the provision of common spaces that are not *places of transit*, but *places of gathering* (especially green space and infrastructure for children and youth, or churches and community centers, which are preferred by the elderly). It is accepted, for example, that streets with high density and mixed housing-commercial use facilitate social interaction more than fully residential streets, because they generate pedestrian flows that coincide in time and space, a situation that facilitates *face-to-face* contacts (Jacobs, 1961; Talen, 1999). However, while spatial proximity is an essential requirement to establish face-to-face contacts and generate significant interactions, it is not enough. Other public policies that take advantage of the *spatial proximity* and reduce *social distances* are required: this includes collective community projects (*v.g.* educational, in order to promote decent or quality employment, improve neighborhoods, and support traditions and artistic and cultural activities, among others) (Garrocho and Campos, 2015b).

ii. Participation in social activities. Participating in local and community activities is a strategic component of social sustainability and social capital, due to its relationship with community cohesion and the integration of networks (Forrest and Kearns, 2001; Littig and Griessler, 2005). Participating in groups that engage in specific activities (*e.g.* negotiating services, supporting a political candidate, organizing social or religious events) implies close relationships between the different individuals that reside in a territory (*v.g.* neighborhood). It also creates a *sense of community* and reinforces the

7 Without social interaction, the persons who live in a territory are simply a group of segregated individuals, with no sense of community, pride or place attachment (Dempsey, 2006).

idea of *civil society* (Putnam, 1993). If there is no participation in the community's organized activities, the situation of the neighborhood or the city tends to be unsustainable (Dempsey *et al.*, 2011).

Apparently, participation in diverse groups and networks can be triggered by population density and an appropriate mix of land uses, because this generates a larger variety of activities where it is possible to participate (Talen, 2001). But the level of that offer and accessibility to public and private facilities in the community is also essential: the higher the level of the offer and accessibility, the larger the participation in activities (and vice versa). Evidence from different cities in the United States shows that commute times are inversely proportional to community participation, and also that those individuals who have longer daily commutes are less likely to participating in community affairs (Putnam, 2000). Transportation costs (both tangible and intangible,

iii. Demographic and economic stability. This dimension refers, above all, to the capacity of the neighborhood and the city to *retain* their populations, economic units and employment. It has been suggested that a sustainable community requires residents and economic units that are well established in the long-term (Silburn *et al.*, 1999). High residential mobility (*v.g.* the entry and exit of population and businesses) can be a symptom of a *lack of cohesion and a sense of attachment* to a city or neighborhood (Bramley and Morgan, 2003; Wilson and Taub, 2006). The extreme case of negative net migration rates (the net loss of population and jobs) is, without a doubt, a clear indicator of the failure of a region, city or neighborhood.

Still, some argue that the population *turnover* (provided there is not a loss of population and opportunities) can reinvigorate the community and increase its social capital (Kearns and Forrest, 2000). In fact, there are highly dynamic neighborhoods or cities where the population turnover is inevitable and, still, the results are positive. The most iconic examples include university communities and cities, as well as cities and communities that are net attractors of talent (*e.g.* San Francisco, including Silicon Valley).

The link between the community's stability and the form (or design) of the city or neighborhood is neither clear nor direct (Dempsey *et al.*, 2011). The residents' decisions to stay in a neighborhood or leave it depend on different factors: the perceived quality of the environment (including how safe it is), the offer and quality of services in the area, the level of accessibility to key services and facilities (such as schools in the case of young parents, or hospitals in the case of the elderly), or the type and size of dwellings in relation to the person's stage in life (Wilson and Taub, 2006). For example, in Mexico there are more than five million unoccupied dwellings, mainly due to the poor location of real-estate developments (*v.g.* low levels of access to schools, jobs, stores, banks, public offices: a problem directly linked to the urban structure and *sustainable urban design*), a situation that led to the bankruptcy of large real-estate

consortiums in the country (BBVA, 2014).[8] The next big real-estate crash could have its origin not in the location of housing developments (assuming the lesson was learned), but in the design of dwellings, if developers fail to take into account that, in the following decades, their potential clients will be a new group of key users in Mexico –*the aged population* (Garrocho and Campos, 2015b).

iv. Pride/Sense of belonging to the place. The positive sense of "place attachment" is a dimension of urban social sustainability, because it is an integral component of the *enjoyment* of the city/neighborhood where people live (Nash and Christie, 2003). The residents' place attachment is related to the physical (*v.g.* tangible) environment where they live, but also derives from a *socio-spatial interpretation* that includes the social (*v.g.* intangible) environment. Thus, the place attachment and sense of community constructs are related to the attributes of the rest of the residents in the area, social order, common norms and the predominant civic culture (*v.g.* values, behavior norms) (Fukuyama, 2000: 15; Kearns and Forrest, 2000). It may be for that reason that Talen (1999) defines the *sense of community* as an amalgam of shared emotional contact that is established through significant interaction with others, place attachment and a sense of belonging (*v.g.* pride and the right to belong).

The pride and sense of belonging to a place can be affected by the perceived quality of the neighborhood or city (Talen, 1999). If neglect, filth or vandalism are perceived, the sense of attachment weakens (Nash and Christie, 2003) and there is a negative effect on the sense of security. And this could reduce the frequency and intensity of social interactions and community participation. For this reason, it is important to have land use and construction *codes and regulations* that are respected, as they will ultimately have an impact on common behavior patterns (Kearns and Forrest, 2000). The constructed environment and place attachment are shared by the residents of the city/neighborhood who, together, will create an image of their own (either positive or negative) that distinguishes them from other places and communities (Relph, 1976). In this context, a careful design of spaces and the preservation of symbolic points of reference and identity are highly important (Duany, 2003).

v. *Protection and safety*.[9] The perception of safety is fundamental to social sustainability (Barton, 2000), because it is a basic need of human beings (Maslow, 1954). Cities and

8 Two very practical references of the predominant currents of thinking in the area of sustainable urban design are NYC (2008) and EC (2004). The former presents the New York City design manuals and the latter identifies best practices in the area of urban design to support the sustainability of cities in the European Union, as well as recommended actions on different socio-temporal scales.

9 In this context, protection has a sense broader than that of safety. Here, protection refers to the prevention of physical, social, spiritual, economic, political, emotional, work-related, psychological and educational damages, among others. It also refers to controlling risks, both natural (*e.g.* floods and earthquakes: caused by natural forces) and artificial, which result from the action, or lack of action, of strategic groups or agents (mainly governments or large corporations), in connection with collective issues on different scales: global (such as climate change), national (an economic development model based on the depletion of natural resources), urban (urbanization model) or neighborhood (segregation and lack of social cohesion). Safety, on the other hand, mainly refers to effective crime prevention.

neighborhoods free from crime and chaos give their residents a sense of safety, which is essential to establish significant social interactions and participate in collective activities (Shaftoe, 2000). The sensation of safety reinforces trust and reciprocity among residents, promotes a *sense of community*, and has a positive effect on the consolidation of *place attachment* (Dempsey *et al.*, 2011).

The constructed environment and the *city form* also play an important role in the fundamental subject of safety. Land use zoning; maintaining the environment, facilities and infrastructure in good conditions; the construction of attractive gathering spaces; the possibility of walking around the city; collective activities in open spaces and the social ownership of the street have positive effects on safety and the perception of safety (Worpole, 2003). In this perspective, the broken windows syndrome, where even cosmetic damages can trigger more serious damages, antisocial behavior or even criminal behavior, is crucially important (Johansen *et al.*, 2014; Wilson and Kelling, 1982).

1.4. The gears of the dimensions of sustainable urban social development

The dimensions of urban social sustainability are articulated through two key concepts: social equity (understood as intra and inter-generational distributive justice) and *community sustainability* (Dempsey *et al.*, 2011). The former is a concept that has already been broadly addressed in the international literature (recently by Allingham, 2014), and has even been applied in Mexican cities in the specific case of the *spatial distribution of opportunities* (Garrocho, 1995; 1997).

The concept of community sustainability has been less studied. We must bring attention, however, to the work of Dempsey *et al.*, 2011 and, in general, to that of the research network they are part of (known as *CityForm*), which operates in different cities of the world.[10] According to the *CityForm* network, community sustainability refers, in particular, to the long-term *viability* of communities and the appropriate functioning of society as a *collective entity* (on different socio-spatial scales). In broader terms, this research network defines urban sustainability as the *coherence and balance of social life, economics, ecology, energy and transport* (Dempsey *et al.*, 2011: pp. 10-11).

While we generally agree with the above, this definition proposed for the United Kingdom must be adapted to the socio-spatial reality of Mexican states. This is done in the following section.

10 http://www.city-form.org/index.html

2. Key policies for sustainable urban social development in Mexico

The theoretical approach adopted in this book, which was already mentioned in the Introduction, implies the interrelationship between different dimensions of sustainable urban development that are fundamental for Mexican (and possibly Latin American) cities. This section, on the other hand, focuses on the SUSD priorities for Mexican cities, highlighting the links between the social (defined as a broad analytical category, see the previous section) and the other dimensions of our approach: the economic, political, environmental, institutional and population dimensions, as well as those related to mobility and access to urban opportunities. Attention is also paid to the city's *nonphysical and predominantly physical factors* (see examples in Table 2.1). Each subsection on the SUSD priorities for Mexican cities begins with a brief argument that justifies it in conceptual and operational terms, and then outlines the key recommended actions.

2.1. Accessible and affordable quality public services

One of the main responsibilities of Mexican governments is that of offering quality public services (*v.g.* that respond to prevailing technical specifications and users' expectations) that are accessible (*v.g.* that all population groups, especially the most vulnerable ones, can easily access services) and affordable (*v.g.* that can be used/paid by the poorest). Public services are funded with resources obtained from society in the form of taxes and then assigned to the three levels of governments. That means that the use of these resources should be efficient (*v.g.* so that the biggest benefits can be obtained), orderly (*v.g.* using resources in an efficient, clean and transparent fashion) and fair (*v.g.* both in social and territorial terms) (Garrocho, 2013). Therefore, public services must be carefully planned.

Governments typically rely on different instruments to plan the distribution of the benefits and burdens generated by public services:

i. The formulation of zoning regulations and urban development plans;

ii. Participation in the formulation of regional development plans;

iii. Authorization, control and oversight of land use;

iv. Granting of construction licenses and permits, and formulation of building regulations;

v. Participation in the formulation and application of public transportation programs (which changes accessibility landscapes), among others (Cabrero, 2005). In other words, they have sufficient instruments for the efficacious, efficient and fair distribution of public services. There are no excuses.

However, the quality of government actions has not been the best. The following are the key recommendations regarding accessible and affordable quality public services:

- Identify the *mix of allocation* of resources that benefits society in an acceptable manner (*v.g.* if not the best combination of investments, at least one that is considered *good*), based on *priority* general needs (*v.g.* education, health, communications, transportation, green space, and drinking water, to mention just a few examples). In other words, to define *how much* and *where resources will be invested* based on the city's *vision* and *needs*.

- *Allocate* investments, taking into consideration three fundamental coordinates: *social* (*v.g.* target population: *who*),[11] *territorial* (*v.g.* location in the space: *where*) and temporal (*v.g.* their sequence in time: *when*). These three coordinates are interrelated and influence each other. Therefore, an error in any of these coordinates will cause the investment to fail and will lead to potential social bankruptcy. Public services planning must consider these three coordinates at the same time. The spatial location of services involves a socio-spatial redistribution of resources. This redistribution can be *regressive* (if it favors the most disadvantaged groups) or *progressive* (if it benefits the most vulnerable and tends to socio-spatial convergence).

- Ensure the fair distribution of resources transformed into public services, in a context of functional and operational efficiency. Differences in accessibility define *who benefits more and who benefits less* (or *not at all*) from a public service. Accessibility is especially important for certain population groups with mobility problems (*v.g.* the elderly, mothers with small children and populations with disabilities, among others) and the poorest.

- Ensure that the *socio-spatial* distribution of the *externalities* (both positive and negative) of public services is fair and efficient, considering they have a significant effect on the wellbeing of people and the value of their assets.[12] Private services and facilities also generate externalities (*e.g.* positive: proximity to industrial employment *vs.* negative: environmental pollution), this being the reason why land use policies are, at the end of the day, policies of redistribution of benefits and costs (*v.g.* externalities) among the population.

- Promote partnerships between local governments, as well as with the state and federal levels, in order to finance certain public services that require investments that exceed the financial capacity

11 It is essential to take into account the characteristics of the target population that will have access to services. For example, it is important to take into account accessibility for the elderly and persons with disabilities.

12 Public services generate positive (e.g. schools) and/or negative (e.g. waste-disposal sites, bus terminals) effects. These indirect effects are called externalities. Positive and negative externalities can also derive from private investments. For example, from a pharmacy, where positive externalities predominate, or a discoteca (the word for nightclub in Chile), boliche (the equivalent word in Argentina) or antro (the equivalent word used in Mexico), where negative externalities predominate. Both the pharmacy and the antro may be private businesses, but their location is the result of a land use license granted by the municipal government.

capacity of a single municipality (*v.g.* a water treatment plant) (Rodríguez-Oreggia and Tuirán, 2006). This involves negotiating the terms of projects and their *location*.

• Plan public services with a *metropolitan vision* (*v.g.* considering the city as a whole), which necessarily requires partnerships between municipalities and partnerships with state governments and, sometimes, the federal government.[13] Mexico does not have *really successful* metropolitan coordination experiences (the only cities that have attempted to do something in this regard are the metropolitan areas of Guadalajara and the Valley of Mexico: Mexico City).

• Develop a database to gather information on the *demand* (*v.g.* the population: how many and who they are, where they are, what their needs are), the *supply* (existing public services: where they are located, as well as their coverage, quality and availability), and *key indicators* on the progress/deficit in the provision of public services. This database must be periodically updated and should also include information on the availability of modern public services: computers, Internet and cell (or mobile) phones, given their importance for socioeconomic development.[14]

• Design a *program of investments* in public services with a short, mid and long-term vision and, if applicable, with a *metropolitan perspective*. This program must include expenditure budgeting and programming, and must be periodically updated.

• Classify population groups and areas based on their level of *need or deficit* of public services, with the idea of reducing inequalities in the provision of services and consolidating existing services.[15]

• Negotiate with population groups the priorities in the area of public services (*v.g. where* resources will be invested: drinking water, parks, lighting, for example) and their location: social (*who*), spatial (*where*) and temporal (*when*). Negotiations should focus on the issues of accessibility and positive and negative externalities.

• *Be fully accountable* to society for those investments and the rationality of public actions. All of this in a context of transparency.

• *Promote mechanisms for citizens' participation* in an organized and permanent fashion (*v.g.* Citizens' Participation Boards, Residents' Associations, Block Representative Committees).

• *Provide training* to (*e.g.* municipal) urban development planning teams and promote *career civil service.*

• Explore the possibilities offered by *Information and Communications Technologies* (ITCs: especially mobile phones and the Internet) in order to offer/support certain public (*e.g.* assitan-

13 In other federal countries in Latin America, the term state government can refer to provincial, federal or departmental governments.

14 In Mexico, a significant part of this information is available from censuses on population and housing.

15 In order to have appropriate public policy decision-making processes, it is important to have assessments based on timely and quality socio-demographic information sources, with the disaggregated data necessary to monitor access to the rights of the target population. Mexico has these instruments.

ce and appointments to complete procedures) and private (e.g. operation of taxis, business location maps) services.

• *Build the municipality's tax-collection capacity* (*v.g.* land registry, potable water fees) in order to offer more and better public services.

• Analyze the convenience of granting concessions for the provision of certain public services.

• Periodically and reasonably estimate and adjust fees and costs in order to sustain and maintain the availability of public services.

• *Carefully evaluate* the advantages of access to complementary financial resources from credit institutions, with advice from experts from the state government and the development banking sector, in a context of transparency and accountability.

2.2. The metropolitan challenge

By 2010, Mexico already had eleven "millionaire" cities. All of them had a *metropolitan* structure.[16] These eleven cities had a total of 41.3 million inhabitants, that is, less than 40% of the country's total population. However, if we consider Mexico's 59 metropolitan areas identified by SEDESOL, CONAPO and INEGI (2012), we can see that, in 2010, they accounted for 56.8% of the national population.[17]

These cities generate 73% of the total value of production in the country and account for 6 out of 10 economic units; 71.7% of the total number of workers employed and 81% of their income (INEGI, 2009). But, in addition to that, they centralize a disproportionate percentage of the different cultural, scientific and recreational activities in the country. How can we feed, provide decent housing and employment and facilitate the mobility of this population of workers and consumers? How to collect, treat and dispose of solid waste? How to supply drinking water to the inhabitants of each and all of these cities? And, finally: How to plan these cities with a *metropolitan vision*? In other words, how to *manage* a city with several governments (*v.g.* several pilots) *in a coordinated fashion* so as to maximize its *potential* and reduce its risks?

16 The following ten cities with the largest population in Mexico are also metropolitan areas.

17 A metropolitan area is defined as the combination of two or more municipalities occupied by a city of 50,000 or more inhabitants whose urban areas, functions and activities exceed the limit of the municipality that originally contained it; integrating –either as a part of it or its direct area of influence– other neighboring and predominantly urban municipalities with which it maintains a high level of socioeconomic [functional] integration (SEDESOL, CONAPO and INEGI: 2012:25). This definition differs from that of "metropolitan area". The latter only includes those municipalities that contain part of the city's continuous urbanized area.

We suggest, among other things, the following recommendations:

- Raise awareness, among the different *social actors* (*v.g.* governments, businesses, social organizations and society in general), of the fact that the city faces *intense competition* from other cities in the planet and it will only become competitive if a *metropolitan vision* is adopted.

- Promote a vision where *coordination* between governments, businesspeople, organizations, and society is key in the process of facing challenges, reducing risks and maximizing advantages and opportunities.

- Create *metropolitan decision-making* bodies that rely on the broad participation of society.[18]

- Take advantage of *economies of scale* (*v.g.* the higher the level of production, the lower the cost per product unit) and *scope* (*v.g.* the possibility of producing several goods or services simultaneously), in order to finance the provision of public services (*efficiency with socio-spatial justice*).

- Control the negative *externalities* of local activities (*e.g.* the negative effects of vicinity: pollution or incompatible land uses).

- *Reduce social and spatial-temporal differences* through the fair allocation of development costs and benefits (*e.g.* intra- and inter-generational distributive justice).

- Promote urban and regional *convergence* in the area of sustainable development (*v.g.* social-spatial convergence).

- Eliminate any type of *unnecessary* barriers (*e.g.* physical, social, economic and cultural) to accessing *quality* public goods and services (*accessibility and affordability*).[19]

- Ensure the *transparency* of public actions and the legal responsibility deriving from the impact of those actions (accountability).

18 Mexico not only has no metropolitan governments; it does not even have examples of formal inter-municipal governance relationships. Instead, there are a few cases of circumstantial inter-municipal relationships based on the proximity and supranational nature of certain problems. There are some metropolitan commissions that are usually ineffective. One exception was the Metropolitan Environmental Commission (CAM), although its focus was on air quality in the Mexico City metropolitan area. This commission recently became the Megalopolis Environmental Commission (CAME).

19 There are unnecessary barriers to the use of public services, such as the fact that courts in indigenous areas do not provide services in local languages. There are also necessary barriers, such as the cost involved in the provision of a public service (e.g. electricity, drinking water) to make it viable and sustainable in the long term.

2.3. Quality institutions

Development (*v.g.* economic growth, poverty and inequality reduction, innovations, scientific advances) is not generated everywhere, but is concentrated in the territory, that is, in certain cities and regions. This concentration of development unavoidably leads to *winning* cities and regions (*v.g.* those that develop in a rapid and sustained fashion) and *losing* cities and regions (*v.g.* those that do not develop or do it at an insufficient pace).

What are the drivers of development? Why is development only concentrated in certain parts of the territory? Why different places develop at different paces? There are different explanations to this, and while no definitive explanation has emerged yet (it would be the Holy Grail of urban and regional economics: Storper, 2013), we have some partial responses. One of them has to do with the *institutional context*, and there is a growing consensus in the sense that a key element to promote development is the quality of institutions. Institutions can be understood as the rules of functioning of a society, and their influence is key in multiple dimensions of the city's life.[20]

• Create institutions *aimed at sustainable development*, that is, institutions that allow for the resolution of conflicts, the peaceful transition of power, the reduction of uncertainty in connection with the economic and social behaviors of individuals and organizations, establishing formal and informal commitments (*v.g.* legal contracts or verbal agreements), promoting investments, cooperation for development and economic growth, the resolution of collective action problems, reducing corruption, the prevention of opportunistic behaviors (*v.g.* the pursuit of individual interests at any cost in order to obtain unlawful advantages), the facilitation of flows of information and interactions between individuals and or and organizations, implementing mechanisms for the distribution of benefits and burdens, and the reduction of transaction costs, among other things.[21]

• Ensure that those institutions aimed at sustainable development are quality institutions. This will make it easier for all type of transactions to generate the biggest benefits for society as a whole. Therefore, the quality of the city's institutions (*"the rules of the game"* in the city) is key to the process of leading individual and collective actions, and it exerts a significant influence on the economic and social development of individuals and businesses. There is a *direct*, although complex, *relationship* between the quality

20 Incentive systems, norms, regulations, values, traditions, laws, beliefs, power relationships, interests and cultural practices are also considered institutions that limit, both formally and informally, the interactions and behaviors of public and private organizations and individuals (Arellano and Lepore, 2009).

21 Transaction costs can be economic or otherwise (*v.g.* annoyances, time invested, uncertainty, energy, obstacles). While they usually apply to economic exchanges, here they can be associated with different procedures, from the costs involved in getting a license from a municipal government to withdrawing money from a bank. In these cases, transaction costs may include the annoyance of arriving in a government office really early to stand in line, waiting in line at a bank and anticipating uncomfortable service spaces, being mistreated, or having to return at a later date because you must produce documents you were not informed of, among many other examples.

of institutions and the *pace* of development (Dellepiane, 2010).[22]

• Assign to city *managers*, especially the city's government(s), the role they must play in order to improve and create institutions that promote sustainable development. This role must be based on *trust* (to coordinate efforts and revitalize the economy), *efficiency* (to generate wealth and wellbeing), *equity* (so that the benefits and burdens are fairly distributed in the society and efficiency is sustainable) and *innovation* (the driving force of development in the 21st century). Those societies with higher quality institutions are *more innovative* in the long term and can better adapt to changes in the high-level *urban competition* that exists in today's world (Farole *et al.*, 2011).

• Strengthen the city's human capital (*v.g.* with highly qualified individuals with the capacity to generate new ideas), which is the most important element of sustainable development aimed at innovations (a *sine qua non* of competitiveness). This can be achieved in three key ways: *training, retention and attraction* of talent (Glaeser, 2012; Moretti, 2012; Storper, 2013).

• Develop institutional contexts that enable the training, retention and attraction of talent. This includes, first and foremost, the creation of enabling *agglomerations* (*v.g. innovative ecosystems*: Storper, 2013).[23] Some good examples of innovative cities are London (a center of financial innovation) or San Francisco (and Silicon Valley) in California (the United States' most important digital technological innovation center), but there are also multiple examples in Latin America.[24]

• Explore *diverse areas of innovation*. Not all innovations have a hi-tech orientation. Lima (Peru), for example, is a *world-class gastronomic innovation* center,[25] Buenos Aires (in particular the Palermo neighborhood) is a place of in-

22 The underlying question is: What triggers the behaviors that cause rules to become shared and accepted (or imposed) mechanisms relatively stable over time? (Arellano and Lepore, 2009).

23 In this context, ecosystems are concentrations of innovative human capital and businesses in the territory.

24 São Carlos (Brazil) produces sensory analytical and GPS software to monitor crop irrigation and farming; Montevideo has developed a new risk investment model to provide ICT support to Uruguayan companies; Mendoza (Argentina) not only produces great table wines as a result of different innovations, but is also home to companies that develop biometric software programs to improve online transaction security; the Radomiro Tomic mine (close to Calama, 1,700 kilometers to the north of Santiago de Chile) pioneered the development of robotic systems for the global mining industry. In Mexico, Monterrey is an innovation center in the areas of industry and organization, and Guadalajara is a pioneer in the development of ICTs. And it was in Mexico City that solid rain was invented. Solid rain is powder spread in crops that can retain water for up to 40 days. There are multiple examples. See: http://www.fastcompany.com/most-innovative-companies/2013/industry/south-america and http://www.corfo.cl/archivos/70_Casos_de_Innovacion.pdf

25 Lima is the city with the largest number of foreign tourists with a minimum one-night stay in the Americas, only behind New York (Hedrick-Wong and Choong, 2014): http://newsroom.mastercard.com/wp-content/uploads/2014/07/Mastercard_GDCI_2014_Letter_Final_70814.pdf

novation in the fashion industry. Curitiba (Brazil) is an innovative city in the area of *urban planning*, Panama City designed aninnovative model to *attract international institutions and corporations*, Bahía Ballena and Puerto Jiménez (Costa Rica) are leaders in the field of ecotourism innovations, and Santiago de Chile is generating *important innovations* in the field of *low-cost construction*. In Mexico, Querétaro has developed an innovative model to attract research centers and hi-tech companies. However, in Latin America, only Chile, Panamá and Costa Rica are listed among the Top 60 countries of the 2014 *Global Innovation Index*, with numbers 46, 52 and 57, respectively, in the ranking (Dutta *et al.*, 2014). These three countries have an element in common: their main strength is the *quality of their institutions*, an area where they ranked high.

- Develop, through consensus, a strong, clear and fair *institutional framework* with the capacity to create an environment that is enabling (or at least not unfavorable) for development: high-quality, flexible, change-adaptive and self-reinforcing *institutions*. Growth and development cannot thrive in an institutional vacuum.

- The city's government(s) must ensure equal compliance with, and the enforcement of, the legal framework: traffic and transportation rules and regulations, land use, building regulations and revenue collection (*v.g.* collection of taxes and fees), among many other things. The *rules of the game* must be the same for all.[26]

- Implement *active policies* to reconcile social interests, promote values that enable development among *key actors* (*e.g.* groups of interest, businesspeople, students on all education levels) and improve the behavior of citizens (including key actors);

- *Eliminating corruption* is one of the main challenges and conditions of development. The initial requirement to succeed in this regard is the *firm belief* that it can be done. The city's management cannot be an *accomplice* to impunity. One example in Mexico is the Federal District's Center for Administrative Sanctions and Social Integration, better known as *"El Torito"*.

- Make viable and credible government commitments *with and within* organized society, and *fulfil those commitments*. The city's inhabitants clearly recognize which commitments are fulfilled and which are not.

- Manage the city in an *exemplary* manner. The city's management must be at the forefront of efficacy, efficiency, honesty and accountability. Otherwise, it will lack *political legitimacy* and will lose the citizens' trust; it will lack leadership and the capacity to negotiate with the most influential groups of interest, and it will be unable to fulfill its duties appropriately (*v.g.* achieve a fair and competitive city). Rather than relying on words and authority, *a city must be led by example*.

26 Esto es posible incluso en México: una institución ejemplar en la manera igualitaria de aplicar la ley es el Centro de Sanciones Administrativas y de Integración Social, mejor conocido como "El Torito", que tiene diversos objetivos, pero es famoso por la aplicación estricta y justa del "Programa de Control y Prevención de Ingestión de Alcohol en Conductores de Vehículos en el Distrito Federal".

- Governing requires *coordinating efforts and facilitating development*. The government must never be a burden that hinders that process. Good urban management is not a luxury; it is a *vital need* of sustainable development.

- Promote, on a permanent basis, *participatory democracy* and the collective resolution of problems with the support of social organizations, and strengthen them with an inclusive perspective that integrates the neediest and most vulnerable groups. *Cities cannot be managed in isolation.*

- *Educate society* in order have a more efficient participation in sustainable urban development.

- Develop long-term development plans with *legitimate consensus* reached together with society. Only society can support and oversee the continuity of plans and programs, and give *certainty* to the city's mid and long-term direction.

- Use public resources *based on the priorities* negotiated with society, in a context of balance between justice (*v.g.* the socio-spatial distribution of externalities), efficiency and efficacy

- *Provide ongoing training* to the city's employees on all levels, beginning with the *top* levels. City governments should lead by example.

- *Creating institutions* that can truly promote development involves a process: they cannot be created overnight. This process requires experimentation, an innovative spirit, a fair knowledge of local history and conditions, and leading the city by the hand. Today, the context to do that is more favorable and demanding than it was in the past: democracy, respect for human right, real-time information flows (*v.g.* "everybody knows"), and economic openness, among other things, are making headway.

2.4. Poverty

Mexico's urban population distribution in the territory also involves the distribution of poverty (see Chapter 1). While poverty can have more *intensity* in rural areas, its magnitude is bigger in urban areas (Damián, 2010; UN-HABITAT, 2008). Fighting poverty requires a *substantial change* in the way society is organized. However, this can take a really long time, and waiting for it to happen is the most conservative position one can adopt (Titmuss, 1987). In the meantime, several *palliative actions* can be carried out:

- Design *specific* policies to fight poverty in socio-spatial terms. This requires responding, at least in one initial stage, to the following questions about the population living in poverty: *how many, who and where they are*.

- Implement *policies targeted* specifically at fighting poverty. Extreme poverty in Mexico experiences *decline, stabilization and growth* cycles (both in absolute and relative terms). However, it always shows a *high level of inequality by age*, but *not by gender*, and is even more pressing among the *indigenous population* (CONEVAL, 2013).

- Identify those *cities* where the *design of custom policies* is critical. It is also necessary to adopt a regional vision that takes into consideration where poverty is being generated in cities, so that the policies designed to fight it consider cities not as *isolated points* in the territory, but as networks that articulate regions with problems varying in nature and intensity.

- Distinguish the problems *in* cities from the problems *of* cities. The former are problems *located* in cities, because that is where the population and activities are concentrated, but they have their origin in the *established social order*. The latter are problems generated or exacerbated by the *poor management and operation of* cities. The city does not create poverty; it does exactly the opposite: the *city attenuates* and offers opportunities for the poorest in society (including those in the countryside: it offers the so-called *urban advantage*, which is linked to the *right to the city*: Glaeser, 2012; UN-HABITAT, 2008). However, that is not enough; the city must do a *fair distribution and redistribution* of opportunities and the burdens of development (Rawls, 1971; Sen, 2009).

- Understand that *the city and the countryside are the two sides of the same coin*. Poverty in Mexico has slightly declined in relative terms, but continues to grow in absolute terms. One of the main and most immediate factors that explain this situation is the increase in food prices, which mainly affects lower-income households (SEDESOL, 2013; RF, 2014).

- Eliminate the traditional *regional north-south division* of poverty on a national scale. Rather than a regional convergence, *disparities* are increasing in Mexico. It is urgent to implement efficient regional convergence policies that foster social cohesion (*v.g.* between groups, between generations and between cities), *efficiency and equity* (Dávila *et al.*, 2002).

- Reduce *inequality*. In Mexico, 60% of poverty reduction can be linked to the slight decline in *inequality* experienced in the country since 1994 (Lustig, *et al.*, 2012; Pánuco-Laguette and Szekely, 1996).

2.5. Inequality

Mexico has always been a *highly unequal country*. The country's income inequality is much higher than the average for Latin America, which is probably *the world's most unequal region* (Corbacho and Schwartz, 2002). Inequality has been considered a crucial factor that has a negative effect on *social stability, competitiveness and sustainable development* (Saraví, 2008).

While our country experienced a significant decline in inequality in the 1960s and 1970s, a period of rapid economic growth (approximately half a century ago) (Esquivel and Cruces, 2011; Székely, 2005), inequality grew significantly between 1984 and 1994 (when major economic crises occurred, Bouillón et al., 2003; Legovini *et al.*, 2005). Ever since then, inequality has been declining, although slowly, in *decline, stabilization and growth* cycles.

Inequality *between rural areas* and between cities is more important than the gap that exists *between the city and the countryside*. The decline in inequality can be explained differently in cities and in the countryside. In urban areas, a decline occurred in the income of the most advantaged groups. In rural areas, income grew in general terms (Esquivel and Cruces, 2011).

The following are the main recommendations to reduce inequality:

- Allocate more resources from social programs (*e.g.* Oportunidades), and allocate them *more efficiently*, through the use of more targeted instruments. While the contribution of government transfers for poverty reduction has steadily increased, it is still *insufficient* (Lustig *et al.*, 2012). Increasing the *quality of expenditure* is urgent.

- Reinforce social programs targeted at the poorest households.[27]

- Achieve higher levels of education to reduce salary inequalities. The generation of quality jobs is key to the reduction of poverty and inequality (Esquivel, 2008).

- Create a more educated and productive labor force (*v.g.* human capital) in order to have less unequal and more competitive cities.

- Promote *salary convergence* policies in all the different sectors and cities in Mexico.

- Place education *at the center of* policies to reduce inequality. Education coverage tends to be more egalitarian, but the same cannot be said about the quality of education (which, in general terms, is deficient, see the next subsection). Quality of education may be the biggest challenge for Mexico in the 21st century.

27 Large conditional cash transfer programs such as *Jefes y Jefas* (Argentina), *Bolsa Familia* (Brazil) and *Oportunidades* (Mexico) have significant redistributive effects, and while they only account for a small proportion of social public expenditure, they have a huge impact from the standpoint of inequality and poverty (Lustig et al., 2012; Esquivel and Cruces, 2011).

- Promote an entrepreneurial spirit and values among young people, especially in education institutions on all levels, in an environment of *formalization of decent employment*.

- Increase women's participation in the formal labor market through the implementation of support policies. For example, increase the availability of quality, affordable, accessible and inclusive child daycare services for mothers with small children from low-income households.

- Design a *realistic* pension system with a long-term vision and taking into consideration the population's aging. This will allow the working population and their families to take timely and preventive measures in preparation for their aging.

- Promote a migratory policy with the United States so that Mexico can receive increasing flows of international remittances and give families advice on the use of their resources.

2.6. Fundamental services: Health and Education

Investing in the development of human capital is a basic condition for sustainable development and achieving a more equitable distribution of the advantages and burdens that the city generates (UN-HABITAT, 2008). Education is an inalienable human right and a necessary requirement to sustain any conception of development. It is directly linked to the full development of the potential of individuals, and it significantly affects the opportunities and the quality of life of society as a whole, as well as the capacity of individuals to fulfill their life plans. Education has a significant influence on comprehensive development, economic participation and the levels of income of individuals, the demographic structure (by influencing fertility and mortality, mainly) an the transmission of key values such as justice, equality, and inclusive and solidary social life with tolerance and respect for human rights, among many other aspects that favor civilized coexistence in a context of prosperity (Ordaz, 2009).

Mexico's development possibilities depend on the existence of a high-quality and large coverage education system (*v.g.* accessible, inclusive), especially in a world that leverages on the *economy of knowledge* and whose *only constant factor* is change.

Health, on the other hand, is an indispensable condition for the wellbeing of individuals and a key component of human capital. However, epidemiologic and demographic changes in the country, its regions, cities and settlements, pose new and highly complex challenges (e.g. population aging).

The education and health systems are made up of thousands of units of different types. Many of these elements (*v.g.* schools or health units) are public and provide services that are completely *free at the point of offer* (*v.g.* the school or health unit). However, if we think about the *real price* of the service (that is, the cost of the service plus the cost of transportation to get to the point of offer), the concept of free education/healthcare could be called into question, because users and their families must pay the cost of the transportation to the point of service.

If the service is free at the point of offer (*v.g.* the school or the health unit), then the real total cost of the service is the cost of transportation, which is variable in socio-spatial terms.[28]

The following are some recommendations for an appropriate *socio-spatial offer* of these fundamental services:

- Look after the *accessibility* of services. This is crucial so that the population, especially the poorest, can use them appropriately.

- Improve *locational planning* on the national, regional, urban and intra-urban levels, because it has a significant impact on the most disadvantaged groups, intensifying or reducing their situation of poverty and inequality. Locational planning also helps the environment by reducing travel time (especially if we also consider the travel time required to get to the point of offer of private products and services).

- The existence of basic services and their accessibility is not enough. They must also have good quality (both in technical and perception terms) and be affordable, inclusive and fair. The territory (*e.g.* regions, cities, neighborhoods) must be a *node* for the convergence of health and education policies.

In the area of education:

- Design the city's education system based on its long-term vision (provided it exists and also that it was designed through consensus: its economic specialization, for example). The big challenge for the city lies in creating a quality education offer that is internationally competitive and having a labor market that can accommodate its human capital (Loyo, 2010).

- Expand coverage with equal access and quality. The challenges of coverage and equity are bigger in the case of secondary and middle-higher education. The problem of quality is common to all education levels.[29] The low level of quality in education condemns millions of Mexicans to poverty and inequality.

- Increase quality in a context of *socio-spatial convergence* in school performance. Disparities in this regard lead to poverty and inequality in cities, regions and sociodemographic groups.

- Bridge school performance gender gaps, which have not changed since 2003 (OECD, 2013).

- Provide support, through scholarships and incentives, to the poorest students in order to eliminate exclusion and unequal access to education, and achieve the convergence of school performance in a context of high quality education.

- Eliminate the huge inequalities in the quantity and quality of education resources allocated to schools (*e.g.* expenditure by student). In Mexico, this type of inequality is the highest of all the OECD countries, and the third highest

28 We should also consider intangible costs –stress, risk and effort–, which increase as the distance traveled increases.

29 Mexico ranks among the lowest of all OECD countries for the different PISA tests (OECD, 2013).

among all the PISA participants (behind Peru and Costa Rica) (OECD, 2013).[30]

• Strengthen the *culture of evaluation* of students, graduates, teachers and researchers, as well as the *external evaluation and accreditation* of institutions and academic undergraduate and postgraduate programs.

• Establish a clear path toward the *society of knowledge*, based on the quality of education, leading-edge research and a strong link between education and the market.

In the area of health:

• Population aging (*v.g.* the growth of the population age 65 and above) is the most important demographic issue faced by Mexico in the 21st century (CONAPO, 2011; Ham, 2003; 2012; Ordorica, 2012).

• Improve the population's health, reduce health inequalities, provide *effective access* with quality and increase efficiency in the use of resources. In all the key indicators, Mexico is far below the OECD averages (OECD, 2013).

• Eliminate the significant *socio-spatial inequalities* that exist in the area of health. In the poorest regions, cities and neighborhoods, malnutrition, infectious diseases, non-transmissible chronic diseases and injuries coexist as the main causes of death. Disease is more common among the poorest and the most vulnerable (*e.g.* children, the elderly and pregnant women in a situation of poverty and a peripheral location).

• Establish a better coordination between health policies and other social and economic policies. *Health inequality* is directly related to levels of poverty, education, and availability of public and household infrastructure, among other social factors (Marmot and Wilkinson, 2005; CONEVAL, 2012). The level of schooling, age, place of residence (*e.g.* urban or rural) and the condition of belonging to an indigenous group are the main factors of sexual and reproductive health inequality.

• Reduce maternal mortality, which is one of the most important indicators of the health of a society, considering it reflects, in a synthetic fashion, the negative effects of a large number of socioeconomic and cultural factors.

• Allocate more resources to the health sector and use them more effectively (*v.g.* by increasing the productivity of health units and resources). While public expenditure in the area of health has grown compared to the GDP, it is still one of the lowest among the OECD countries. This insufficiency of resources is *exclusive and unequal* in socio-spatial terms. There are different areas for improvement: for example, the administrative expenditure of the National Health System represents approximately 17% of the total expenditure, a little more than four times the average for the OECD countries, which is of 4% (OECD, 2013).

• The geographical distribution of infrastructure shows an *inefficient concentration* in the territory, which leaves numerous population groups with no access. Infrastructure is also inefficiently *concentrated in time* (*v.g.* schedules and service days: the vast majority of health units close on weekends, for example) (CONEVAL, 2013).

30 However, in Mexico the "expenditure by student" indicator should not be interpreted as real and effective "expenditure in the student", as shown, to mention just one example, by the budgets of the National Coordination of Education Workers (Coordinadora Nacional de Trabajadores de la Educación - CNTE).

2.7. Traditional basic services: water, sewerage systems, electricity

Traditional basic services are also fundamental human rights. There is a general agreement in the sense that *traditional* basic infrastructure social services (*v.g.* electricity, drinking water and appropriate sanitary installations) represent *essential components of development.*[31] The State has the responsibility to ensure the provision of those traditional basic services. It can be said that, by denying citizens access to traditional basic infrastructure services, governments violate their human rights (WHO, 2006).

In Mexico, inequality in the provision of traditional services tends to decline. With a few notable exceptions (*e.g.* the cities of Veracruz or Guerrero), the differences between cities in the country in terms of availability of traditional basic services in dwellings are small and we can find convergence (CONEVAL, 2007). Neither the population size nor the pace of demographic growth, or density, are statistically related to the coverage of traditional basic services in dwellings. The problem is one of *efficiency* and *efficacy* of local governments (Garrocho, 2013).

As far as the provision of basic services for dwellings is concerned, the recommendations are the following:

- Increase the quality of performance of municipal governments.
- Promote agreements between metropolitan municipalities, and also between municipalities and the highest levels of government (*v.g.* state and federal).
- Integrate society as a user and *monitoring agent* of public construction projects. It is urgent to increase the quality of expenditure significantly.
- A significant increase in the volume of water treated in cities.
- An efficient use of traditional basic services.

2.8. Modern basic services: computer, Internet and cell phone services

The population of the 21st century not only requires access to *traditional* basic services, but *modern* basic services, which are essential to participate in the new society of knowledge and information: computer, Internet and cell phone services. In the economic and social context of the 21st century, the population's development opportunities are directly linked to these new information and communications technologies (ICTs: here, we only refer to computers, Internet and cell phone services). Today, having access to ICTs in dwellings is a key factor of social inclusion or exclusion for individuals and families (Hilbert and Katz, 2002; UN-ICT, 2002; Khalil *et al.*, 2009). In Mexico, human development and poverty levels are the main factors that explain the availability of ICTs (Garrocho, 2013).

31 Here, we establish a difference between *traditional* basic services –electricity, drinking water and sewerage systems– and *modern* basic services –computer, Internet and cell phone services (Garrocho, 2013).

As far as ICT availability is concerned, the recommendations are the following:

• Consider ICTs as *fundamental public services of the 21st century*. This means they must be of quality, affordable and accessible for all. The availability of intra-urban public spaces with *open Internet* access is essential.

• Reduce socio-spatial inequalities in the availability of ICTs. This inequality hinders the convergence of sustainable development between regions and cities;

• Bridge the *digital divide* and reduce *unequal access* to ICTs (*e.g.*: broad-band Internet, laptop computers, tablets), considering their importance in terms of interaction, social development and economic growth. Access to ICTs increases income and reduces poverty and inequality.[32] We must not forget that the digital divide is a by*product* of socio-economic gaps.[33] In order to bridge the digital divide, it is necessary to:

i. Increase the population's *income levels*;

ii. Reduce the *number of users* by computer;

iii. Reduce the cost of access to ICTs (*e.g.* Internet subscriptions);

iv. Increase the population's level of education; and

v. Increase Internet speed (v.g. Mbps: Megabits per second) (ALADI, 2003: 40).[34]

• Increasing the availability of cell phones among the population is key for communications and development. At present, cell phones are the *world's broadest distribution platform*, and they are particularly important in developing countries and also for the poorest inhabitants in cities and rural areas. In addition to bringing economic benefits, cell phone (or mobile phone) services can also be used to achieve several social development goals (*e.g.* they contribute to increase education levels and learning, improve health services, reduce the prevalence of disease and premature deaths, and reduce poverty and inequality: ECLAC, 2003; Khalil et al., 2009).

• Encourage *competition and accelerate the penetration of* cell phone services in Mexico.[35] Ciudad Victoria (Tamaulipas) is a *paradigmatic success story* in this regard. With a population of less than 350,000 inhabitants, it was

32 Econometric evidence from the World Bank for 120 countries concludes that each 10 percent point increase in the broadband services penetration corresponds to an increase in economic growth of 1.3 percent points (Qiang, 2009).

33 The digital divide can be understood as "the technological distance between individuals, families, businesses, groups of interest and geographical areas, in terms of their opportunities of access to information and communications technologies in a broad range of activities" (ALADI, 2003: 5).

34 In 2014, according to the AKAMAI Internet Performance Index, Mexico ranked 38 among 51 countries considered. The world's estimated average speed is 3.9 Mbps, with South Korea at the top of the list with 25.3 Mbps, while Mexico only had an average speed of 4.1 Mbps. We have one of the world's worst Internet services. Available at: https://content.akamai.com/English-Consumer.html?loc=/us/en/multimedia/documents/secure/akamai-state-of-the-internet-report-q1-2014.pdf&cid=F-MC-27380&ls=website&lsd=resources&hst=www.akamai.com&tid=2F36A519595FA828BA75652D4238EEB3

35 At present, a single company concentrates approximately 70% of cell phone services, 68% of land line telephone services, and 67% of the broadband available (SCT, 2013).

the city with the fastest Internet performance in Mexico in 2013 (Ookla, 2013).[36]

• Fight *digital illiteracy*, the high price of services and the lack of hardware (*e.g.* computers, tablets).

• Implement a series of policies that link education and funding to provide access to ICTs and subscription to services.

• Promote the combination of the *new key production factors* to reduce transaction costs and information asymmetries, facilitate access to new markets and support the creation of *flexible supply chains*, in addition to advancing the *digitalization of information*. All of this has a significant and positive impact on the economy and productivity (OECD, 2004).

2.9. Unoccupied dwellings

Dwellings without people and people without dwellings: this is the paradox of housing in Mexico. Approximately 14% of the country's total number of dwellings (approximately 5 million dwellings) are unoccupied. The percentage of unoccupied dwellings is as high as 18% in states along the north border, such as Chihuahua, Tamaulipas and Baja California. The main factor of this lack of occupation is the *wrong location* of real-estate developments, which involves transportation costs that are simply too high to get to the workplace, schools, stores, banks or public offices (although insecurity situations also play a role) (BBVA, 2011; Isunza-Vizuet and Méndez, 2010). In other words, the *real-estate tsunami* is the result of a lack of coherence between housing developments, the city's *functional structure* (*e.g.* depending on whether it is monocentric, polycentric, dispersed or compact) and a sustainable *urban design approach.*

36 Ookla Net Index: http://www.netindex

The expansion of urban areas as a result of new urbanizations, predominantly in the peripheral areas of those cities where land has a lower cost (see Chapter 1), implies public policy challenges in at least five dimensions linked to each other, the solution of which is complex and slow. These dimensions are: *transportation, land, housing, environment and urban planning* (which includes sustainable urban design). In the case of these dimensions, we have the following recommendations:

• *Transportation*. Favor the *complementarity and inter-modality* of transportation and its functional articulation with *urban land zoning* (*v.g.* land uses), in a context aimed at the *reduction of carbon emissions*. In 2008, transportation consumed 50% of the energy used in Mexico. In Mexico City, only 16% of trips were made in environment-friendly forms of transportation (subway, trolley bus, light train and bicycle) (see Chapter 3).

• *Land*. Design differentiated fiscal measures to *increase the land offer* and favor the *reduction of land prices*. For example, raising property taxes on unoccupied plots of land in the city or use resources obtained from construction licenses for the acquisition of public land reserves, with the aim of reducing real estate speculation.

• *Housing*. Ensure that new housing developments take into consideration *accessibility and connectivity* to employment and basic services (*e.g.* education, health, stores, green space, entertainment facilities, churches, that is, *urban structure* aspects), that their location does not affect the environment and, in the coming years, that housing designs include arrangements for elderly persons with mobility problems (*e.g.* dwellings without stairs; in the case of high density developments, it is important to ensure the availability of vertical transportation 24/7, with elevators where a stretcher can fit at the very minimum. This may require subsidies such as those for horizontal transportation: (*e.g.* the Mexico City subway system).

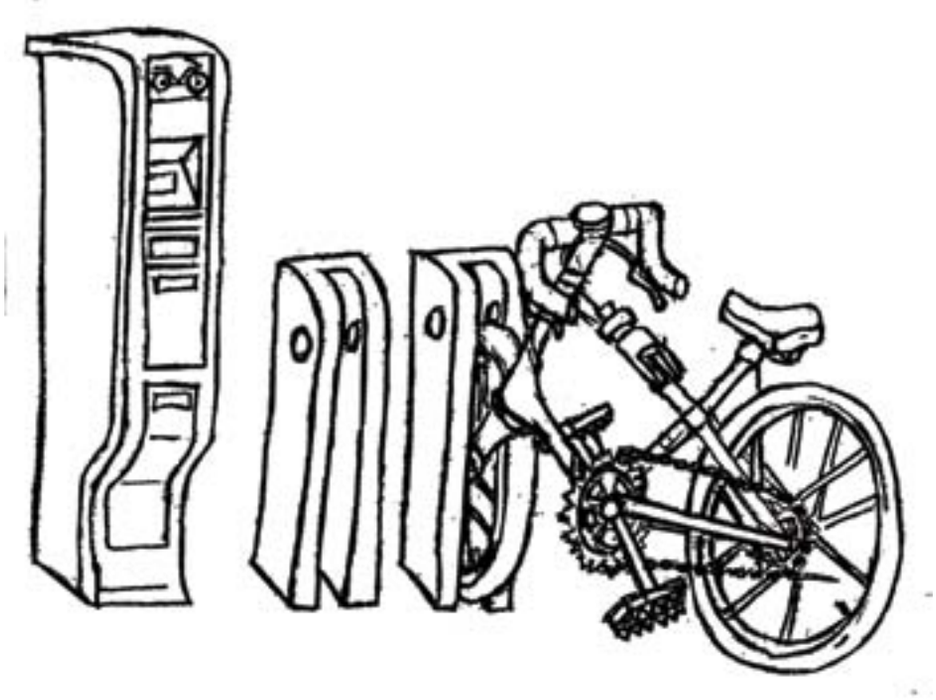
• *Environment*. Reduce the emissions of contaminants related to *flows of (public and private) automotive vehicles*. This requires taking into consideration that the most important daily flows are those to go to work or school. It is necessary to adopt regulatory measures that *everybody complies with* (including measures applicable to bus transportation concession owners, such as the so-called *pulpo camionero*, (the "bus octopus" or bus transportation monopoly)), non-polluting technological solutions to speed up transportation flows, and improving public transportation systems and transportation infrastructure.

• *Planning*. It is important to have a transparent and participatory planning scheme that allows for the design of *long-term* plans for the city's development (with a *metropolitan vision*, if applicable) that include, at the very minimum, land use zoning, a priority occupation of unoccupied interior plots of land, increasing population density, and the definition of zones suitable or not suitable for urban occupation and strategic aspects of the transportation system.

2.10. Insecurity and violence

The causes of insecurity in Mexico are related, to a large extent, to *structural variables* (*e.g.* unemployment, inequality, lack of education, poverty) and also to high levels of *corruption* (Benítez, 2009; Buscaglia, 2013). However, there is evidence that countries with more disadvantaged structural conditions compared to Mexico have achieved better crime-related indicators thanks to the performance of their justice administration institutions and their lower levels of corruption (*v.g.* the quality of their institutions: Acemoglu and Robinson, 2013; Diamond, 2013). When cities lack the capacity to deploy institutions and procedures that respond to everyone's needs, *impunity*, *exclusion* and *social inequality* become barriers to fundamental rights and freedoms, threatening social cohesion, economic efficiency and political stability (UN-HABITAT, 2008).

Therefore, it would be wrong to assume that, in order to achieve advances in the area of security, structural variables must be corrected first. Making immediate changes in *institutional variables* is not only urgent, but a faster route. Also, it is not true that insecurity is exclusively a high intensity social problem; it also has a significant impact on competitiveness, economic development, poverty and inequality (ISD, 2014). Insecurity and violence linked to organized crime have very high costs for Mexico.[37] Total economic losses from violence have been estimated at between 12% and 15% of the domestic GDP (IMCO, 2013).



37 However, not much is said about its economic benefits that, one way or another, trickle down (although in a clearly unequal fashion) to society as a whole. As reported by the well-known Colombian economist José Antonio Bejarano: "In Colombia the economy is doing well, but the country is falling into pieces" (Bejarano *et al.*, 1997).

The main recommendations are the following:

- Assign the highest *priority* and guarantee the security of citizens and their assets (including their companies and businesses) in the city. This is the first responsibility and the *fundamental purpose* of governments (Barry, 1995; Stoker, 1998).

- Eliminate the failures of the *judicial system* and the *high levels of public and private corruption* that affect business activity, investments, collective life and sustainable development in general.

- Apply (in all the country) the provisions of the *Palermo Convention* (UN, 2004) and the best protocols against *human trafficking* (UN, 2000), including the trafficking of elderly persons.

- Eliminate *intra-urban inequalities* in the area of insecurity, especially in the case of high impact crimes: homicides, kidnappings, extortion and human trafficking.

- Create a *stable and predictable local legislative environment*. If this does not exist, the risk of doing business increases (a situation that leads to the need for mechanisms so that legal problems can be solved in a fair, expedite and transparent manner), transaction costs rise, market inefficiencies and distortions are created and the competitiveness of cities falls.

- Carry out actions to *improve urban design* so that *the city is more walkable* (*e.g.* wider sidewalks in good condition, belter quality urban infrastructure, functional public lighting), by creating a more attractive environment, improving the quality of the local environment, creating neighborhoods walkable for pedestrians of all ages and creating *gathering*, and not only *transit*, spaces.

- Implement programs to promote culture, sports and *collective activities* that allow society to reclaim public spaces and the right to the city.

- Promote *women's empowerment,* (*e.g.* more and better education for access to quality employment) and ensure their financial independence, favor their life plans and protect them from violence. This requires, among other actions, promoting financing for women, reinforcing society's education in the area of gender equality, promoting communication and interpersonal relations, changing cultural norms related to gender, and enacting laws and implementing policies to protect women, fight discrimination against them, promote gender equality and encourage the adoption of more peaceful cultural norms (UN, 2013; Cerezo, 2012)).

The failure to implement *truly efficacious* SUSD policies in a country like Mexico is so serious that it is simply the equivalent of *doing nothing*. This reminds us of a statement made by the famous writer Keigo Higashino (2013: 310) in one of his recent novels: "…[he] limited himself to doing nothing …the crime was precisely doing nothing".