Department of Architecture
and Built Environment



University of Nottingham
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PLACE ATTACHMENT IN INFORMAL SETTLEMENTS: THE INFLUENCE OF COMMUNITY LEADERS IN MEXICO

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Thesis submitted to the University of Nottingham

for the degree of Doctor of Philosophy

May 2020

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Abstract

The research questions explored in this study are: “How is place attachment built and nurtured in informal settlements within impoverished communities in Mexico?”, and “What is the role of community leaders in this context?”. Informal settlement’s development, formalization, relocation or failure rests mainly on the actions of its residents rather than on the governance and policies of authorities. Community leaders are critical figures within the community; however, research on leadership in informal settlements has been rarely studied due to difficulties in accessing communities and communicating with authorities. Additionally, literature about how leadership influences socio-spatial relationships amongst residents is scarce. Thus, this research examines how different community leaders directly or indirectly influence this process. Place attachment studies on informal settlements generally tend to focus on the place-making activities that a community engages in and the feelings of attachment that result (Lombard, 2014). Defining the variables that affect place attachment in informal settlements is crucial to understanding how they function, especially towards development or relocation processes.

To explore this phenomenon, a case study of eight informal settlements on the outskirts of Zihuatanejo, Mexico, is presented. This case study identifies the type of leadership and the physical and social aspects of place which have an impact on the inhabitants’ ability to grow attachment to the site (or otherwise). It applies grounded theory and a mixed methodology, including semi-ethnographic data collection methods (workshops, informal interviews and site observation and documentation), alongside the analysis of planning documents

collected between 2016 – 2018. The study is structured according to the place attachment trichotomy of identity, dependence and social cohesion. A range of variables are identified, analyzed and correlated, such as leadership style, site location and method of establishment, site management/maintenance and activity, topographic characteristics of the site and economic level of residents.

Results will show a direct relationship between the type of leadership and the degree of attachment to place that residents of informal settlements can develop. As self-appointed urban planners, leaders have control of the design of the layout and assignation of plots, and as authority figures, they have influence on community work and social life. Different personalities of leaders influence the different types and depths of attachment that residents can have towards place. The political capital of the leaders can help overcome the temporality of tenure of the plots, and either enhances or decreases the sense of belonging to the settlement; the degree to which the leaders organize also contributes towards the strengthening of the community. The input that leaders have on the layout of the housing plots directly impacts future possibilities of social engagement, neighbourly relations and identity creation. Overall, these results challenge the current dominant narrative of community leaders as exploitative 'villains' (Xaba, 1994) and instead portrays them to be active and crucial agents in place-making. The study also contributes new insights into effective methods of conducting research in the challenging context of informal settlements. Place attachment, when studied in the context of informal dwelling, must recognize the need of a house as a crucial variable; however, it is the type of leadership that helps develop the sense of being at home.

Preface

While working as an architect who consistently works to resolve land management issues for clients, I lived in a town that was initially designed to house the entire locale, but that has repeatedly exceeded its population and housing limits. I had always perceived informal settlements as the issue.

In 2014, the new Urban Development plan was to be designed, and I was invited to participate, partly due to being the Vicepresident of the town Architectural Board. It was this invitation which made me begin to think of better ways to deal with informal settlements rather than relying on land tenancy or relocation. Also, being a lecturer at the Instituto Tecnologico de la Costa in Zihuatanejo, Mexico, and with most of its students living in informal settlements, I was continually being bombarded with what I considered excuses for not arriving on time to class.

These three reasons motivated me to have a deeper understanding of the life inside these settlements, analyzing not only the urban context but the people and reasons beyond the need of a house, with the aim of finding a 'better way' of dealing with informal housing.

I dedicate this thesis to my son Sebastian, who with his joy and unconditional love, is my engine of life.

To my mother and father, my inspiration, whose support and encouragement guided me.

Acknowledgements

I want to thank the National Council for Science and Technology of Mexico (CONACyT), for funding the PhD course. I am also indebted to my sponsor and employer, Instituto Tecnologico de la Costa Grande (TecNM) in Mexico.

I also want to express my gratitude to my supervisors Dr Katharina Borsi, Dr Nicole Porter and Dr Lucelia Rodrigues, for their support and feedback.

I am also very grateful to my family and friends, who kindly gave their time and care to allow me to work.

Chapter 1 : Introduction

This study explores how place attachment is built and nurtured in informal settlements within poor communities in Mexico, focusing on the role of community leaders in this context. Existing literature suggests that an informal settlement's development, formalisation, relocation or failure rests mainly on the actions of its residents rather than on the governance and policies of authorities. The figure of 'The Leader' plays a defining role within communities, acting both as a link to the authorities and as a 'father' figure for the residents, amongst other roles. However, research on leadership in informal settlements has been rarely studied due to difficulties accessing communities and authorities, mainly because of political and safety issues. There is particularly limited understanding of these places regarding the socio-spatial relationships that may affect residents' attachment to the place, which in the case of informal settlements are directly influenced by the leader. Understanding these factors is essential because place attachment may influence how informal settlements operate, particularly regarding their improvement or residents' relocation processes.

1.1 Research Space

1.1.1 Location of work:

The term informal settlement primarily describes a built environment used for housing. According to Habitat´s generic definition, an informal settlement is "an area that combines, to various extents, the following characteristics (restricted to the physical and legal characteristics of the settlements, and excluding the more difficult social dimensions): inadequate access to safe water, inadequate access to sanitation and other infrastructure, poor structural quality of housing, overcrowding and insecure residential status" (UN-HABITAT, 2003, p. 12). Informal settlements around the world possess different characteristics according to the country´s culture, history, politics and economic conditions. Nevertheless, urban slums exist and continue to exist due to the functions that they serve: (1) providing low-cost housing for the poor; (2) providing low-cost labour for the production of goods and services where this housing is near production areas; (3) providing a network of support for new immigrants; (4) providing an important source of votes for political parties (UN-HABITAT, 2003).

Informal settlements play an important role in the development of cities but are rarely treated as part of the urban space. This marginalization in the realms of both urban structure and social status has created trouble with the way their citizens identify and acknowledge themselves, and has an economic impact on the image of the city itself. Despite the problems associated with such insecure conditions, residents of these settlements rarely agree to relocate, nor do they necessarily participate in the upgrading of their settlement. Understanding why this happens is central to ensuring the effectiveness of any efforts to address the problems associated with informal settlements.

Existing literature (chapter two) shows that there have been many attempts to tackle and understand the situation of informal settlements and integrate them into the urban fabric and planning system. The most common approach has been upgrading or improvement of the settlement. Upgrading mostly consists

of interventions in the settlement done by local authorities, resulting in an improvement in the quality of life of the residents. However, only quantifiable infrastructure interventions such as water, drainage and electricity supply are generally considered. Other approaches have considered demolition and replacement by public housing in the 1950s and 60s (Abbott, 2002); and the sites and services schemes during the 1970s-80s (CSIR, 2000: p. 104, cited in Wekesa; Steyn, & Otieno, 2011). Others like 'Plano Global' in Brazil, The Cape Town Methodology, and the Progressive improvement model, take into consideration the 'input' of the residents.

Related to the above methods, and of direct relevance to place attachment, is another approach, through formalising land tenure. Granting secure tenure of land has been explored as another alternative for governments to reduce the anxious feelings of neglect and impermanency of the residents of the informal settlements. Land tenure can weaken the community's cohesion and participation in urban issues; however, a promise of tenure or temporary tenure maintains the strength of community bonds (Lombard, 2013). This temporary tenure has two results: one, it can aggravate the informality since authorities may not have the will nor the interest to finalize the process, and the second, that residents can obtain the 'right to stay' after several years of struggle [in Mexico] (Fernandez & Varley, 1998).

Land tenure, temporary or permanent, directly relates to the way that residents make the place their own. Placemaking is a term used to describe the process in which residents make the settlement theirs (Chapter three section 3.2). Whether legal or not, it has involved the analysis and study of 'place' as the main issue when understanding the 'feelings' that it develops in people and is developed by people over time (Lombard, 2013). This concept has been used by researchers to understand the temporality of the settlements, and analyse the resistance to relocation amongst residents that develops as a result of the land tenure. Some researchers have also studied Placemaking as a way to understand the way of life of these settlements, and help develop involvement of their people towards participating in the improvement of the settlement

itself. It has been used as an 'analytical tool for understanding how informal urban settlements are spatially and socially constructed' (Lombard, 2014).

Placemaking then is the act of getting attached to the place; it is the process by which these places are born and consolidated as a community. The process is commonly organized by 'community leaders'; these, and social struggles are important elements of the development of informal settlements. The illegality of the informal settlements limits their political representation as a recognized community; however, the presence of community leaders has eased this relationship between government and residents (Bénit-Gbaffou & Katsaura , 2014). Leadership and culture are conceptually intertwined, and leadership has been widely studied under the scope of economic and political influence as (1) the different types of internal governance, (2) the legality of the figure of a leader, and (3) how leaders 'emerge', why they emerge, and what this can tell us about the social relations within their community (Rhodes, 1996; Parry & Bryman, 2006; Pfeffer, 1981; Weick, 1995; Bennis & Nanus, 1985; Gbaffou & Katsaura, 2014).

To better understand the attachment to informal settlements, there should be a consideration of leadership as a key variable that influences, according to the specific spatial characteristics of the community, the degree of social cohesion, dependence and identity that can develop over time.

1.1.2 Niche of Research

Informal settlements have been widely studied in terms of relocation (policies, programs), and improvement (methodologies). The most recent studies have specifically examined the scope of economic and ecological impacts on the city, internal social policies by governance, and recently, concerning the how's and why's of corporate and political leadership. However, few studies have integrated the study of the social-spatial issues, leadership and place-attachment aspects of informal settlements (Smith, et al., 2015).

Every informal settlement possesses different characteristics (social, economic, physical), and many studies have tried to combine one or more of the

previously mentioned topics to understand the best way to include them with the formal city. Still, informal settlements continue to be created and grow, and the persistence of residents not wanting to move out of the sites (even when the physical risk of staying is huge) remains the same. The obvious and extensively studied need of a home is the commonly accepted explanation put forward when considering why people choose not to move from informal settlements. However, sometimes, even when appropriate land is presented to relocate, and governmental help is offered, residents still do not accept this assistance; and governments find it easier to let the people remain where they are and make the settlements 'legal' by regularizing the site (Fernandez & Varley, 1998). As noted above, this phenomenon has been commonly explained by the concept of appropriation and attachment; however, much still must be learned about the internal processes of place attachment and livelihood of these settlements, and the potential of these processes to be part of long-term settlement improvements.

Placemaking theory has been studied by researchers as a methodology to analyse the impact and process of constructing a community. With regard to informal communities, this process of constructing the settlement has been researched by few scholars who have mentioned it as the responsibility of self-appointed community leaders, since they are the ones who usually coordinate the invasion of land (Drivdal, 2016). The community cohesion strength that can form with this process of owning the place, not just physically but emotionally, is critical to the economic and social prosperity of the settlement (UN-HABITAT, 2003). However, feeling already spatially and socially excluded from the legal city, residents of these settlements, presumably, tend to keep excluding themselves from any social interaction between themselves and the city, and even between themselves as neighbours, which endangers the identity and shared meaning that the settlements could develop.

Applying notions of place attachment to the study of informal settlements may shed light on some of the theoretical debates and gaps within placemaking studies. First, the role of technology and its impact on the primacy of physical

space as a site of social interaction, has long been debated in the literature; however, this has not been considered in the context of informal space. Literature has suggested, with the concept of non-place and placelessness (chapter 3), that cities generally have already lost their meaning and that places as 'limited physical space' no longer exist (Relph, 1976). Technology has blurred lines and borders. While technology has helped cities to merge in digital space, it has also affected social relationships and bonds, the identity of residents, and hence attachment to place. Even in remote poor areas like informal settlements, where there is precisely no limited physical space that defines the settlement, technology is commonplace. The concept of placelessness has not been explored enough in informal settlements; as, due to the poverty issues, these are thought to be already excluded from 'modernity'. Giuffre (2013) suggests that one of the current threats to social cohesion is the mass use of virtual networks; which might reduce the number of face to face interactions, impacting social norms. And, that there has been an increasing concern about the provision of fewer spaces where people can meet up casually and establish interpersonal contact. Technology, along with lack of public places, can then act as an obstacle to the development of attachment, especially in informal settlements.

The topography of an area is also an underexplored aspect of placemaking, which is of particular relevance to informal settlements. Even when the physical space is no longer a barrier or an incentive for the development of social ties (due to technology), when analysing place attachment in informal settlements (where overcrowding and irregular layouts are a prevailing characteristic), one thing that can differentiate one informal settlement from another is the analysis of its site´s 3-dimensional variables (height of constructions and topography) (Ratti, 2004). The unique characteristic of each site has been somewhat overseen in place attachment studies; generalizing the intricate and disorganized layouts of the informal settlements as a product of their temporality and express takeover of the land; or, categorizing them by size, location from the city, and type of tenure (UN-HABITAT, 2003). Irregular

layouts, with curvilinear patterns, a result of the severe topography commonly found in informal settlements, are also considered a hindrance to the possibilities of social engagement (Carmona, et al., 2010). Hence, integrating topography to place attachment studies in informal settlements will increase the knowledge on this topic.

The other critical gap in knowledge relates to the role of community leaders within the context of placemaking and place attachment. Leadership has been arising as a key factor to work with when dealing with informal settlements, as more and more implicit 'power' is given to the leaders, by both their people and the government (Taylor, 2003). However, community leaders have generally been portrayed as villains (Drivdal, 2016). Although issues of governance connecting residents and their leaders have been studied, little research has been done concerning the role that the leader plays in the design layout, the takeover process of the land and the social relationships among the residents (Ward, 1999).

1.1.3 Filling the Niche

To define the scope of this thesis, and based on the above statements, it is important to acknowledge that little research has considered the variables of three-dimensional spatial layout as a determining factor for social interaction within the context of informal settlements. There have been a few research to deepen our understanding of how place attachment is formed and nurtured in informal settlements. Scant research has explored the influence that leadership may impose on the physical layout of informal settlements (Chiodelli, et al., 2013). However, no updated research has analysed the way social interactions occur because of that layout, and no research has studied the influence that the leaders have on it, which in turn may influence the place attachment of the residents.

This thesis investigates the impact of spatial layout on social cohesion and, hence, the impact of place attachment in informal settlements, through the analysis of the implications that the physical three-dimensional layout and the type of leadership might have on the residents. **It is hypothesised that there is**

a direct relationship of influence between the type of leadership and the degree of attachment that residents of informal settlements can develop.

1.2 Aim, Objectives

This research explores the way in which place attachment is developed and nurtured in informal settlements in Mexico, postulating the hypothesis of community leadership as a key variable within the social-spatial relationships in informal settlements; through analysing correlations between physical layout and type of governance that influence the residents' ability to develop attachment to the site.

OBJECTIVES:

- Document and analyse the history and spatial evolution of selected informal settlements.
- Determine and categorize the types of governance in informal settlements.
- Analyse social-spatial relationships within the settlement (patterns of use).
- Document and measure the social ties and bonds relating to the layout of the settlement.
- Analyse the attachment to site by understanding the social processes within the settlement
- Measure development of community identity within the settlements.
- Determine the physical dependence residents have on the settlement
- Document, identify and interpret the influence of community leadership on social-spatial relationships amongst residents.
- Understand the relationship between community leadership and place formation.

1.2.1 Research questions

To investigate the hypothesis raised, the following questions were formulated:

- How has place attachment been explored within informal communities to date?
- What is the influence of the community leader on the spatial layout of the settlement?
- Does that layout then impact on the social relationships in these settlements?
- Does the leader's personality influences place management activities?
- How then, do layout and leadership encourage place attachment in informal settlements?

1.3 Impact and Contribution

- Contribute to debates on urban planning by exploring the creation process of informal settlements, and how that impacts on the place attachment of the residents.
- Fill in the knowledge gap on urban theory related to socio-spatial impacts on place attachment in informal settlements.
- Inform future planning policies that will address both the improvement of existing informal settlements and the relocation of residents to alternative settlements.
- Contribute to the literature in informal settlements, challenging negative assumptions / dominant narratives of community leaders.
- Develop a methodological approach better fitting for social research with informal settlements.

1.4 Research Context

Mexico has been a growing and developing country ever since its Independence. Its governments have tried to position the country

internationally by undertaking or exploiting subjects such as our History, Culture, (food, traditions), and more recently (50 years to date), Tourism.



Figure 1-1 Location of Zihuatanejo in Mexico.

Zihuatanejo, Mexico, the chosen city of study, grew as the first populated area linked to the development of Ixtapa in the 1970s by FONATUR (as other similar destinations like Cancun, Los Cabos, Huatulco, etc.). Ixtapa-Zihuatanejo, as the destination is known, works as a double identity for its population. Ixtapa, the modern tourist town, of around 14,000 residents (considering an average of fluctuating tourist and permanent residents), and Zihuatanejo, the working-class urban area, with municipal services and infrastructure for a fast-growing population of around 61,000 residents. With high tourist appeal, the main problem for this town is that it was planned as an expensive fly-in destination; but, due to national economic issues, from 2006 onwards, it was transformed into a drive-in destination. Although local and national tourism gained a lot of importance, it created many urban difficulties for a city not planned under that scheme.

Tourist time became not only winter and summer vacations but also weekends and long weekends, Easter holidays, etc. This boosted population growth in Zihuatanejo, as more and more people starting immigrating from abroad

(rancheries, sierra, etc.), to fulfil the needs of tourist services (maids, helpers, etc.).

Subsequently, the once natural landscape of forested mountainside, outside the town centre that was protected in the original development plans, was transformed first, by illegal invasive house establishments of low-income people, and then authorized by the local government as development land[1].

Even though these informal settlements lack proper infrastructure and basic services, residents refuse to move or relocate, and more informal sites are being continuously created, making this town an ideal selection for studying the creation of informal settlements[2].

1.5 Methodology

This study applies mixed methods within the case study area of Ixtapa-Zihuatanejo. Eight informal settlements were initially studied before three were selected for in-depth analysis and comparison. Having three different types of communities provides more robust findings that will contribute towards a more general knowledge of place attachment in informal settlements.

This study worked through placemaking issues, data collection and analysis focused on the three key aspects of place attachment: place dependence, identity, and social cohesion. To collect data, an anthropological research approach, combining descriptive and formal observation, interviews and workshops,—was conducted on three stages (December 2016-April 2017, December 2017-January 2018, and July-September 2018). Relevant documentation (maps, reports, plans) was also obtained. A combination of mapping, coding of interview and workshop findings and correlation analysis were performed to analyse data.

[1] Often driven by political interests.

[2] See Chapter five.

1.6 Thesis Outline

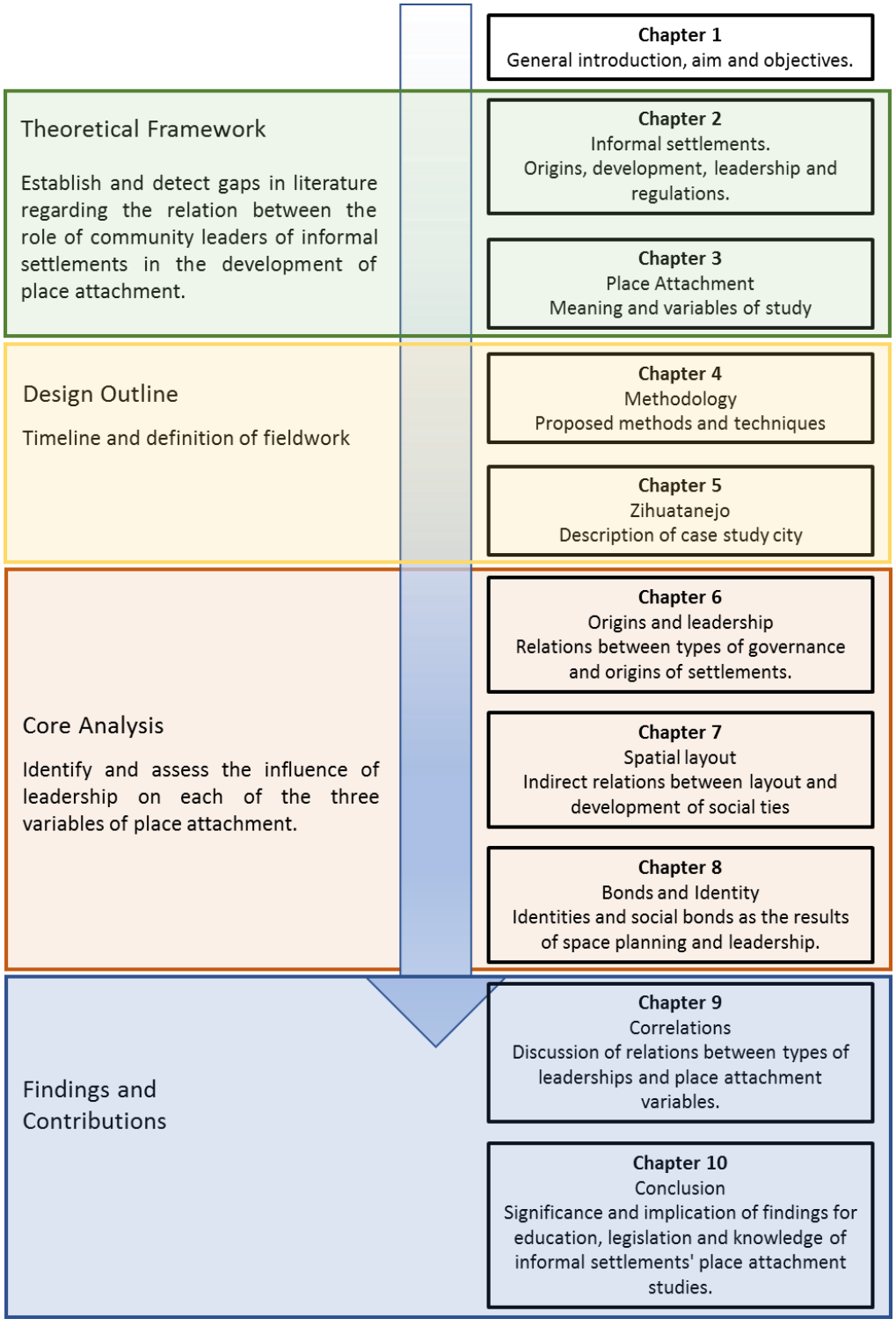


Table 1-1 Thesis structure

Brief introductions to the chapters describe and link the way the research is presented in the Thesis.

CHAPTER 2 - INFORMAL SETTLEMENTS (Literature review to describe the main character of study).

This chapter describes the knowledge of informal settlements, exploring the processes and reasons for the formation of informal settlements, acknowledging the risks, consequences and attempts that have been made to tackle this problem, focusing then on the development of informality in Mexico. The chapter raises leadership as an intrinsic factor of informality. Explanations of general definitions and theory of leadership lead to exploring how they emerge and work, investigating how leadership has been studied within the arena of informal settlements and stating the research niche for this work.

CHAPTER 3 - PLACE ATTACHMENT (Literature review to outline the significance and uses of attachment and its main components/variables).

This chapter focuses first on a definition of the concept of place, exploring spatial and geographical descriptions. The relationships in meaning and use between the concepts of place attachment, place identity, sense of place, place-making and placelessness, are presented as this association emerges in the literature, with the unavoidable but necessary overlap among all of them. Social bonds, social ties and social capital are explained and differentiated as used in the trichotomy of place attachment studies.

The chapter then explores the development of place attachment in informal settlements, illustrating positive and negative attachments, as well as the variables that could affect the same.

CHAPTER 4 - METHODOLOGY (Literature review on methods used to analyse place attachment, and proposed methodology for the present research)

Working with informal settlements, a continually changing environment, requires an adaptive methodology for research. To define the methods to be used, this chapter firstly addresses the methods proposed for place attachment

and leadership, analysing the nature of the findings, what they have achieved, and how they have been used. Then it is explained how, why, and what type of adaptation needs to be done to work with informal communities. The research design used for the case studies is then described in full.

CHAPTER 5 – ZIHUATANEJO (Case study city)

This chapter describes the town of Zihuatanejo; analysing its history, its growth through informal settlements and the impact of these settlements on the urban image of the town.

CHAPTER 6 – ORIGINS AND LEADERSHIP (Relations between governance types and creation of settlement)

To deepen an understanding of the substantial value of leaders, and to understand their relationship to the birth of a community, this chapter presents results from the eight case study sites within Zihuatanejo. Describing the formation, organization and type of leadership of each one, comparing results and grouping the settlements according to the type of leadership found. Results and limitations of the field site research on each one are mentioned and described with tables, maps and illustrations.

CHAPTER 7– SPATIAL ANALYSIS (Relation between layout and social development)

This chapter presents the process and form of the initial layout of each of the eight case studies. It then compares leader's with government's plans highlighting the influence of leadership as urban developers. Location, services and infrastructure is compared among the to define the dependence on the site, that might also encourage or disregard the development of community bonds. Summarizing, through a Space Syntax analysis, the different type of ties on each settlement, affected by the type of leadership.

CHAPTER 8 – BONDS AND IDENTITY (Reflection on layout and its influence on personal identity and the strength of social bonds)

This chapter aims to respond to the research question concerning the influence of the leader on the development of social relations and the achievement of social coherence by firstly analysing social relations in three of the eight case studies of settlements as a result of the layout of the place and its governance, understanding bonds and ties, and the reasons behind them. The work then studies the way in which residents have developed an attachment to the place by establishing physical ties to the site. Finally, there is a comparison of both social and physical dependence in the settlements to highlight the influence that leaders have on the settlement as a whole.

CHAPTER 9 – LEADERSHIP AND ITS RELATION TO PLACE ATTACHMENT (Discussion and correlation of variables of place attachment with leadership)

This chapter joins all the variables of place attachment presented in the case studies, with the main and central theme of the figure and influence of the leader. The argument of whether there is an influence of leadership on the type of community that is formed is also discussed. The result of the relationship between place attachment in informal settlements and leadership is presented.

CHAPTER 10– CONCLUSION (Summary points of chapters, lateral influence of research on-site, and work to be studied further).

This chapter discusses the main impacts that the research process and findings have had on the case study city and the residents of the informal settlements and proposes key methodology points when working with informal settlements.

Chapter 2 Informal Settlements

Urban spaces reflect the social segregation of complex societies. In the city and its surroundings, there is an enormous contrast between residential settlements, differing in such aspects as the density of population and existence, or lack-thereof, of infrastructure. Residential settlements range from city centre apartment blocks to leafy suburbs, to informal settlements. Areas with high population density but little infrastructure tend to be found in informal settlements.

The term informal settlement primarily describes a built environment known as a slum, under either illegal or legal tenure (Srinivas, 2015). Living conditions within these settlements are typically poor, with residents facing a range of fundamental livelihood challenges, including little or no access to basic sanitation and water supply, and problems of solid waste accumulation, recurrent shack fires, safety and security risks, and a range of health hazards (Hardoy & Satterthwaite, 1987). These settlements are typically occupied by low-income people who commonly immigrate from the countryside into the city seeking a better quality of life than their current occupation [farming, agriculture] gives them. Typically, these settlements grow as the families grow, (Hernandez, et al., 2014) so they rarely disappear.

This chapter presents the existing knowledge surrounding informal settlements, exploring the process of formation of informal settlements as it occurs in many cities of the world and by listing the several attempts that have been made to tackle the problems that arise from the illegal use of land. It then focuses on the development of informal settlements in Mexico specifically, analysing the social, political and economic environment that gave birth to

those illegal establishments and explaining the present situation and the legal ways of integrating the same into the formal city.

2.1 Definitions

Slums, squatter, informal, irregular and illegal are commonly used as descriptors for the type of settlement that does not form part of the official city map, portraying those settlements and their residents as 'marginal'. This marginalization of being outside normal considerations concerning planning and services, and of being depicted as places characterised by pollution and decay, justify authorities for demolition or eviction as the only proper way to solve the problem.

However, each descriptor refers to specific characteristics of each kind of settlement: (a) slum settlements are defined as run-down housing, poorly maintained but legally built and established in high-density areas located far from the city centre (United Nations Centre for Human Settlements, 1982); (b) squatter settlements are defined as uncontrolled, illegal, self-built and poorly equipped communities, also highly populated and even further away from the city centre (Viratkapan & Perera, 2006); (c) informal settlements are not only related to poverty, but are also related to the social and economic processes that occur within (Alfaro d'Alencon, et al., 2018), and can be both legal or illegal depending on the rights over the land and the type of land (as will be further explained); these are also portrayed as temporary (Lombard, 2013); (d) illegal settlements are those squatter settlements, slums settlements or informal settlements that have been established outside the law; (e) irregular settlements can be both a squatter settlement and an illegal residential area outside regulated city boundaries (Fernandes, 2011). These types of settlements are also known as 'townships' in Africa and 'urban villages' in China (further described below). From these definitions, we take it that the term 'informal' can include the others, as the use of the term depends on the physical and legal conditions of each settlement and the land taken. Hence the term "informal" will be used in the present research.



Figure 2-1 View of an informal settlement in Zihuatanejo, Mexico

All of the above terminologies refer to a strategy that Bayat (2004) calls 'quiet encroachment'. Quiet encroachment describes the actions that individuals take to acquire land; informality then is a process of continuous change and adaptation. Huchzermeyer (2008) gives a comprehensive summary of the use of several terms that define physical dwellings in poor settlements, and emphasizes the importance of understanding informal living as a social process as well:

> […] *the process of informality responds to changing pressures, structures are added, settlements densify or expand, occupants change, a rental market emerges, expands and may be reversed, leadership emerges and is challenged, and as struggles for formal recognition and servicing are fought, sections may be bulldozed, and others densify or gradually consolidate* (Huchzermeyer, 2008, p. 3).

This process, as Huchzermeyer summarizes, is more of a strategy than a cause of disorganization, so much so that even 'Inaction may be a forward-looking strategy, letting things unfold over time according to a locally situated (rather than externally imposed) timeframe' (Lombard, 2013, p. 817). Informal

settlements are more than complex and illegal spatial layouts; they involve intricate social processes that strengthen over time to form communities. This encroachment and place appropriation over time is, however, a phenomenon that disturbs the relocation of informal housing; governments get involved only as a response to the lack of formal arrangements, but rarely act with preventive measures (Fernandes & Varley, 1998). Making informal settlements the best available -and immediate- residential opportunity for the urban poor, relative to their survival strategies and their needs for a livelihood in an environment where there are little or no other affordable residential options available (Misselhorn, 2010).

2.2 Origins and formation of informal developments

Informal settlements represent one-fourth of the world's urban places (Clos, 2013), and are mostly found in developing countries which have been grouped and named as 'the Global South'. There is plenty of literature that focuses on the political, social and economic characteristics of informal settlements, mentioning the legal issues surrounding them as well as describing their physical conditions. The review of the literature presented in this section intends to highlight the common characteristics as well as main differences of the origins and formation of informal settlements in Africa, Asia, and Latin America, to understand the common ground and root cause of informal settlements in developing countries.

The most common characteristic of the dwellers of informal settlements is their origin and background, which is commonly rural and agricultural. They are immigrants to the city, searching for a better quality of life. The shift from agrarian economies to more industrial global development has reduced farm owners' opportunities for work, both as a result of the direct expropriation of the land by the government and the lack of support and funding from the authorities, as in China and Mexico. Although, this idea has been debated by sociologists and anthropologists such as Mangin and Turner (1968) who argue that informal settlements are vehicles of social improvement. They emphasize

the difference between a slum settlement and an informal one claiming that informal settlements are mostly created by former residents of slums, or by nearby settlements in need of growing space.

The other common background is the historical colonial development of their modern societies. Examples of this come from countries such as Mexico, Colombia, Brazil (Latin America in general), which were colonies of the Spanish and Portuguese empires, and countries in Africa and India which were colonies of the British empire.

Albania struggled with communism and Korea was colonized by Japan. Societies from these countries (where informal settlements have also proliferated) have had non-linear growth in the development of their political and economic structures. Instead, they have experienced economic boosts and drastic legislative changes that have affected their structure. For example, Seoul in Korea, after liberation from Japan in 1945, accelerated their economy employing cheap labour which was mobilized from rural communities into large cities (Soo-hyun, 2010). Bathore in Albania was formed in the 1990s by immigrants from rural areas that lost most services after the fall of communism (Pojani, 2013). Delft in South Africa is considered a 'township' (a sub-standard residential area) formed during the apartheid regime (Cirolia & Scheba, 2018). Kipsongo in Africa was established by immigrants escaping human conflicts of the post-colonial regime (Majale, 2008). In Lusaka Africa, former workers of 'white landlords' acquired the freedom to settle in places near private land (Nchito, 2007).

Changes in the political structure meant a shift in land policies to enhance economic development. For example, in China, the creation and proliferation of Urban Villages was the result of the acquisition of farmland for industrial purposes, which left villagers with a smaller portion of land encircled by urban areas (Wu, et al., 2013). In Mexico, some farmlands were expropriated by the State for industrial, and tourist developments, and some were left as 'ejido' (further explained in section 2.6) also encircled by urban areas.

Although the above similarities between countries could imply the same type of informal settlements, the legal status of the land varies in each country, embedding each settlement with different characteristics of legality and access to governmental support. There are commonly three principal ways in which the poor can gain space to live. The first one is invading private or public areas within the city and creating a settlement; the second one is the illegal acquisition of land beyond the boundaries of the city; and the third one is invading or buying land in areas of national reserve, which will eventually be absorbed into the urban structure (Hernandez, et al., 2014). From these three options, the type of land will give each settlement a legal, semi-legal or 'grey' legal status over the land.

In South Africa, land that was once owned by a 'white landlord', and later lost during political struggles, was densely populated by the formally peri-urban settlements, extending their occupancy onto the unused private land; making those settlements illegal in terms of tenancy but formal in terms of origins (Nchito, 2007). In China, the Urban Villages are neither illegal nor informal, as the land that the government does not buy from villagers remains their own. However, densification happens illegally as it generally exceeds governmental regulations; also, the municipal government has no jurisdiction or responsibility for this land, which means that landlords do not pay taxes. However, they also need to hire services on their own (a characteristic of informal settlements) (Wu, et al., 2013). In India, abandoned apartment blocks are used as dwellings by the city poor, making them squatters in a legal construction (Banerjee, 2002). In Mexico, the existence of ejidos, and chinampas[3], apart from private, and government land, create several forms of tenure, further explained in section 2.6.

History, as we have seen, plays an integral part in the explanation as to why there is a continuous development of informal settlements in developing

[3] Nahuatl languages: chināmitl [tʃiˈna:mitɬ]) is a type of Mesoamerican agriculture which used small, rectangular areas of fertile arable land to grow crops on the shallow lake beds in the Valley of Mexico. (Wikipedia, n.d.)

countries. While developed countries in Europe have had 'steady' change and growth economically and politically, in each instance, developing countries have had to struggle with colonialism, independence, apartheid, and other economic and political restrictions created by overpowering economies. Trying to overcome those difficulties, without proper preparation both politically and socially, has impacted their development process and has increased the number of informal settlements.

2.3 Consequences

The right to housing for every citizen, and the way in which those unable to afford it are forced to obtain it, is disrupting the healthy balance of cities and citizens; this subsequently makes informal settlements a hazard for a sustainable future, but most importantly a health hazard for themselves.

Several examples of negative consequences are commonly mentioned in research and daily news. In essence, hazards are resulting from the location of the settlement, or the social and economic components of the community. Location can be a direct hazard for the residents of informal settlements. Living on low laying land in places with an intense rainy season increases the likelihood of flooding and landslides (Fernandes, 2011), especially were the place 'chosen' is not prime land for housing (Nchito, 2007). Life on steep hills on land designated as a Nature Reserves can be dangerous as such areas are often subject to intensely powerful winds (Patino, 2018). The difficulty in finding available land forces the poor to establish their homes over dump and waste areas, causing diseases to the residents (D'hers, 2013).

Location is also a threat to the city as the construction of houses on Natural Reserve Land can have a substantial environmental impact (Benitez, et al., 2012) and cause damage to the ecosystem (Lombard, 2013). Also, there is damage to the image and perception of the city for visitors, which can have an indirect effect on the local economy (Hernandez-Lobato, et al., 2017). Another

seasonal problem that arises from the location of some informal settlements, particularly in Mexico, is the polluting impact that they have on the rest of the city. Due to their lack of services and infrastructure [4], in places where settlements are located on the hill surrounding the formal city, trash and faecal matter are washed down to the city centre during the rainy season, occasioning flooding and the spread of diseases for the rest of the residents of the town (ONU-HABITAT, et al., 2018).

Consequences of living in an informal settlement caused by the illegality of the same include lack of services and infrastructure, which result in safety hazards. For example, illegal connection to energy lines causing electric shocks and sparks that start fires (Staff, 2016), or the accumulation of electrical cables outdoors at ground level (Espinoza, 2019) (Fig 2-2). The same illegality prevents residents from gaining access to credit and loans to improve their living conditions (Fernandes, 2011). The precarious construction of their homes due to their low-income level exposes them to hazards such as fires (Aristegui Noticias, 2018)(Fig 2-3) hurricanes and flooding.



Figure 2-2 Low street level cables in informal settlements in Zihuatanejo- Despertar de la Costa, 2019.

[4] Land is forcefully transformed into an illegal residential area, with no previous infrastructure provision for that land use. The illegal status of the settlement makes it not official for the Municipalities, hence no services are provided by them.



Figure 2-3 Fire in an informal settlement in Zihuatanejo due to fireworks and outdoors gas tanks-Aristegui noticias ,2018.

Due to the physical layout aspect of the settlements, and their commonly disorganized nature, the irregular tracing of narrow streets causes difficulty of access and risky traffic flow. Overcrowding caused by the dense occupation of small plots of land too close together results in lack of ventilation and lack of public spaces (Fernandes, 2011). There is then, a higher probability of health issues and social quarrels, and a higher likelihood that the area would become a haven for bandits and drug dealers.

Economically, this inefficient development is also extremely costly to the city during the process of regularization and urban management (Abiko, et al., 2007). Socially, the cultural stigma and the low-income level make residents inclined to engage in informal or illegal commerce, increasing the perception of these settlements as a 'cancer' to the city (Li & Wu, 2013), and 'non-existent' places (Antillano, 2005).

Nevertheless, not all the consequences of informality are perceived as negative, as some authors mention that informal development has been a positive way for the population to find successful housing (Turner, 1977). While Hernando de Soto (2001) celebrates the idea that the residents of informal settlements possess valuable assets for the economic development of the cities, Castells (1989) defines these people as the drivers of the informal economy that supports city development. These assessments of the value of

informal settlements, although correct regarding the facts and the actual role that the residents play in the local economy, place the informal settlements within the spectrum of what Wirth in 1938 (p. 10) defined as the 'new urbanism': "the forms of social action and organization that emerge among individuals under these conditions of density, heterogeneity and anonymity".

The effect of the urban sprawl of these settlements is unquestionably an informal design role (Forte, 2015), that solves not only physical housing but also social issues. This is especially true since traditional approaches for urban planning tend to consider only the geographical aspects of land, accompanied by a systematic and rational political approach to finding design solutions for the city, while the real political agenda and social problems are overlooked (Rakodi, 2001).

Henceforth, and due to this dual perception of informal settlements, governments and NGO's have worked on ways to approach the problems caused by the same, trying to integrate the residents into the formal and legal city boundaries.

2.4 Historical actions taken

There have been many attempts to tackle the situation of the informal settlements and integrate them into the city planning and the urban fabric. Negative and aggressive tactics such as eviction and demolition, and positive and integrative ones such as upgrading or improving the settlement have been used. Upgrading most commonly consists of any intervention in the settlement that results in an improvement in the quality of life of residents. Quantifiable physical interventions such as those which provide water, drainage or electricity are mostly provided by government agencies. Various types of social programs or social interventions are usually undertaken by NGO's.

This section gives an overview of a few approaches that have been used, in different periods, to deal with informal living around the world. In the 1950s

and 1960s, the dominant approach to upgrading was eviction[5], demolition and replacement by public housing (Abbott, 2002). As recently as 2005, the program 'Operation Murambatsvina -restore order' was in use in South Africa (Nchito, 2007). Aggressive actions against a crucial part of the urban economy were the cause of the deaths of both evicted residents and law enforcement officers (Soo-hyun, 2010). They put pressure on the World Bank to grant loans for infrastructure and housing (Pugh, 1995). Although the WB responded, it advocated 'self-help' schemes rather than direct support.

In the 1970s and 1980s, Sites and Service schemes were prevalent. These programs involved '*the provision of subdivided "greenfields" with secure tenure and basic infrastructure to the households who are then required to construct their dwelling units, at their own pace'* (CSIR, 2000: p. 104, cited in Wekesa; Steyn, & Otieno, 2011). Examples of these schemes are the RDP housing programme and the Emergency housing programme in South Africa (Cirolia & Scheba, 2018), the Urban Basic Services programme (UBS) in India, and the Intervention Priority Projects in Favelas and Brazil Inhabit Programme in Brazil.

Since the 1990s, a range of responses has been adopted in different parts of the world that mix the self-help approach with the sites and service scheme to ingrate the community into the process by enhancing participation policies.

The Cape Town Methodology deals with upgrading by empowering the community with knowledge about themselves to enter into negotiations or a partnership with the local authority, each one sharing responsibilities to work together in the upgrading process. The Cape Town Methodology used Abbott's (1995) model of community participation, which operates in four 'arenas'. The first one is consensus, which includes sharing knowledge and ideas for improvement with local authorities, stakeholders and the settlement. The second one is the settlement, emphasizing its spatial integrity. The third one

[5] Eviction and demolition here are placed as separate actions. The eviction of residents may or may not be done from self-built shacks, but rather from empty buildings where the squatting was taking place (Soo-hyun, 2010), demolition therefore implies the vacancy of the construction prior to the eviction.

divides the settlement into blocks or neighbourhoods, recognizing that it is not a homogenous entity for decision making and has varying needs; and the fourth one is families. However, in some studies, data related to the community's social and economic status tend to be particularly complex and is still being analysed to determine how or if to include it in the process.

The Support base intervention (Huchzermeyer, 1999) can be either government-initiated or NGO- initiated. However, Huchzermeyer emphasises that success in upgrading projects is due to a strong commitment to community-driven development, and not only on the type of intervention done.

The progressive improvement model (Choguill, Franceys, & Cotton, 1993, 1994; Choguill, 1999) works based on the provision of necessary infrastructure. Incremental improvement seeks to match a level of infrastructure with the ability of either the community or the local authority to manage that infrastructure in a sustainable way (Abbott, 2002). Community-based planning, or micro-planning (Hamdi & Goethert, 1997), is part of other community-based approaches such as Planning for Real, Goal Oriented Project Planning and the Urban Community Assistance Team.

The Holistic Plan or Plano Global, used in Brazil, *'…seeks to identify all of the important sets of relationships that exist within the social, economic and physical spheres of life in the settlement, and then create a redevelopment plan that embraces and enhances all of these'* (Abbott, 2002, p. 311). However, this requires that the settlement is in a stable state, while the identified factors are analysed. This represents a problem for designing since any human settlement is always and consistently changing.

As all of the above methodologies are used during the life cycle of research projects, they tend to be narrowed into a traditional development paradigm. There is a strong focus on individual communities taking full responsibility for decisions in their area. But community-based planning approaches (also called the bottom-up methodology for community participation), may also lead in the

opposite direction, towards isolation and fragmentation from the city, without external aid from professionals to guide and integrate these decisions into the rest of the city planning. *'Physical planning should not be determined centrally but should encourage public participation to access real user needs and affordability. The technical teams should guide the communities with their expert knowledge to determine appropriate planning regulations to ensure basic health and safety standards.'* (Wekesa, et al., 2011, p. 242).

2.4.1 Regularization and upgrading

Infrastructure provision remains an important element of upgrading, as the Brazilian programme Morar Carioca (Fernandes, 2011), and the Environmental Improvement of Urban Slums in India demonstrate (Banerjee, 2002). Still, not all approaches to improvement of informal settlements rely on the provision of infrastructure. Other solutions for the improvement of informal settlements mentioned in the literature review are reduction in the unit cost of houses (UN-Habitat, 2005), reduction of building standards, and use of traditional indigenous low-cost technologies and materials. These are approaches on the material side for the improvement of the quality of life for the residents of informal settlements.

Considering the reality of such policies as vehicles for political patronage schemes, especially in but not limited to countries in Latin America, conventional regularization programmes also focus on narrowing the legalization[6] of tenure through land title (Fernandes & Varley, 1998). Schemes of granting land title are based on Hernando de Soto's hypothesis that 'security is a trigger for development, stimulating access to finance, economic activity, and residential upgrading' (Fernandes, 2011, p. 3). While each country's legal approach to land issues may vary, the conventional approach is the integration of these informal settlements into the legal framework of the formal city.

Because of a common historical background in Latin America, and the existence of communal land; in countries like Mexico, Peru, Brazil and Argentina,

[6] Legalization: the action of making something that was previously illegal permissible by law (Oxford Dictionaries, n.d.)

regularization programs like the Pierri Act dating to the 1960s and 1970s, promoted this kind of regularization[7] by expropriation and later by granting title of communal land after division and allocation of smaller plots to residents. In Rio de Janeiro, the Favela-Barrio program and My House, My Life program also dealt with granting land title, as well as the Act 1666 in Argentina (Di Virgilio, et al., 2014). In Korea, a different approach to tenure was taken in 1973, with the 'Temporary Measure Act for Housing Improvement Promotion', which gave squatters tenure rights to encourage the improvement of their sites. India, with the Slum Areas (Improvement and Clearance) Act of 1956, granted indirect tenure to informal settlements, meaning that this Act acknowledged the site as a slum. Therefore, residents could not be evicted without the authority's approval (Banerjee, 2002).

The definition of informal living as 'encroachment', that passive strategy of waiting, has been a result of another type of tenure regularization very common in Latin America. In Brazil, the Federal Constitution of 1988, Article 183, established that "*An individual who possesses an urban area of up to two hundred and fifty square metres, for five years, without interruption or opposition, using it as his or as his family's home, shall acquire domain of it, provided that he does not own any other urban or rural property*" (Political Database of the Americas). Similar to Brazil's Constitution, the General Law of Human Settlements in Mexico of 2016, Chapter three, Article 82 states that "*Only those who occupy a property and do not own another property in the same city, may receive the benefit of regularization. Preference will be given to peaceful possessors and in good faith according to the seniority of the possession, and no person may be benefited by the regularization with more than one lot or property whose surface may not exceed the extent determined by legislation, of applicable Urban Development plans or programs*" (Camara de Diputados del H. Congreso de la Union, 2016). The implications of this legal process in Mexico will be further explained in section 2.6.

[7] Controlled by rules, adjust to work correctly or according to one's requirements. (Hawker & Cowley, 1995)

However, this formalization and security of land tenure, does not imply any immediate improvement of the settlement, nor does it assure residents easy access to formal credit. It has moreover caused a disintegration of the social cohesion of the communities in the settlements (Banerjee, 2002). Ironically, the likelihood of titling and proceeding with regularization has increased the development of informal settlements (Smolka, 2003).

Then again, being regularized means that those residents will no longer be 'invisible' to the law and all that is implied by living within the law. Sometimes, as Neuwirth (2006) mentions, residents prefer to 'stay free', even if that involves living with many sacrifices, the freedom of 'living their way by their own rules' is deemed better.

2.4.2 Relocation

A very different approach is the relocation[8] of informal settlements in areas designated as low-income residential land, rarely considered in city design master plans since is it not a profitable decision.

The relocation of the inhabitants of informal settlements into public housing was generally sponsored by government funding. Still, such programmes paid scant attention to matching the real needs of the low-income population (Keivani & Werna, 2001). *'Moreover, the need to reduce costs meant that many projects were on cheap land on the periphery of cities with bad access to job opportunities'* (Wekesa, et al., 2011, p. 241).

A common constraint is a lack of appropriate relocation destinations (if considered) which are suitably located relative to job opportunities, transportation, and social services such as education and health care. Fernandes (2011) listed vital issues that hinder the relocation processes: (a) insufficient financial resources, (b) resistance to moving from rooted communities, (c) environmental costs, and (d) the right to remain. Relocation is, therefore, a rare path to take when dealing with informal settlements.

[8] Relocation here means moving the informal settlement's residents to legal areas suitable for housing.

However, a study of some slum relocation projects in Bangkok revealed that location of new housing area does not necessarily have to be close to the previous one *"to make minimum disruption to the livelihoods and socio-economic linkages of people"* (Viratkapan & Perera, 2006, p. 165). But instead that when selecting the relocation area, aspects such as social organization and a positive attitude towards the relocation are essential to have a successful development outcome (Viratkapan & Perera, 2006).

When considering the success or failure of relocation or eviction projects, authors agree to judge their development performance by the following criteria: 1) resettlement policies and institutional framework, 2) public participation, 3) compensation, 4) good and developed location for resettlement and 5) consolidation of livelihood (Davidson, et al., 1993).

Resettlement policies for the case study country (Mexico) are explained further in this chapter. The literature review shows that new policies for improvement or relocation of informal settlements need to be community friendly and socially inclusive, understanding the need for compensation to those dwellers who might already have placed a viable structure on an invaded site, and by analyzing land available for these settlements.

2.5 Community Leadership as a form of Governance

Human beings are social entities by nature. Social interactions must occur among people for the purpose of evolution and development; society, therefore, has a need to organize. Governance has been defined as "*a government's ability to make and enforce rules, and to deliver services*[…]" (Fukuyama, 2013, p. 350), "*the way social problems are solved*", an 'institution of social coordination' (Lee, 2003, p. 2). It is a term that defines the way people interact to work towards a common good (Rhodes, 1996). Stogdill (1950) cited in Parry & Bryman, 2006, p. 447 mentions: '*Leadership may be considered as the process (act) of influencing the activities of an organized group in its efforts toward goal setting and goal achievement*'. This section reflects on community

leadership as a form of governance in informal settlements, where this occurs for the ultimate goal of legalization.

Leadership has been mostly studied by economists and sociologists regarding the leader's role within organizations as 'coordinators' of people to do a specific task, where a leader needs subordinates and a particular goal (Smircich and Morganm 1982; Pfeffer, 1981; and Weick, 1995). Leadership within the scope of social sciences research with a focus on poor communities has been investigated by few scholars (Drivdal (2016); Bénit & Katsaura (2014); Hellweg (2014) but has mainly focused on the political and administrative aspects of their work with the community and the government.

The history of leadership terminology and conceptualization has been broken into six main stages or approaches, which, according to Parry and Bryman (2006), are generally associated with a particular period. (1) The Trait Approach seeks to determine the specific personal qualities and characteristics of leaders; this implies a belief that leaders are born rather than made. (2) The Style Approach focuses on the style, the behaviour of leaders, and the nurture possibility of leaders. (3) The Contingency Approach, which analyses the environment where the leaders work and how those situational factors affect them. (4) The New Leadership Approach joins many different themes with similar conceptions of leadership as managers of meaning rather than influencers of a process (Parry & Bryman, 2006, p. 450). Amongst these themes we have: transformational leadership (Bass, 1985; Tichy and Devanna, 1986), charismatic leadership (House, 1977; Conger, 1989), visionary leadership (Sashkin, 1988; Westley and Mintzberg, 1989), and simply leadership (Bennis and Nanus, 1985; Kotter, 1990; Kouzes and Posner, 1998). A subdivision of this new approach is the Distributed Leadership, which includes SuperLeadership where the emphasis is placed on 'leading others to lead themselves' (Sims and Lorenzi, 1992, p. 296 cited in Parry & Bryman, 2006). (5) Post-charismatic and Post-transformational Leadership, which is based on embedded learning, team leadership, shared leadership, and learning from experience and failure (Fullan, 2004). (6) Pragmatic Leadership, which chooses not to rely upon the

communication of values and ideals. In addition to these classifications, other types include Transactional Leadership, which relies upon control and the exercise of power; and the Spirituality of Leadership, which include authenticity, wisdom, courage, morality, integrity, values, honesty and justice as the main characteristics of a 'good' leader.

The numerous conceptualizations of leadership identified above, however, have little to say about informal leadership processes such as the ones that occur in informal or irregular settlements, since the former tends to focus on formally designated leaders and have little in the way of situational analysis. Leaders have been researched as leaders *of* communities, rather than as leaders *within* communities. The focus has mainly been on organizational leadership; there is little known about leaders in informal settlements as the 'organizational' status of these places is volatile, changes rapidly, and evolves as the residents do.

2.5.1 Leadership in informality

In informal settlements, leadership is a requirement for improvement. Community leaders play the part of the 'head of state' within the settlement; a big brother, with a vocation dedicated to the wellbeing of the residents. How leaders do it, how they emerge, and how they work, has been studied as an aspect of the general concept of leadership itself and explored mainly in business studies (Parry & Bryman, 2006). Still, it has been somewhat neglected within the informal sector. Community leadership is not a frequent topic in urban studies, as underlined in Bénit-Gbaffou and Katsaura's (2014, p. 1807) study of community leadership and the construction of political legitimacy, a common barrier being political interests (Hernandez, et al., 2014). Leadership has frequently been researched in a formal way (as in elected positions). Community or informal leadership, when addressed, is commonly seen as a form of governance at the administrative level such as micro-politics, with different interests, agendas or discourses; but not as an aspect of the formation of social network which is the aim of the present research. Studies of social movements have neglected the question of leadership in the organizations and

movements of civil society; it has been 'under-theorized' (Barker, et al., 2001). Another issue standing in the way of understanding leadership in this context is the difficulty in accessing governmental information (Hernandez, et al., 2014).

Oldfield (2000) agrees that community organizing drives processes for improving settlement conditions and service delivery. To understand the capacities of informal settlement communities to engage and collaborate, it is important to understand the relationship that exists between governance, political dynamics and leadership (Drivdal, 2016). Proper governance can only be achieved if democracy applies.

> *At this core is the confident assertion that "good governance" and democracy are not simply desirable but essential conditions for development in all societies. […] "democratic good governance" refers generally to a political regime based on the model of a liberal-democratic polity, which protects human and civil rights, combined with a competent, non-corrupt and accountable public administration* (Leftwich, 1993, p. 605).

Leftwich states that democracy can be easily achieved in a capitalist regime; having a proper capitalist regime working hand in hand with a 'democratic good governance' leads to development. He also mentions a competent, non-corrupt and accountable public administration, which is not frequently found in governments, especially in developing countries such as the case study country. Although politics is not an issue to analyse in this work, it is addressed here as an important variable affecting the process of interaction between residents of settlements, leaders and authorities (see Chapter six).

Leaders are therefore important personalities, with a very difficult role to fulfil in the life of an informal settlement. Th*ey '[…] are caught in a no man's land where they are expected to represent the views of their constituencies to [the state] on the one hand, but at the same time to embody the [state] back in the*

community on the other. […] Where money is at stake, representatives also run the risk of being suspected of feathering their own nests by their community, while being accused of being unrepresentative by their new partnership colleagues is an occupational hazard, especially if they challenge the drive to consensus' (Taylor, 2003, p. 193). Leadership within social sciences has been categorized by descriptions similar to those categories explained above by Parry & Bryman (2006). (1)Charismatic, traditional or bureaucratic by Weber (1978), (2) transactional or transformational (Burns, 1978), (3) organizational or visionary (Aminzade, et al., 2001), (4) charismatic, ideological or pragmatic (Mumford, 2006), (5) facilitator, caretaker, visionary or local boss (John & Cole, 1999), as listed in Bénit and Katsaura (2014, p. 1808). Urban studies on leadership have focused on patronage or the clientelist nature of political leadership (Ward, 1999), addressing the economic and political relationship between the residents (followers) and the leader (patron). They have not yet studied the impact that those types of leadership can have on the spatial layout or the social outcomes of the communities they lead.

2.5.1.1 Variables influencing type of leadership

Community leaders do not all have the same opportunities or chances to work towards community improvement. Hence, their ability on the way that they approach their tasks will vary. According to Drivdal's (2016), studies on informal settlements of Cape Town, three factors condition these chances: location of settlement, external connections (i.e. Social capital- see Chapter three), and internal consolidation of the settlement. The location of the settlement is sometimes determined by the leader, hence embedding leadership with a strong position of authority. The external connections - the social capital- of the leaders makes enormous differences with regard to real improvements for the community (Drivdal (2016); Bénit-Gbaffou & Katsaura (2014)), leading to an enhanced positive/negative response from the residents. The internal consolidation of the settlement can be very complicated to acknowledge, as it can only be referred to, when talking about governance, in terms of

commitment towards the place (Pugalis, et al., 2014), but not as the social cohesion of the community.

Leaders are also not all made the same way. The general focus of research on leadership is on how it emerges through social processes, without considering the personality of the leader. However, these two characteristics cannot be analysed separately, but rather should be examined through a socially constructive perspective, understanding how leaders emerge in particular historical and cultural contexts. Leadership is viewed as a social reality embedded in its context. Moving away from dividing them into heroes or villains, but understanding that leaders are constantly shaped through social processes and contextual expectations (Drivdal, 2016); this study takes a socially constructive perspective on leadership as the first step in acknowledging that leadership practices are embedded in cultural contexts where societal notions of leadership are both taken for granted and under re-construction (Crevani, et al., 2010, p. 77).

The way that leaders emerge divides them in three groups: (a) Self-appointed leaders have been depicted as opportunists, power-seeking actors, quasi-political leaders controlling, for their own benefit, the development and payment collection from the residents (Drivdal, 2016). However, it would be unfair to generalize these types of leaders only as villains, since sometimes the individuals who initiate land occupation also become leaders. (b) Natural leaders are the ones who are generally selected by the community. This selection can occur either once the settlement has been established, or before; meaning that leaders can be selected democratically by a vote when a former leader leaves or if the community dislikes him/her (although Xaba (1994) states that leadership in informal settlements is not democratic). On the other hand, they can be 'appointed' by members of a social network which requests help in finding a place to live. (c) Politically appointed leaders become self-appointed villains who occupy, develop and sell illegal land to people in need, with a political promise of regularization by a specific political party in exchange for

votes (Auyero, 2000). Clientelism is a very common practice of community leadership in Latin American countries.

Gender also has an impact on the style of leadership. According to Parry & Bryman (2006), women favour connectivity and relatedness, display more transformational leadership, and are more likely to use conferences and networks to achieve results. Men are more task-focused, ambitious and competitive; they seek autonomy and control. These differences, according to psychologists, make the distinction between a Boss and a Leader: a Boss is a person who wields authority or power over a group of people to direct their work or activities; a Leader is a person who guides a group of people towards a goal (Regader, n.d.). However, researchers have not yet come to an agreement regarding gender differences (Parry & Bryman, 2006), especially since the leader's personal and cultural characteristics are somewhat ignored in leadership studies (Drivdal, 2016).

Research on informal settlements about leadership has often been conducted in South Africa, in some Indian cities and, more recently, in Central and South America, as explained throughout this text exposing several issues that have shed light on what community leadership work is about.

Work done by Barry and Mayson (2000) in South Africa, provides insight about the internal governance of informal settlements. They show that there is constant conflict between groups that are formed inside the settlement due to differences in goals and that there are also conflicts between bordering communities and administration authorities. Additionally, the internal rules of the community change as time goes by and the community itself changes as well. All of these conflicts tend to subdivide the community and promote different leaders. Based on the social change model and the existence of cultural inferences (tribal issues), Barry and Mayson then state that there is a constant struggle for power among several leaders of the same community. These issues with leaders then complicate the relationship with land administrators and planners when trying to work towards reconstruction, improvement or regularization (see section 2.6 for further explanation).

It was mentioned before that community leadership constitutes a blind spot in urban studies and studies related to leadership, politics, social movements (Bénit-Gbaffou & Katsaura , 2014). Their work shows the relationship and effort of the leaders with the community as examples of micro-political dynamics, as they act as brokers and construction of political legitimacy and implicitly understand Bourdieus' (1991)concept of 'double-dealings'. This work tries to understand the 'room to manoeuvre' of leaders in these complex terrains, where, as they explain, their power position is volatile and based on credibility which can be easily destroyed through rumours and scandals. It also points to the importance of considering leaders as an asset towards understanding community participation and engagement possibilities. This is particularly important when dealing with government self-help programs for the improvement of informal settlements.

A previous study done by Bénit (Bénit-Gbaffou, 2011) had described two features of local leadership or community leadership: 'personalization of representatives' and 'flexibility of policy'. Both features refer to the small scale that is commonly frequent in informal settlements. This allows the leader to develop personal relationships with the authorities and in-depth knowledge of their community both spatially and socially.

The research done by Xaba (1994) also in Africa, shows the way in which leadership works towards soliciting funds for development in squatter camps of Kwamashu. Focusing the study on the type of authority and the prospects of development; based on the findings, Xaba portrays leadership in informal settlements as tyranny and an exercise in power exclusion. Xaba goes on to describe this example of non-democratic leadership: a decision-making figure which excludes popular participation, who accepts forms of paid gratuities, and who favours only those aligned to the same ideology or political party as the leader.

Van Gelder (2010), analyses how tenure is controlled in informal settlements in Argentina. Although not mentioning the specific role of leadership, he says that these communities have a set of rules that dictate how and when a piece of

land belongs to someone. This *how* refers to the type of tenure: individual, freehold, ownership where there is sometimes more security of tenure than that offered by the government. He calls them informal settlement administrations with an informal legal system.

Political alliances[9] were also analysed by Ludger (2014) in his research on a Brazilian city: the main reason why leadership to loses its strength and ability to represent their people occurs when an alliance is made with the 'wrong' political party, or when a political party fails to comply with promises concerning regularization and security of tenure. He mentions that a leader is someone who takes care of the community and describes three characteristics of good leaders in the context of informality: (1) independence from politics, (2) love for the community, and (3) fulfilment of physical needs.

These socio-political relations can either enhance or diminish the welfare of the community. Leaders with proper political connections have a better chance to get the settlement regularized fast, get hold of services and infrastructure more efficiently, and accrue the benefit of being known in the political sphere. And although all these 'favours' do not come for free, the usual rate of return is in the form of support for specific political campaigns (Dominguez Mariano, 2007). While weak socio-political bonds mean that the leader will definitively struggle more to acquire the same as the above. For example, leaders in Mumbai's squatter places who used 'hard-noise tactics' (e.g. blocking streets, using agitation) to make the government hear their complaints, only managed to make the leader more noticed and more powerful. However, the community rarely gets anything out of it.

What is needed is a dialogue between the government and the community (Neuwirth, 2006, p. 136). In Istanbul, Ross 2010, in Neuwirth, 2006 p. 145, mentions that one leader took an orderly (decent) and calm approach, which was valued (but not necessarily regarded as good leadership), whereas another

[9] Or Political capital.

leader took a confrontational 'straight-talk' approach, which was valued for reflecting the urgency of the moment and for motivating action.

Leadership is also dependent on the type of community. Size, density and geographical characteristics of the population are important factors that define the degree of influence that a community leader can have. Community interests may or may not naturally agree with those of the leader and are also constantly changing as per the residents' volatile stay on the settlement (Barry & Mayson, 2000). Any social rules of behaviour can decrease in strength as the community grows and evolves; the enforcement of these rules by the community leader can be overseen because leadership is not official; hence their credibility can easily be destroyed (Bénit-Gbaffou & Katsaura , 2014).

Community leadership, as a form of governance, has barely explored in informal settlements; leadership has been highlighted as an important social factor that may 'significantly shape colonos'[10] levels of participation, as well as the settlements' physical development' (Ward, 1999). Gender, type of community, and historical background, as described in this section, act as the three key variables that define community leadership. However, studies regarding the socio spatial impact that community leadership has on the strength and development of the community are scarce or non-existent (Smith, et al., 2015).

2.6 Mexico

Narrowing down to the present research's country of study, Mexico's history and laws have shaped informal settlements in a particularly complex way. Considering Mexico, with its large territory embracing different types of climate zones and land formations, it is important to acknowledge how informal settlements have formed and have impacted on major cities of the country. This section describes and analyses the history of land tenure legislation and

[10] Colonos is Spanish for 'people who live in neighbourhoods'. In Mexico, the term is also commonly used to refer to the residents of the informal settlements.

the impact that it has had on informal settlements, giving examples of how these places are perceived and dealt with.

2.6.1 Land tenure and regulations

As mentioned in section 2.2 of this chapter, prehispanic and colonial history has shaped types of land tenure and hence the laws regulating those types of tenures (ejido land, and chinampas).

To understand how law and the type of land are intrinsically related and how those 'loop holes' in legislation have been abused as to form 'semi-legal' tenure for informal settlements, this section firstly reviews the chronological history of these particular types of land entities, and how, in chronological order, they were accommodated into the development of legislation. Examples of several informal settlements in the country are then explained, citing leadership as a political tool, and finalizing with current laws and acts covering the regularization processes.

Research on 'ejido' land normally focuses its origins on post-colonial times, following the Mexican Revolution, as that was when this type of land tenure was legally recognized in the Mexican Constitution, Article 27, explicitly defining it as community-based land tenure (Barnes, 2014). However, this type of tenure has its origins in the traditional indigenous system of land tenure called *calpulli*[11] and *altepetlalli*[12], where each calpulli would possess common lands. These common lands were then subdivided and assigned to each family member for the purpose of agriculture; this right of occupation and land use was hereditary and could only be reassigned to another calpulli if the family disappeared (Redfield, 1982). This history of land possession influences the value of the place's *Genius Loci*[13] which has a strong influence on present 'ejidatarios[14]' feelings and attachment to land.

[11] Calpulli was a prehispanic fundamental social unit, normally formed by family ties (Redfield, 1982).
[12] Altepetlalli was the name given to the common lands shared by the family members of the Calpulli (Redfield, 1982).
[13] See Chapter 3 Place Attachment.
[14] Ejidatario is the term used to designate the owner of ejido land.

This type of social organization was very common during prehispanic times all over the country; and during the Spanish occupation, this type of tenure did not change much as the Spaniards also had similar land ownership traditions known as 'propios' (Encyclopaedia Britannica, n.d.). After the conquest, these communal lands (taken by the Spanish occupation), were 'given back' to the indigenous people for public use (forest and area of grass for the cattle) but were administered by the Republic and some Church corporations (Encyclopedia of Latin American History and Culture, 2008). During the Porfiriato [15] (1880 to 1915), land ownership rights of civil, and religious corporations, and villagers' estates were dissolved, and rural land became property of a small elite (hacendados[16]). Later, during the Mexican Revolution (1910-1917), the call for land reform became a theme in the fight for liberty with the cry "tierra y libertad" (land and liberty) which sought the right of farmers to possess the land that they worked on. The land reform specified in the Constitution, Art. 27, gave the state the full possession of the land and the ability and the legal right to confer and transfer rights of land to private ownership[17]. It was mainly during the presidency of Lazaro Cardenas (1934-1940) that land was transferred to communities of indigenous and small farmers under the ejido tenure, covering around 52% of the total land area of Mexico (Barnes, 2014). However, this type of tenure did not mean full ownership of the land, rather farmers had usufruct rights to the land (Perramond, 2008).

Half of the country's land base was part of the ejido system up until the late 1970's, a period during which the government's priority was agricultural production (Garcia Alba & Serra Puche, 1984) and where ejidatarios became politically and economically strong at municipal level. Unfortunately, with the

[15] A 34-year rule of President Porfirio Diaz (Barnes, 2014).

[16] Hacendado refers to a rich landlord who possess large pieces of land (hacienda).

[17] The ownership of lands and waters within the limits of the national territory, originally corresponds to the Nation, which has had and has the right to transfer ownership of them to individuals, constituting private property. *La propiedad de las tierras y aguas comprendidas dentro de los límites del territorio nacional, corresponde originariamente a la Nación, la cual ha tenido y tiene el derecho de transmitir el dominio de ellas a los particulares, constituyendo la propiedad privada* (Carranza, 1917)

political and economic crisis of 1982 that resulted from the failure of the government's financial policies and the resulting hyperinflation and devaluation of the currency, farm land was no longer productive enough (compared with international markets) and agricultural production incurred too much expense. During the government of Salinas (1988-1994) policies were focused on private, individual property that best fit with neo-liberal policies and international trade (NAFTA); the price of exported goods dropped, and farmers no longer had fixed price support from the government, resulting in low revenues for them and a massive migration to cities (Barnes, 2014; Perramond, 2008; Fernandes & Varley, 1998). To address the economic problems of the country, Salinas pushed constitutional reforms in 1992 to the Agrarian Law, where ejidatarios were given the opportunity of becoming private landowners (Rivera Herrejón, 2007). The National Agrarian Registry (RAN) provided the possibility of transforming the usufruct that ejidatarios were given during the 1930s-40s into parcels[18] of land with full title. This possibility did not mean that ejidatarios were forced to do so, as ejido land was considered tax exempt land[19] (Contacto Hoy, 2016) and its transfer to private property would mean that already poor farmers would incur further expenses; nevertheless, it allowed for private investment, leasing or contract farming. Since then, however, this exemption has been a subject of discussion in the Mexican legislature, as ejido owners abused their occupation of the land. Municipalities from different states of the country, based on Article 115[20], section IV of the Mexican Constitution, and under each State's Municipal Treasury Law have argued that 'The rights to the possession of ejidal and communal lands, as well as to the permanent constructions in said lands' (Consejeria Juridica del Poder Ejecutivo, 2003) are subject to taxation under the property agreement. Recent modification to the Income Law of some Municipalities in 2016, established

[18] Parcels are refered to in the Mexican Agrarian Law, as the legal subdivisions of land between the original possessors of the ejido.

[19] The tax exemption refers to the individual property tax the Treasury charges owners of private property.

[20] The municipalities will freely administer their property, which will be formed from the income of the property that belongs to them, as well as from the contributions and other income that the legislatures establish in their favour.

that the Assembly[21] of ejido land owners should pay an Ejidal Property Tax proportional to the productive value of the land; however this law has been difficult to enforce as there is no precise data base of the actual ownership of ejidos in Mexico and this proposal has been deemed unconstitutional by the Magistrates (Seminario Judicial de la Federacion, 2016).

Here is where loopholes appear. One of the reasons that illegal settlements have mostly developed on ejido land is that it is ejido land itself that is subdivided for housing plots and sold at much lower prices than in the formal market (Ruiz-Velasco & Solinis, 1988). Possession of the land by ejidatarios is legal, but the use of the land (as housing) is not; this illegal subdivision of land is however, 'extra-officially' allowed by the local governments, for political purposes (Ruiz-Velasco & Solinis, 1988; Gilbert & Varley 1991). Non-enforced laws regarding the tenancy of the land, has allowed several owners of parcels of land to 'develop' neighbourhoods by dividing small parcels even more, and then leaving it up to the ultimate buyers to convert their small parcel into private property.

Understanding how ejidos work in Mexico is significant when studying informal settlements, as ejido land still constitutes nearly half of the territory. Having reviewed the legislation created over the years for land tenure, the next part reviews the social and political origins of informal settlements based on researchers Varley, Ward and Fernandes' extensive study of the reasons for informal settlements as well as the records of the development of a few cities in Mexico.

2.6.2 Socio-political origins of informality in the country.

Described in section 2.6.1 above, the Mexican Revolution 'created' the ejido land tenure to enhance agricultural productivity, but also increased the demand for cheap labour to respond to the demands of the market and the growing need for industrial processing of raw materials. This increased the gap

[21] The General Assembly of ejidatarios is in agrarian matters, the supreme organ, meeting of the administrative members of the ejido or communal population nucleus […] (Rosas Robles, 2006)

between proletarian[22] and bourgeoisie[23] (ETOL, 1938) creating around the 1930s what the Mexican Government called 'proletarian settlements' around the cities mostly conformed of these labour workers (Fernandes & Varley, 1998). The main requirement of these settlements was the acquisition of land, which the government accepted as alliances with labour organizations which had been created to meet export demands; giving 'birth' to the political clientelism between the 'urban poor' and the government. The later shift in market policies during the late 1970's rapidly increased migration from rural places into cities' surroundings, mostly on ejido land. This development urged the Government to resolve the issue of housing for low wage labourers; the government's response was expropriation of ejido in favour of the Federal Agency 'Commission for the Regularization of Land Tenure' (CORETT[24]) (Varley, 2002) established in 1973. This first process of regularization consisted in the expropriation of ejido land (with already squatting residents), at relatively low level of compensation (Varley, 2017) (either money or another piece of land in an urbanized area of the city) to the ejidatarios, dividing and registering the plots and assigning titles to the informal residents. This marked the beginning of informal settlements around big cities. In Puebla, such growth was controlled by the opportunistic leadership of realtors (Herrera Charolet, 2008); in Mexico City, it was subject to political influence; whereas in Guadalajara and Veracruz, there were illegal ejido land sales[25] (Ruiz-Velasco & Solinis, 1988).

These expropriation procedures were also used to create tourist developments such as Cancun, Loreto, Huatulco and Ixtapa-Zihuatanejo (the city of the case studies). During the presidency of Miguel Aleman (1946-1952), ejido land was

[22] Proletarian refers to a social group that, separated from the means of production, subsists and reproduces only through the sale of its labor force (Warman, 1980).
[23] Bourgeoisie refers to a social group that possess large pieces of land and controls the production of raw materials (Bobbio, et al., 2005).
[24] CORETT is an organism oriented mainly to the regularization of land tenure in irregular human settlements in lands of ejido, communal and federal property, through the expropriation with the consensus of all those involved, for their subsequent regularization and deed of lots to favor of the families that occupy them (Ramírez Valdivia, 2003).
[25] Further explained in section 1.6.3

expropriated to boost the copra[26] market for export, and the remaining coastal lands were designated for tourism under the administration of Trusts in each city (Gomez Jara, 1974).

Conversely, during this same period, access to Habana Cuba was closed, so a lot of US tourism switched to new touristic destinations in Mexico, having several effects on land tenancy in the country:

(a) Some of the expropriated lands (without any specific limits to size) were also 'sold' to US citizens. These lands were then sold by US citizens to local real estate agencies who also sold plots of land to Mexican citizens. The illegal sale and resale of the land made the settlements illegal as well.

(b) Coastal ejidos were converted into hotels areas and high-income residential developments, which, under the political promise of 'improvement' displaced the original residents (who lived off fishing) pushing them out into the surrounding hills.

(c) Tourism increased in these destinations, which caused an expansive explosion of the need for labour in the tourism sector; former farmers then migrated to these places in search of jobs, but their low income and the unavailability of affordable housing forced them to join (and increase the size of) the already settled communities in the surrounding hills (Gomez Jara, 1974; Enciclopedia Guerrerense).

These events therefore led to the formation of the high-risk informal settlements that are commonly present in all of the previously mentioned tourist destinations.

Since the informal settlements continued to grow, during the presidency of Salinas de Gortari, regularization programs were accelerated in order to capitalize on their popularity, but little attention was given to future repercussions or to the need to control the process of urban development

[26] Copra refers to the dried coconut kernels, from which oil is obtained (English. Oxford Living Dictionaries, n.d.)

(Fernandes & Varley, 1998). This regularization process consisted of changing the official plan for land use in the Urban Development Plans, so as to give land title to the residents of informal settlements. This process is ongoing.

Apart from the expropriation of ejidos into formal parcels of private land with the intent to grant land tittle as a method of executing a process of regularization, the legality of changing the official type of land in the Urban Development Plan of each Municipality comes from the rights of ownership present in the Civil Code of each State. The Civil Code of the State of Guerrero (the state of the city of study), in the Second Title, Chapter I, Article 721 states that a person who has taken possession of land[27] in a peaceful, continuous and public manner for over a year, even if the possession was done with malicious intent, will have the right to be compensated for the expenses incurred for improvements to the place, when and if a request is made; Chapter II, Articles 752, 755, 756, 762 refer to the possession of owned land that might be vacant and not used for its intended purpose by the owner (e.g. agricultural land), these articles state that the possession must be peaceful, public and continuous for five years in good faith or, in the event of malicious intent, ten years; and finally Chapter III, Article 794 states that these two types of possession are recognized as legal means to acquire the property of the land occupied (53er Legislatura del Honorable Congreso de Guerrero, 2017).

2.6.3 Community leaders

It was explained in the section above, that leadership plays a key role in the regularization of informal settlements. In Mexico particularly, as history has shown, community leaders have mostly had political interests and/or have been supported by a political party. Community Leaders as social capital developers for politicians is mentioned in the study that Hernandez, et al. (2014) made in Tamaulipas Mexico. In exchange for land tenure, politicians use the need of the informal settlement's dwellers to 'buy' leaders into supporting their political campaigns. However, two other types of leaders also emerge

[27] This article refers to land that has no apparent or obvious ownership (even though it may have a legal unknown owner).

from the internal social struggles of each informal settlement. There are the so called 'natural' leaders, who are the ones who even without formal title or recognition of the community do work in the settlement's best interests. Commonly, for a settlement community to start the regularization process, and be recognized as such, a formal community leader must be 'registered' with the Municipality. This registration is done with the Department of the Interior in each Municipality. The process requires that the residents form a full Committee, including a Secretary, a Treasurer and two Spokespeople apart from the President. This registration is done mostly for the purpose of assuring that the settlement has an official 'spokesperson' with the Municipality. Having an assigned leader who can validate documents with his signature and an official seal, therefore reduces the need for excessive paperwork and numerous meetings. However, the 'natural' leaders, and the group of people that follow them, are recognized in an *ex officio* capacity by the authorities and are, sometimes, also given the same respect when dealing with requests and meetings. If and when the natural leader and the official leader are in contradiction about their demands, the Municipality then assigns a temporary representative to deal with the internal issues of the community (Chavarria Sanchez, 2017).

After the official recognition of the settlement as an '*informal settlement in the process of regularization*', the words used to describe the new arrangement are interesting: the community leader becomes a President; and after the regularization process is completed, the settlement becomes a neighbourhood (or 'colonia popular'[28]). Even though, as Varley mentions, regularization does not necessarily mean that services and infrastructure will be immediately supplied to the newly formed neighbourhood (Fernandes & Varley, 1998).

[28] Colonia popular is the term commonly used to name regularized poor neighbourhoods in Mexico (Lomnitz, 1977).

2.6.4 Informal settlements experiences and perceptions -north, south, east and west-

According to the Support Program of Inhabitants of Irregular Human Settlements in Conditions of Patrimonial Poverty (Pasprah) and the Mexican Institute for Competitiveness (Imco) (Camara de Diputados, 2019), informal settlements represent 67% of the housing in Mexico. As such, the need to prevent and control the emergence of more is a major issue for the Mexican Government. Sections 2.3 and 2.4 described the common issues and problems that arise with the creation of informal settlements in cities, and section 2.6.1 described the loopholes that allow their growth in the country. This section addresses selected cities that best illustrate how informal settlements have appeared in Mexico, how Governments have dealt with the issue, and the role that their leaders have had in the same.

Acapulco, Guerrero (the south-west)

Acapulco is perhaps the best example of informal growth due to political and economic interests and represents the best-case study of the need for a strong community leader. The expropriation of ejido land since the 1930's for touristic purposes, meant that the local population (farmers and fishermen) were stripped of their traditional habitat and compelled to work collectively to occupy inaccessible land. In tandem with these developments, tourism encouraged land speculation due to the surplus monies generated from the construction of resort areas, residential, commercial, luxury or sports, etc. (Carrascal & Perez Villegas, 1998), and pushed the low income population to the outskirts of the city. Poverty, discrimination, nonconformity and lack of opportunity caused a huge revolt among the original occupants of the ejido, who, organized by Lopez Cisneros -*King Lopitos*-, as he would later be known (because of his work involving the take-back and regularization of expropriated ejido land) invaded several areas already considered as private property (Gomez Jara, 1974). Lopez Cisneros also had a strong personality as well as

political capital[29], which helped him to organize land invasions. Because of the power that he had acquired, the authorities had to ask for his permission and help to do any work with the communities that he controlled (Enciclopedia Guerrerense, n.d.).

In an attempt to solve these issues, Ciudad Renacimiento, a planned relocated community outside the boundaries of the city was designed in 1982 to contain most of the inhabitants of the irregular settlements, financed by the federal government under the "sites and services scheme". Currently overpopulated, with poor infrastructure and contamination issues (Lopez Velasco, et al., 2012), Ciudad Renacimiento remains designated as a housing area for low income families; so even though it is a legal settlement, the common problems of exclusion and lack of services still exist.

Puebla, Puebla (the centre)

The city of Puebla is located just two hours from the capital. Puebla is a big colonial city which has grown exponentially due to its proximity to Mexico City. Once a very fertile farming ejido land that provided the colonial town with supplies, the expropriation of ejido lands by the agrarian reform of 1946[30] caused the continuous invasion of these lands by the urban poor. Although different from the invasions in Acapulco, the ejido land in Puebla was absorbed by the state and/or sold as private property but was rarely occupied and developed as it was [then] far from the city centre. The owners of these properties also rarely paid property taxes, so that when an invasion occurred, owners had little possibility of claiming legal tenure (Meza, 2018). Most of the current informal settlements in Puebla (as of the date of the present research) developed in these areas. Leaders in this city are known to be "money-makers" using the sale and resale of these lands to people in need of housing[31] (Herrera

[29] Related to the social capital that leaders have specifically with politicians, hence called political capital. See chapter three.
[30] Also known as the contra-reform during the government of General Avila Camacho and intensified during the presidency of Miguel Aleman. A reform to Art. 27° of the Constitution which allowed ejido land to become private property (Mesa A., 1961).
[31] A 400 hectares plot can house around 4,000 people and give a profit of 3 million pounds (72 million pesos) to the leader.

Charolet, 2008). Some of these leaders form part of the 'Movimiento Antorchista'[32], and have the unofficial legal protection of a major political party (Oficinas de prensa del Movimiento Antorchista, n.d.).

Back in 1974, the Government designed a planned relocation area of 26.66ha. -Castillotla- for two reasons: to house families affected by a major earthquake on the outskirts of the 'Pico de Orizaba' volcano, and to house former farmers affected by agrarian reform, who had been invading private farming land as a protest since 1970 (Rojas Flores, 2015). And although at the time, this settlement solved the issue, the 'availability' of unused land around Castillotla and the growth of the families in it, has caused an overwhelming increase of informal settlements around it. The name Castillotla is used for their own illegal settlements in order to have a sense of belonging to the original legal area[33].

Hermosillo, Sonora (the north-west)

Relocation of informal settlements commonly implies moving the housing to places that end up being far away from the city centre. This creates discontent and a resistance to move on the part of the residents, as is the case of settlement Invasion 4 de marzo in Hermosillo.

With around 38 informal settlements in 2012, out of which 20 were regularized in 2014, the capital city of the state has dealt with invasions of ejido land, private property and landfill sites since the 1970's, product also of the expropriation of ejidos in 1944 (Garcia Almirall, 2015). Since private property and ejido land are the responsibilities of landowners, landfill changes land use as per the Urban Development Plan, and informal settlements have to be relocated elsewhere. The main issue for the residents of these informal settlements is health related. The lack of infrastructure for garbage collection causes large fires occasioned by the burning of communal garbage as the

[32] A national Mexican political organization whose main objective is to eradicate poverty in Mexico. This organization works towards improving education, health, services, and employment opportunity for marginalized groups of society. Adhered to the Revolutionary Institutional Party [PRI] in 1988.

[33] Paseos Castillotla and Galaxia Castillotla, are two of the informal settlements located around Castillotla (Juarez, 2018).

inhabitants do it to dispose of their rubbish. In 2010 the Government initiated the relocation of several families located on a landfill site, but the relocation area was 8.11km away; residents did not agree with the process as it was too far away (Garcia Almirall, 2015, p. 55).

Xalapa, **Veracruz** (the east)

A well-known issue generated by the uncontrolled urban expansion is the negative impact that it has on the environment. The case of informal settlements in Xalapa highlights the importance of this impact and the need to stop the creation of more settlements in Nature Reserves and agricultural land.

Xalapa has already been altered by these settlements. In Xalapa the emergence of informal settlements dates back to the 1960's, occupying already by 1980, 40% of the ejido land, and by 2007, 90% of the land of the Municipality (Chico Boll & Cora Casildo, 2014). Contrary to what happens in Acapulco, where the informal settlements are mostly located on the hills, the people of Xalapa prefer areas of less risk but with unfortunately higher ecological value. This has had a huge impact on the hydrological reserves of the state and on the environment. These lands are sold by *coyotes*[34]who convince ejido land owners that they are allowed to sell their land even before receiving legal title by the government (Jones & Ward, 1998). This may be the reason why residents of these settlements view home "more as something in process than as something static or fixed" (Lombard, 2013).

Tampico, Tamaulipas (the north-east)

Residents of informal settlements satisfy their need for a home by settling in areas commonly at risk and identified as not suitable for habitation. The case of informal settlements such as Laguna de la Ilusion in Tampico illustrates that sometimes, even with a high risk of flooding and poor sanitary conditions, residents are not willing to relocate (Gonzalez Florenzano, 2014). The municipalities of Tamaulipas have many rivers and lakes, whose shores due to

[34] Intermediaries in the land deal, often suspected of fraudulent activity.

the uncontrolled expansion of the urban area, have been occupied by informal settlements. Although the need of a house is a key variable for this illegal occupation, in the case of Tamaulipas, the push for this land invasion has been mostly due to political strategies designed to consolidate power in the Senate[35] (Hernandez, et al., 2014).

Mexico's territory is vast, but similarities can be observed in the reasons for the proliferation of informal settlements all over the country. The political situation at the time impacts on how informal settlements are dealt with, and leaders take advantage of this dynamic to make a living.

Conclusions

Even though low income 'non-official' settlements are perceived as a plague on cities, and hence defined as the leading cause of several political, economic, social and environmental problems, the reality shown in this chapter is that informal settlements are the way in which cities have been growing since the beginning of urbanization. While these informal settlements vary in typology per country (as per official definitions), they all possess the same characteristics of disregard for government authority, lack of services, poor health and safety hazards for the inhabitants.

Political and economic causes have been defining the path that most developing countries have taken towards housing policies. Housing policies parallel the evolution of historic events or form a quick solution for the development of the country's economic growth. These policies -which include regularization, relocation, and eviction- however, never really manage to solve the social issues which are the cause of the expansion of informal settlements.

The consequences of the lack of real solutions are immense and are mostly reflected in the loss of lives of the most vulnerable members of society, economic impact on the 'host' city, and shocks to the environment.

[35] Political Clientelism, as explained earlier on this chapter.

Fair housing for the economically most vulnerable level of society, which is also the heart of every economy (nationally and internationally), is normally viewed as a profitable business by realtors, and as an expensive – non-profitable – process by governments. Fair housing has been left in the hands of the public to solve, which is generally the main reason for informal settlements.

The demands of those in need have sometimes been abused by opportunists, people who, by illegally selling land that they do not own, claim that they, themselves are saviours of the poor. Land that is often in a legal grey space[36], and that then makes the regulations hard to fight against. Adaptations, revisions and change of laws are often the only solution for the government to integrate these settlements and provide a sense of security to the residents of the same. However, even though those opportunists commonly also have a political relationship from which a certain political party will benefit, having a community leader[37] is the only way in which the residents' demands are considered by the authorities. Residents of informal settlements mostly end up becoming pawns in the political game during campaigns and at election times, with most of the time no ultimate benefit. However, not all leaders are built the same way, and variables such as social capital, community participation, size of community, geographical typology, the way they emerge, and even gender, can define the type of leader and hence, the type of governance. There are community leaders, -as described in this chapter-, that do go far to help, guide and care for their communities; how they do it, and what influence they have beyond internal governance and socio-political relationship, is something that has not yet been explored, and gives the present research the opportunity to fill a gap of information.

Mexico, as a developing country, continuously growing in population, has created and adapted land tenancy policies according to its cultural history. Ejido land has evolved from being mostly farm land into being illegal housing developments. Expropriation and titling (regularization) has been the result of

[36] Such as land issues examples in China and India.
[37] Good or bad (opportunist).

the urge of politics to gain supporters for a given political party, or as means to 'recover' and give possession of land to the State for purpose of economic development. This process of using informal settlements as political capital is ongoing and exists throughout the whole country.

Whatever the case, informal settlements are linked to political interests; and that link is commonly a figure known as a community leader. Since the history, the culture and the economic-political environment are factors that are specific to each town, city and country, working with informal settlements must take into account the strength of each leader, to best develop the most suitable process of improvement for each community.

Chapter 3 Place Attachment

Where we are (place), what are we doing (activity), how are we doing it (artifacts) and when are we doing it (time), define the way in which we live. As social individuals, people need places to interact at, places that fulfill their needs and develop bonds with each other. These bonds also develop towards the place that grants those fulfilments and grow with time.

Attachment is based on the significance of the place for the people living there and for their sense of identity with the place. People cherish places and appropriate them to reflect their personality (Friedmann, 2007). Loaded with character, places are not only builders of communities, but also formers of cultural, historical and typological backgrounds; these characteristics influence the way people interact, maintain or loose attachment to the place.

This chapter defines the theoretical framework for the present research firstly by focusing on a definition of the concept of place as a cherished location for which humans develop attachment through routine activities; secondly, by surveying the origins of the term and its evolution towards an understanding of social-place relationship which further develop into meaningful and useful connections linking the concepts of place attachment, place identity, sense of place, place-making and placelessness. Even though there is 'currently no clear consensus on whether place attachment is a single order factor, a secondary factor comprised of primary components, or one component of a higher order factor such as sense of place' (Hernandez, Hidalgo, & Ruiz, 2013, cited in Anton & Lawrence, 2014), this chapter explains the relationship between the concepts which leads to taking a tripartite focus on place attachment by its derivate components: place dependence, place identity and social bonds.

The chapter then describes and questions the intricate development of attachment to temporal places, such as informal settlements; exploring and relating the core meaning of the variables of place attachment to the ever-changing circumstances of those illegal settlements.

3.1 Place

Place, site, space, landscape and environment: these words are somewhat related to the general concept of Aristotle's ´where we are´ (Casey, 1997); a concept taken for granted in our everyday lives, different when studied through physics or cosmology and approached through phenomenology or geography. In the Platonic cosmology of 'regions', place was defined as /*Chöra*/, a noun for place-of-occupation, imbedding the significance of place with a sense of function. Yi-Fu Tuan (1977) and Cresswell (2015, p. 15) linked place to pauses along the way inside the space, '…, if we think of space as that which allow movement, then place is pause; each pause in movements makes it possible for location to be transformed into place'. Place and space are then related as entities which complement each other: 'The ideas *space* and *place* require each other for definition. From the security and stability of place we are aware of the openness, freedom, and threat of space, and vice versa.' (Cresswell, 2015, p. 15). Certeau (1988) on the other hand, suggests that 'place is the empty grid over which practice occurs while space is what is created by practice' (Cresswell, 2015, p. 70).

Aristotle's approach to place in the text *Physikë akroasis* [Hearkening to Nature] (2017), is much like a phenomenological[38] one, with its main concerns being change and motion. Time is thus integrated with the study of a continuously

[38] The term phenomenology was coined by Lamber in 1764 to designate the study of physical phenomena as the appear to the senses; it was developed by Franz Brentano and Edmund Husserl in the 19th century and its central concern is with what philosophers call "intentionality", referring to the "aboutness" of human consciousness (Cresswell 2015).

"Any object, event, situation or experience that a person can see, hear, touch, smell, taste, feel, intuit, know, understand, or live through is a legitimate topic for phenomenological investigation. […]" (Seamon 2000, p. 3 cited in Castello 2010 p. 3)

changing place (like informal settlements). Aristotle projects two kinds of places: the "common space" and the "special place": the former conceals a general capacity while the latter is personal. Both meaning being *in* something.

Site and Landscape are concepts frequently associated with place. Site carries no meaning other than that of a specific location within the place, which also contains an infinite number of areas. Landscape, on the other hand, is a visual concept of place, a portion of land viewed from an outside specific spot (Cosgrove 1984 and Jackson 1997, in Creswell 2015, p. 17).

Plato's line of thinking is the basis for contemporary nonscientific thinking on the subject, providing Geometry with notions of space. Aristotle, however, defines 'place' as matter, an existing unit which connects. His approach is commonly used in phenomenological studies in multiple disciplines.

This interdisciplinary property of the concept of place is what embeds the word with such importance, as philosopher J.E. Malpas (2018) mentions. The study of place is not proper only to Geography, it has been used indiscriminately by poets, writers, politicians, and physiologists also. 'Place is not a specialized piece of academic terminology' (Cresswell, 2015, p. 6). The word place is loaded with different meanings and senses. A place embodies characteristics, properties and feelings precisely because it is not only a 'container' but it is also the 'contents' themselves, as Plato claimed.

Place is such a peculiar term because it has geographical, architectural and social connotations that link these disciplines and articulate the understanding of the concept (Canter, 1977, p. 6). Despite this useful characteristic of the concept of 'place', Cresswell (2015) argues that it is confusing to differentiate some of its genealogies. On the one hand, place stands for a material object, but on the other hand, place refers to a way of seeing and knowing the world. Cresswell differentiates these two genealogies of place into Ontology, and Epistemology and Metaphysics respectively, much like Aristotle's and Plato's arguments addressed above. Cresswell then places ´place´ as an insider within the geographic approach to the concept, rather than an as outsider, as he

considers the philosophical concepts to be. He concurs with Heidegger's and Certeau's concept of place not being contained within space, but as place being a creator of spaces (Cresswell, 2015).

"*Geography is the knowledge of the world as it exists in places*" (Lukermann, 1964, p.167 cited in Cresswell, 2015, p. 33). Tuan, in his work 'Place: an experiential perspective´, also insists that ´the academic discipline that studies place is geography' (Tuan, 1975, p. 151). By placing 'place' within the school of Geography, Cultural Geography and Environmental Geography also present this two-sided argument. Authors like Vidal, Carl O. Sauer, Wagner and Mikesell, argue that culture is what transforms the natural environment; while Semple and Huntingdon say that 'the characteristics of human settlements (culture) were […] a response to environmental imperatives' (Cresswell, 2015, p. 32), which supports the argument of an 'inverse' place making theory for this research. Image 3-1 illustrates the relationship between the two initial lines of thought (Plato's and Aristotle's) that contribute to the development of the school of thought that currently studies place as a lived and cherished space: Environmental Geography.

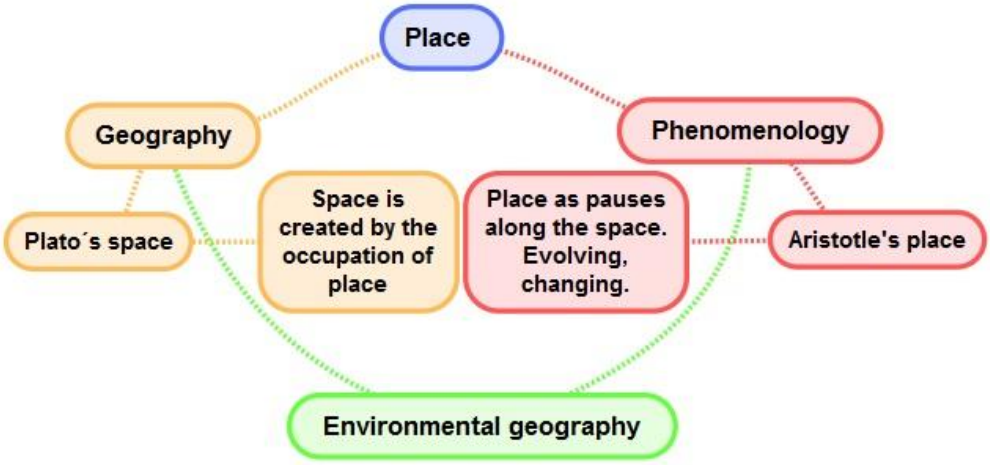


Figure 3-1 Place definition approaches. Author´s work.

The idea of place, as a geographic location postulated in Environmental geography, has been also supported by the philosopher Malpas (2018). Although he does not deny that specific places are the products of society and culture, he argues that society itself is inconceivable without place. It is a

'necessary relation', not a chosen one, as he discusses Heidegger's philosophical approach to be (Cresswell, 2015, p. 49).

Environment plays an important role when defining place as a to-live-in matter. Hence, Environmental geography focuses its studies on place as a container that exhibits certain characteristics which can be perceived by humans. These characteristics of place, according to Ittelson (1973, pp.13-15 cited in Canter, 1977, p.10) are: (1) multi-modal, (2) peripheral, (3) provide a lot of information (4) where humans act as participants not as subjects, (5) the role of action and purpose (6) the presence of meaning, and (7) the concept of ambience related to the aesthetic, social and systemic qualities. Canter (1977) explains, even though some objects may be perceived as places, such as a boy playing in a cardboard box pretending to be on a ship, to be considered as such, they must fulfil these characteristics.

These perceptions, adds Castello (2010), can come about through: (1) a narrative, (2) reputation, (3) natural assets (4) association with an historic building, (5) association with political actions, (6) association with local tradition, (7) emotional connotations of a building, (8) the construction of a fantasy, an illusion, an 'image', (9) the availability of sensory enjoyment and comfort, and (10) the availability of goods, services or technological facilities (Castello, 2010). This includes everything resulting from the interaction of people with the environment and, hence, is a social construct.

Geographically speaking, the meaning of place as a social construct can be assumed by the use of various scales and levels (national, regional and/or local), which are used to analyse place attachment in the present research. As defined by Plato's cosmology, a region does not hold 'place' inside but is referred to as a bigger container of human activity. This, as well, generates different perceptions since each scale of place plays a specific role in the 'dwelling' of humans. "*A small place can be known through all the modes of experience; a large place, such as a city or nation, depends far more on indirect and abstract knowledge for its experiential construction"* (Tuan, 1975, p. 153).

To understand the several definitions and uses of *place*, geographers Agnew and Duncan (1989), in accordance with the philosopher Malpas (2018), [rephrasing the three components of place as Relph identified in 1976], mention that place in its genre is commonly reduced to the three elements of locale, location and sense of place (Arefi, 1999, p. 180). Locale (activities) deals with social relations within, and in the place. Location (physical setting), is a point that can be specified using a grid reference on a map and emphasizes how economic transactions shape and affect the conception of place. Sense of place (meaning) examines the ties and attachments that people have to a certain place (this concept is further examined later in the chapter). These distinctions enable the concept of place to be 'used' both as a mere geographic point within the world, and as generator/receptor of senses and human emotions.

From that previous work, Edward Soja developed his notion of "trialectics of spatiality", which unites the terms space and place into a spatiality concept, and then divides this into three realms. Firstspace is described as the 'empirically measurable and mappable phenomena' (location); Secondspace refers to place as a 'felt and cared-for center of meaning' (sense of place); Thirdspace is what he proposes as the lived space (locale) (Cresswell, 2015, p. 71). Although no new idea is being offered by Soja, it does confirm the versatility of the term place, and explains the complexity in working with such ideas in the urban realm (Fig 3-2).

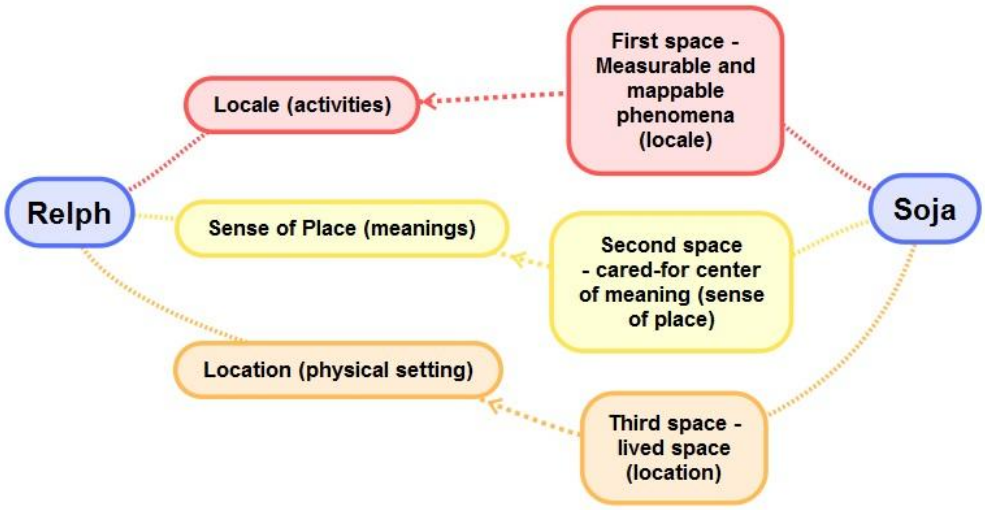


Figure 3-2 Place trifecta. Author's work.

Geographer Tuan had previously affirmed that 'places are thus known both directly through the senses and indirectly through the mind' (Tuan, 1975, p. 153); the link that he implies, unites the social construct of place as a geographical location with embedded characteristics, and the phenomenological perceptions through experience of place. This consideration allows for a unified study of place.

Phenomenologically, place can be defined as *'any environmental locus in and through which individual or group actions, experiences, intentions, and meanings are drawn together spatially'* (Casey, 2009; Relph, 1976) cited by David Seamon in Manzo and Wright (2014). Thus, physical environment and the people within it are not separated. For phenomenology, the concept of place is multivalent, complex and dynamic: the indivisible phenomenon of person-or-people-experiencing-place. 'Place (is understood) as being a combination of both tangible element (the features of the site, the buildings, the materials objects, and so on.) and intangible elements (oral traditions, belief, rituals, festivals, etc.)' (ICOMOS General Assembly, cited in Bott and Banning, 2008).

Having explored the origins of the study of place as a livable space, this exploration acts as a guide to understanding the notion of Place Attachment as used in this thesis. The next section explores the act of embedding the place with meaning, and also acknowledging the place´s inherent values within the concepts of Placemaking and Place Aura respectively; as Stedman (2002, 2003) cited in Rollero & De Piccoli (2010) argues that place attachment is nourished by the cognitions and attributed meanings to the spatial setting which generates an affective bond to the place.

3.2 Placemaking

Authors have mentioned that places are not 'finished' products, they are 'in-process' (Thrift, 2008; cited in Cristoforetti, et al., 2011), built by humans' every day activities. Placemaking refers precisely to this constantly forming and ever-changing process of place, 'designed' by cultural background of the inhabitants,

as suggested by Cultural Geographers; but also, accordingly to the place specific characteristics – *Genius Loci*[39] -, which Environmental Geographers claim places have, that shape the type of activities which happen in the place. So, the process becomes an inverse endless relationship – the phenomenological approach used in this research-.

A place without human activity still holds a natural 'genius', as architect Norberg-Scultz (1980) mentions in his work *Genius Loci: Towards a Phenomenology of Architecture.* Any place holds a 'special atmosphere and a contained spirit', which is given by the natural/historical contents of the space within the place; people's identity to the place then becomes the ability to find identification with that place. 'The spirit of place takes on a plural and dynamic character, capable of possessing multiple meanings, of changing over time and of belonging to different groups' (Bott & Banning, 2008, p. 1). 'Spirit, as the intangible genius of the creator, leaves a permanent impression on place and gives it meaning whereas the place itself, that is to say the tangible, nourishes the spirit of its creator and helps define the creation' (ICOMOS General Assembly cited in Bott and Banning, 2008).

Again, the relationship between cultural and environmental geographic studies needs to be present if we are to analyze the concept of meaning correctly. This is a relationship that is present in Human Geography.

Place evokes a sense of nearness and care. It is 'the way in which we find ourselves in the place in which we live' (Schneekloth & Shibley, 1995, p. 1), the way in which through human action and interaction, the mere places as locations become sites of meaning.

Researcher Mark A. Wyckoff mentions a simple definition: "Placemaking is the process of creating quality places that people want to live, work, play and learn in." (Wyckoff, 2014), and postulates four different definitions of the concept of Placemaking (standard, strategic, tactical and creative), in order to be able to

[39] Further explained in pages 64 and 65.

understand the vast number of contemporary uses that are sometimes contradictory and confusing.

Placemaking has been of great interest to urban designers, especially when improvements are required in places with an historical or commercial sense of place. Although, the current 'use' for the term in this case has been lately shifting towards 'place-branding' due to globalization; the recovery of the meanings embedded in the place, constitute a placemaking activity.

Giving meaning to place, either retaining and enhancing the place´s *Genius Loci*, or 'rebranding' the place, Placemaking makes use of those unconscious or intentional perceptions of place, also referred to as sense of place. Relph argues that this is the most difficult concept of place to grasp and understand. Figure 3-3 shows the relationship between, *Genius Loci*, perceived environment and meaning leading to a Sense of Place, further explained below.

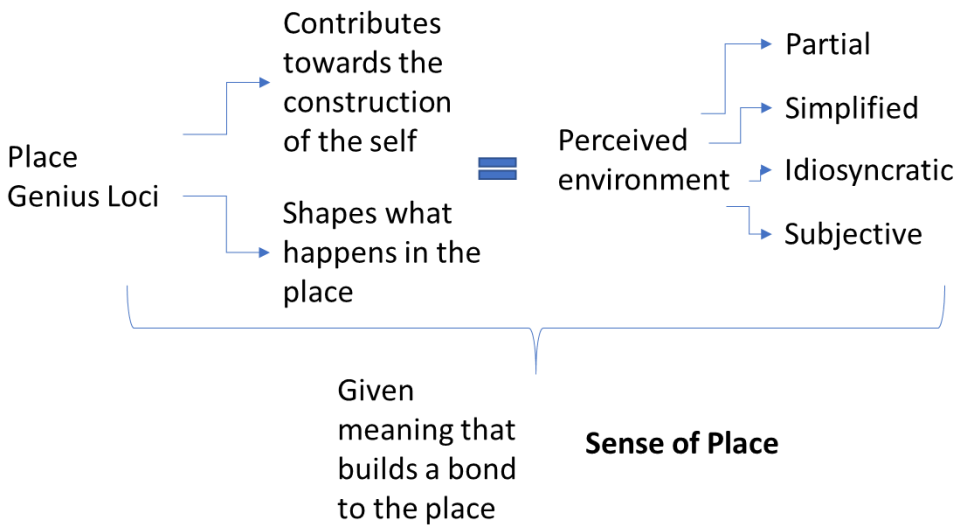


Figure 3-3 Relations of place perceptions. Author's work.

3.2.1 The Aura of Place

An anonymous space can be turned into a place when embedded with meaning by the user (Cresswell, 2015, p. 7). 'All over the world people are engaged in place-making activities. Home-owners redecorate, build additions, manicure the lawn' (Cresswell, 2015, p. 10). An occupied space becomes a place (Grosz, 1995). 'What begins as undifferentiated space becomes place as we get to

know it better and endow it with value […]'(Tuan 1977, p.6, in Cresswell 2015, p. 15).

Places are being made as they are being embedded with meaning by those who dwell in them. This is what Costello calls a place's Aura. This concept empowers people with the capacity of either creating or destroying a place. People can take the natural spirit of the place[40], and transform it to fulfil their needs. Hence, people can choose to ignore the reality of the place, or in the best-case scenario, people can adapt and embrace the spirit of the place by creating healthier communities and a reciprocal relationship with their environment.

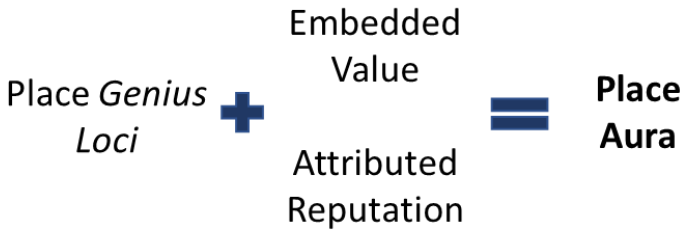


Figure 3-4 Place Aura construction. Author´s work.

A Place's Aura, as Costello describes the reputation that people attribute to a place's natural 'genius' (spirit) (Norberg-Schulz, 1980), can be instilled/enhanced through acts of language and gesture. Yi-Fu Tuan expresses this same thought '[…] the deliberative acts of creating and maintaining place for which speech, gesture, and the making of thing are the common means. […] City people are constantly 'making' and 'unmaking' places by talking about them. […] in a sense, a place is its reputation (Tuan 1980, p.6 cited in Castello, 2010, p.13).

When measuring the impact that people have on embedding a place with meaning, and either 'building it or destroying it', *Textures of Place,* a theory of place, postulates that '…place is socially produced and constructed and, moreover, […] imagination plays a critical role in that construction.' (Adams, Hoelscher and Till 2001: xxi, cited in Castello, 2010, p.11).

[40] *Genius Loci.*

However, places do not necessarily mean the same thing to everybody, and that is what makes them 'not static', argues Massey (1994). This diversity of meaning is what often produces conflicts within social groups. A clear historical example of this is what the territory of Jerusalem means to two different religions continually battling over it.

As mentioned earlier in this text, place is constituted by three main elements (a measurable phenomenon, a centre of meaning and a lived space). The meaning of place (as broad and as different as it is) in Human Geography can be grouped as well into three broad categories or 'experiential modes', as findings from the research of Sixsmith proposed: Personal (self), social(self-others) and physical (environment) (Gustafson, 2001). These three categories, however, are not present as individual modes, but rather have a constant relationship with each other, see Figure 3-5.

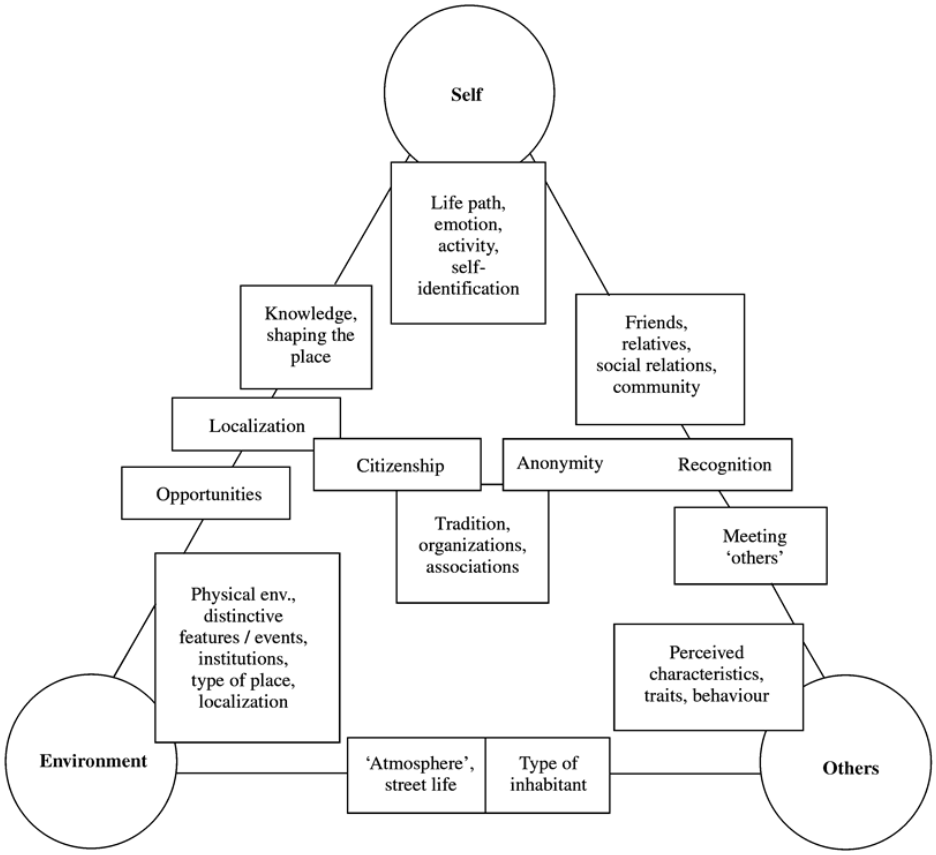


Figure 3-5- Meanings of place (Gustafson, 2001)

A place's Aura is then the assigned meaning of self and others to the lived space.

3.2.2 Sense of place



Figure 3-6 Construction of Sense of Place. Author's work.

Place, as a concept is highly abstract, as has been noted from the several approaches mentioned before. But places, when seen as an entity, are 'concrete, palpable, intimately meaningful. Each place is different. Each of us comes from just such a particular and unreproducible somewhere and considers some place (or places) "home"' (McClay & McAllister, 2014, p. 2).

Geographers Yi-Fu Tuan (1975) and Edward Relph (1976) further developed the approach to place as a way of being-in-the-world. Tuan (1975, 1980) in fact, developed the term of 'Topophilia´ referring to the affective bond between people and place, deriving concepts such as 'sense of place' and 'rootedness'. The sense of place then is dependent on the depth of lived experience with the setting (Tuan, 1980), and the social relationships in the setting (Relph, 1976).

Such concepts, although referring to the same idea, exist at different levels in the human mind. As referred to by Relph (1976), Sense of place is a conscious act, a built in 'love' through the perception and acceptance of the qualities of place. Rootedness as defined by Tuan (1980), is unconscious, a love for the place that humans do not notice growing within them over time.

A place which has a 'sense of place' can maintain it even when its physical conditions, embedded by humans, disappear or change over time. Its 'ghostly' spirit (genius) will prevail until a newer, stronger sense of place is embedded in the place through human activity (Cox, 1968, in Arefi 1999).

A place that people care about or where they want to be, has meaning, holds a sense of place. As stated otherwise by Montgomery, 1998 cited in Shamsuddin and Ujang (2008) 'In the people's experience of a place, the physical forms, activities and meaning combined together to form the sense place and

character.' Sense of place as described by Agnew (1987), means the subjective and emotional attachment people have towards place.

Modernism considers Sense of Place to be a romantic and nostalgic approach toward identity formation (Agnew, 1984), since it is considered to be an intangible value of place. However, it can be perceived and appreciated by humans, and it is that perception which makes it real and valuable when studying its influence on the construction of places, and in the development of feelings towards a place.

> […]*meaningful places emerge in a social context and through social relations, they are geographically located and at the same time related to their social, economic, cultural, etc. surroundings, and they give individuals a sense of place, a subjective territorial identity* (Agnew, 1987).

This contention of space, based on the idea of places having single, essential identities, draws a boundary around them, thus limiting and separating the inside from the outside. Massey (1994, 1995), proposed a more external concept of place, arguing that ´what makes a place special is not necessarily any intrinsic qualities of the locale itself – it may also be the particularity of linkage to that outside which is therefore itself part of what constitutes the place […] creating a global sense of place' (Massey, 1994, p. 155).

This is not at all a wrong idea, as the rise of technology and advances in communications, allow this linkage to be fluid. However, globalization of places also has the imminent danger of diluting the very essence of places, their very identity and originality, when, as mentioned by Alain de Botton (2006), the design of cities become globalized.

Sense of Place and Place attachment have been sometimes used as similar concepts; in Environmental Psychology, sense of place is contained in place attachment as the 'emotional part' of it, as explained previously. Human geographers locate place attachment as a component of sense of place; along with place satisfaction/preference, place identity and landscape perceptions (a

concept referring to the visual aspects and use value of the environment). The willingness of people to contribute to landscape management (Soini, et al., 2012), represents a compromise with the place, and hence, an attachment to it.

This section summary attempts to understand all the concepts as part of a whole, while being all embedded with different values. Place Meaning is the Place's Aura and belongs to the place itself based on its physical, historical or cultural characteristics. Sense of Place, however, is the spirit of the place as perceived and accepted by humans. The spirit of a given place can be altered by new meanings enhanced by human activity; in the same way, the spirit of the place can guide the development of new meanings. It can be said that sense of place and meaning of place, although they both involve human perceptions and activities, are located on different time-scales. Sense of place is a non-static condition, a result of the placemaking activities which give meaning to places. Sense of place comes about as a result of the accumulation of the emotions produced by the setting or as a result of the addition or subtraction of meaning attached to the *Genius Loci* of the space by human activities or feelings. This continuous incorporation of meaning over time as well as the ongoing development of physical and social-emotional dependence, creates an attachment to the place.

To begin with, through human activity, Sense of Place is a variable, intrinsically loaded with meaning and loaded with character which denotes the identity of the place. In addition, Sense of Place functions in order to create a sense of dependence by means of what the place has to offer. Finally, human activity, as a community, creates a social bond that enhances the Sense of Place. The present research emphasizes that the merging of these three variables into the concept of Sense of Place contributes to an understanding of Place Attachment. (Fig 3-7).

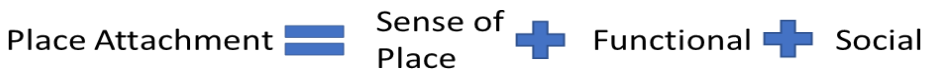


Figure 3-7- How attachment is made. Author´s work

3.3 Attachment

Having somewhat narrowed and related the concepts of meaning and sense of place, this section focuses on what 'attachment' to a place entails, making use of all the above concepts. This research concentrates on the concept of Place Attachment and seeks to demonstrate how a consideration of the above terms can clarify the impact of the way people perceive and embrace a place.

'*The almost unconscious, repeated, routine activities that we carry out in our everyday lives contribute to a sense of place and the intimacy of place attachment*' (Tuan, 1977, pp. 72-73). The conditions for an authentic relationship with place are 'a complete awareness and acceptance of responsibility for your own existence' (Relph, 1976, p. 78). Although these two ideas seem to contradict themselves, as one states that it is an unconscious act, and the other a complete awareness; they both refer to the attachment to the place as, embedded in 'rootness' (unconscious) which is the concept of Placeness, meaning the 'unselfconscious, unreflected state of being in a locality'. Furthermore, it is the harmony and state of 'being home' (Arefi, 1999). There is no stronger concept of deep relationship and attachment to a place than that of ´being home[41]´.

The studies of place attachment, as narrated by Altman and Low (1992), first started with phenomenological scholars such as Bachelard (1964) and Eliade (1959). Later, there was growing attention paid to phenomenologists interested in environmental-behaviour issues (Buttimer & Seamon, 1980; Kohak, 1984; Relph, 1976; Seamon, 1982; Tuan, 1974; and others). However, most of these approaches were dominated by positivist philosophies. Studies emphasizing unique subjective experiences (within cultural and historical contexts) were not considered productive research strategies. It was not until recently that phenomenological analysis became important in environmental

[41] Being 'Home' and emotional space, in comparison to having a 'House' which is just an objective space (Dyck, et al., 2005 in Cristoforetti, et al., 2011).

and behaviour studies that interest also urban designers (Altman & Low, 1992, p. 2).

Social sciences have also changed from their early ahistorical synchronic processes of a constantly changing and migrating culture seeking to adapt to situations. Hence, place for social scientists was not relevant, even less an analysis of people-place bonding or descriptions of physical environments (Altman & Low, 1992, p. 2).

'Early work in environment-behaviour studies was heavily influenced by psychological approaches, with their emphasis on individual cognitive functioning […] -people's knowledge, understanding, beliefs, and cognitions- […] about various aspects of the environment. Emotional and cultural attachments to the physical environment were of no interest. Later, research by social psychologists and sociologists started to address personal spacing and territoriality. This approach was then coupled with the interest of anthropologists in studies of affectively laden places, which simultaneously paid attention to social issues (homelessness, relocation, mobility, etc.) (Altman & Low, 1992, p. 2).This gave way to understanding human emotions about places.

Several scholars have reflected on the notion of place attachment and concur when suggesting that it is a 'psychological bonding that develops between an individual and a place' (Bott & Banning, 2008). This bond can have many layers (opportunities, meaning, and emotions), 'the denser and more interrelated the layers, the more likely the setting develops the qualities of place significance' (Hull and Vigo, 1990, cited in Bott & Banning, 2008). Those qualities lead individuals to develop attachments to place.

This unconscious bond formed between people and place is believed to form more easily when places have *Genius Loci*; however, although the physical qualities of places contribute to attachment, they do not determine them.

Earlier descriptions of place attachment describe that it 'involves affective bonds across multiple geographic scales, with a variety of temporal qualities

and social actors and processes contributing to the bonds' (Brown, et al., 2012, p. 183). Brown considers the temporality of the bond to a place. He argues that this bond can be broken, changed, or enhanced depending on external circumstances. He also refers this temporality to lifespan events such as ageing and relocation. '…, place attachments are not static but involve complex daily, seasonal, and lifespan temporal processes that bond people to places' (Brown, et al., 2012, p. 184).

Since place attachment is an unconscious act, people do not always reflect on it unless it is threated by new situations, natural disasters or big changes. Identity, security and the bonds of continuity are constantly changing, and so do the bond of attachment (Brown, et al., 2012, p. 184). Accordingly, Brown et al. also concede that attachment is 'selective' within the same place. Specific people might have attachment to specific settings. This makes it hard to make a generalization about the attachment of the whole community to any given neighbourhood.

Brown et al. (2012) and Manzo (2003) mention that age plays an important role when trying to understand place attachment. They use age as in 'age in place', referring to the fact that people who have spent a long time in the same place, develop a strong attachment to it. Age, alone as a variable does not mirror attachment, however, as this research indicates, it can still be considered when it is analyzed along with other variables such as the physical conditions of the site, family ties, and economic factors.

The approach of Human Geography to the attachment of place, by authors such as Altman, Low, Lynch and Rapoport, produces an examination of human-environmental interaction through peoples' perceptions of the element of urban form. Two groups of people have been identified: Insiders, who develop emotional ties with their setting and see it positively; and outsiders, who view it negatively in the absence of those ties (Arefi, 1999, p. 180). The NIMBY effect [not-in-my-backyard] (Devine-Wright, 2009) is an example of this phenomenon.

Broadening perceptions, is a key concept mentioned previously several times in this text. Carmona, et al., (2010) list the four types of dimensions of perception identified by Ittelson in 1978. They are divided here into two groups: mental and analytical perceptions such as Cognitive, Interpretative and Evaluative, and perceptions of feelings such as Affective. All four derive from how each person organizes the information provided by their environment and how that makes them feel, as they try to make sense of their surroundings. Positive and negative perceptions are not only the result of the existence or absence of ties to a place, but also are the result of the person´s willingness to belong to it. It is precisely these perceptions that produce selective realities for each person, making it hard for researchers to measure place attachment of a community; however, the perceived reality can produce images of place, which as Relph (1976) mentions, are intentional interpretations of what is or what is not believed to be, and hence become a powerful tool for research (see chapter four).

Even though research has focused on viewing place attachment as a positive concept embracing positive feelings to a place that fulfills both physical and emotional requirements of communities; some researchers mention that negative feelings also serve to attach people to places. 'Negative emotions and thoughts about places can coexist with positive bonds, creating complex meaning of, and ties to places' (Brown, et al., 2012, p. 185). These negative but, nevertheless, bonding perceptions are commonly present in informal, high risk or irregular/informal settlements; as will be addressed later.

Memories, such as the ones we make as children of our family home, also play an important part in creating and maintaining attachment to places. Pride, commitment and identity, as Relph (1976) and Brown et al. (2012) mention, 'foster place attachment', and, as such, are integrated into the methodology to fully understand the attachment.

Attachment to place, in the biophysical dimension of place, is usually measured through two dimensions: place identity and place dependence (Williams & Vaske, 2004); where the identity is studied as the emotional attachment

[considered in Human Geography as the Sense of Place (Carmona, et al., 2010)], and dependence is a functional attachment. Some authors, like Brown, Altman and Werner, however, treat those concepts as individual actors on the relationship of people to place, but not as a part of place attachment as a whole.

Haywantee Ramkissoon, Liam David Graham Smith, Betty Weiler (2013), included a fourth dimension of place attachment (place affect) in a single model: 'Preference' of place or place affect is the outcome of combining the spirit of place and the perceptions or sense of place embedded in people. This concept or dimension has not been widely researched due to similarities with such previous concepts and is included in this work as part of the consideration of dependence on the place, and the distinctiveness of each place within its own identity.

The tripartite model of Place Attachment, which is the model that used for this research, states that 'place is a multidimensional concept, with person, psychological process and place dimensions' (Scannell & Gifford, 2010, p. 2), explaining them as *who* is attached, *how* it is attached and *what* it is attached to (Fig.3-8). To explain further the model below, we can relate the Person variable to the Identity that forms in the place and also to the identity that forms in the individual. The Process variable relates to social engagement and relations, and Place becomes the physical entity where all this takes place. These three variables are explained in the sections below.

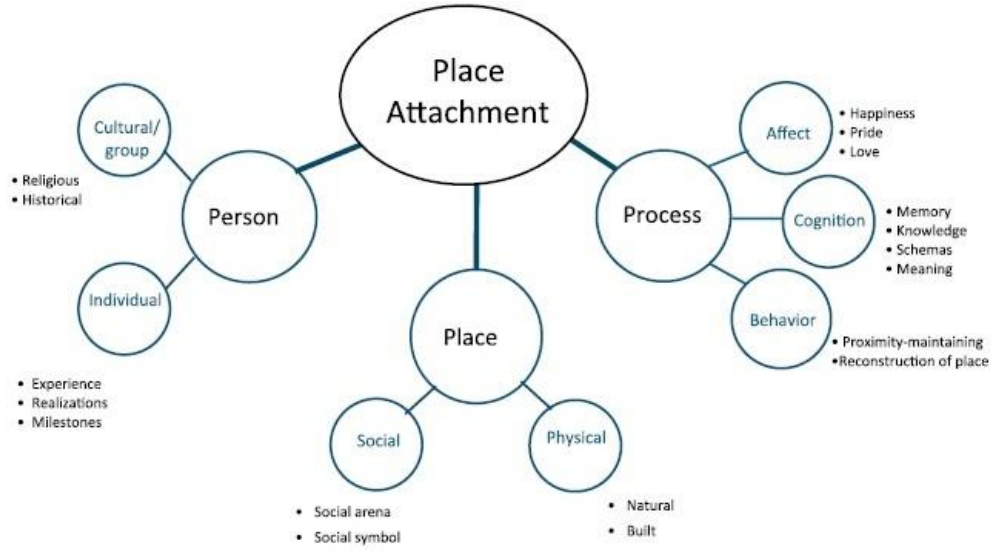


Figure 3-8 Tripartite model of Place Attachment. Scannell & Gifford, 2010, p.2.

Place attachment, as the above definitions explain, expresses attachment as impacting mainly on people, and the sense of place on place. Meaning that sense of place is given by people, but it refers to a characteristic that belongs to the place; whereas attachment is a feeling that people have towards the place.

Hence it is important to understand that Place Attachment is built both from sentiment and function, as indicated by the tripartite model employed in the present research. Daniel R. Williams points out that "*the best collective strategy for studying relationships to place remains a critical pluralist one that recognizes that no one research program by itself can successfully engage the various facets of place*" (Williams, 2014).

3.3.1 Place identity

It is through everyday experiences and the generation of meaning that place is then filled with a perceived identity, or what was earlier described as Sense of Place. Breakwell (1993) described four principles of identity: (1) Distinctiveness, use of place as identification to it distinguish from others; (2) Continuity, a sense of continuity for the self, related to time spent/lived in the place or in a similar kind of place; (3) Self-esteem, a sense of pride in the place; and (4) Self-efficacy, a place that facilitates everyday life.

Place identity refers to the symbolic importance of a place that gives meaning and purpose to life (Williams and Roggenbuck 1989, Shamai 1991, Giuliani and Feldman 1993, cited in Williams and Vaske 2003). These symbolic connections, grown over time, give value to places, including emotional and physical/functional bonds between an individual and a geographic locale. It involves the dimensions of self that 'define an individual's or community's identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, beliefs, preferences, feelings, values, goals and behavioral tendencies and skills relevant to this environment, and how the physical setting provides meaning and purpose to life' (Soini, et al., 2012). This inclusion or direct relation of the self with the place identity is also present in the work of Proshansky, et al., (1983) where it is defined rather as a sub-structure of self-identity. They argue that it is the experiences within the place and the individual perceptions of the variables that build the place´s identity. This is consistent with what has been explained earlier in this text about the Place´s Aura and Sense of Place. Regarding this self-identification, Manzo (2003, 2005) mentioned, '*who we are and where we feel we belong are influenced by gender, race, ethnicity and class*' (Manzo & Perkins, 2006, p. 340); but also, the self-identification is built from what the environment can offer [the place´s *Genius Loci*], making people a reflection of the place in which they live.

Place identity has been characterized as 'the glue' of familiarity that binds people to place (Hull IV, et al., 1994, p. 110). It is a 'cultural value shared by the community, a collective understanding about social identity intertwined with place meaning' Harner, 2001, p.660 cited in (Lombard, 2014, p. 15); or like 'clusters of positive and negative cognitions or beliefs about a wide variety of places that help define self-identity' (Brown, et al., 2012, p. 183). Social values, beliefs and norms require face-to-face interaction, which grow within place-based communities. Collective contractual obligations, at times, act as surrogates for public consciousness; as in the self-producing nature of non-

planned neighborhoods (Jacobs, 1961 in Arefi, 1999, p. 182). Without these proper links, communities have grown weak.

Identity can develop different intensities within different spatial scales: city, neighborhood, house. What a place signifies or stands for, may range from personal to publicly shared perceptions; hence, the range of positive or negative perceptions as explained above.

The concept of Identity, although very broad, when studied as one of the key variables of Place Attachment, needs to be understood as having a triple value; a value that influences how the people perceive themselves within the place (self-identity), a value that the place naturally possesses (*Genius Loci*), and a meaning that people give to the place (Sense of Place or Place´s Aura). The conjunction of the three can then provide a measure for the role of the emotional bond that people have towards places. These three values of Identity are the ones considered in the present research.

3.3.2 Place dependence

Although this concept is sometimes used as a synonym for place bonding (Hammitt, et al., 2006), and as such would possess the same qualities in order to develop an overall attachment, place dependence can indeed be analyzed based on the emotional link towards the place (either as a link with the place´s Aura or with the community developed in the place), or based on the physical functional link of the place. Nevertheless, based on the tripartite definition of Place Attachment used in the present work, for the purpose of analyzing place attachment in informal settlements, the emotional link is understood in the context of Identity and the Social variables; whereas, the functional link is understood solely as dependence.

According to Environmental Psychology, Place dependence is considered as the second variable to study when analysing place attachment, and it refers to the functional part embodied in the area's physical characteristics, or its instrumental meaning (Stokols & Shumaker, 1981). The goal directed connections to a setting, reflecting the degree to which the place provides

conditions for support and intended use; along with the frequent use of the area, gives the place several functions according to Scannell and Gifford (2010), Fried (1982), Harlan, et al., (2005), Taylor, et al. (1985), and Hidalgo and Hernandez (2001). These functions are survival, security and stability, goal support (home ownership, municipal services), and temporal or personal continuity (sense of safety); which are also developed on three scales (home, neighbourhood and city).

The term that biologists developed as 'home range' [to describe the area traversed by the individual in his/her normal activities of food gathering, mating and caring for the young], was used by Brown, Raymond and Corcoran (2015) to represent, as a value, the individual's awareness of the various resources available in the region, whose importance adjusts over time and includes places that people know but do not necessarily use or visit (Brown, et al., 2015), making it possible to easily acknowledge the degree of dependence people can develop towards a place on all the three scales.

These different scales of dependance are also differentiated by Brown, et al., (2012) as: Satisfaction with place, which they define as 'the psychological state achieved when a place fulfills some needs´, and which does not necessarily require a positive bond to the place; and Territoriality, which is defined as 'perception that specific places or objects are owned by the person or group, with greater territoriality for psychologically central places of long-term occupancy' (Brown, et al., 2012, p. 183).

Place Dependence, as a variable of Place Attachment in the physical context, becomes straightforward for a possible quantitative analysis that can help ground data collection and compare responses in an objective manner.

3.3.3 Social engagement: bonds, ties and networks.

Social engagement is a value possessed by a community. It can either be strong and contribute to attachment, or weak. Social engagement is formed, firstly, by human relations of any kind (ties) which are then strengthened and deepened

by continuous interaction (bonds), as individuals within the community itself relate or do not relate to one another (networks).

This section explains the relationship between these three concepts of social engagement used in the present research.

Research has found that the social and geographic context of place bonds requires that there be greater consideration of place attachment research; thus, such constructs as the following are proposed: (1) Place belongingness = membership to an environment, (2) Place rootedness=strong bond to home, (3) Place familiarity = pleasant memories, memories of achievement, (4) Neighborhood attachment = one's emotional connection to his/her immediate surroundings (Brown, Perkings & Brown 2003; Hay, 1998; Hidalgo & Hernandez, 2001; Kyle & Chich, 2007 in Raymond et al., 2010). These concepts are further explained in the text.

Networks

To explain the creation of networks or social circles, Gustafson (2001) integrates this third dimension that influences place attachment into his three-pole theoretical framework: self-other-environment. He adds the word 'other', as social relations connecting inhabitants of place are developed. The construction of social networks and the social attachments to places have been explained by different researchers using a 'variety of constructs', with 'overlapping meanings' (Gustafson, 2001).

The Small World theory (Milgram, 1967) for example, formulates about the 'probability that any two people, selected arbitrarily from a large population, […] will know each other', the phrase small world, 'suggests that social networks are in some sense tightly woven, full of unexpected strands linking individuals seemingly far removed from one another in physical or social space' (Travers & Milgram, 1969, p. 426). Small world, as a theory, fits very well with the present site of study; as the city has an approximate population of 80,000 people, which suggests that the social networks of the communities studied may overlap.

A study by Kasarda and Janowitz (1974), found that 'the social connectedness that developed between people over the course of their residence in a given place was a more powerful predictor of community attachment than population size or density of the community population.' 'Perkins and Long (2002) referred to these social connections in place as social bonding or the feeling of belongingness or membership to a group of people, as well as the emotional connections based on shared history, interest or concerns.' (Raymond, et al., 2010, p. 423).

Social networks, as mentioned above, are formed by the connection of people who experience common circumstances.

Ties and Bonds

Social ties and social bonds are sometimes used interchangeably as concepts; so it becomes important to state the precise use of each concept in the present research.

Social ties refer to the type of connections among people that are used for sharing information, knowledge, feelings and experiences. They can be weak, strong, or latent based on the extent of exchanges and interaction between two nodes. They can be work-related or expressive (e.g., friendship, family, boss.) (Seraj & Toker, 2012, p. 339). This dual approach is not limited, as researchers argue that with regard to social ties, there is a continuity of growing and dying over time. By definition, tie strength is a "combination of the amount of time, the emotional intensity, the intimacy (mutual confiding) and reciprocal services which characterize the tie" (Granovetter, 1973, p. 1361).

Social ties can be categorized by a) those who communicate actively, or b) those with a low level of interactivity, which will produce a different level of friendship (acquaintance, work colleague, neighbour, etc.). The manifestation of these ties can be either public or private, active or passive, or even as a form of dependence on the other as mentioned above.

Social bonds refer to the degree to which an individual is integrated into the society, hence, the intensity of a tie. Travis Hirschi's classic theory presented

four social bonds which promote socialization and conformity: (i) attachment, (ii) commitment, (iii) involvement (iv) belief (Hirschi, 1969). These four social bonds derive from a certain type of tie and can be strengthened by constant interaction.

The social circles (or networks) created by these ties, can overlap other peoples' networks; when this happens, those ties that overlap are considered as strong bonds (Granovetter, 1973, p. 1360).

Figure 3-9 summarizes and relates the concepts, as the definitions used in this work are based on analysis of the literature.

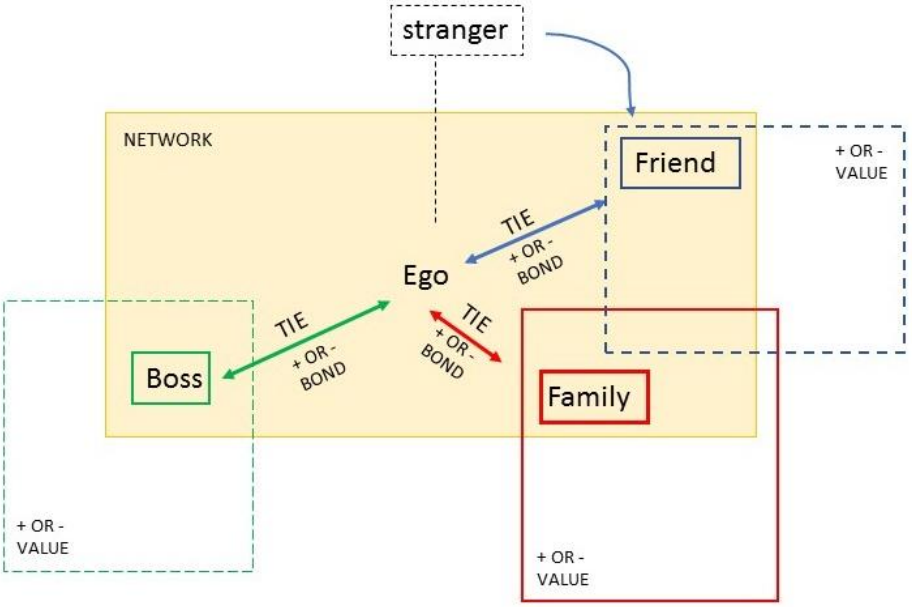


Figure 3-9 Social ties, bonds and networks- Author's work

Time, place and personal situations change, and so do some of the social ties. Social ties are born by different situations: economy, family, leisure (also called predictors). Each of these ties creates specific networks around and between the 'ego'. This terminology refers to the single participant being studied, and the 'alters', meaning the participants' friends and/or contacts. Explaining the above diagram, social ties and social bonds create networks; however, they do not refer to the same concept. One concept could be explained as 'people being part of a group' (ties) and the other concept as 'people having a feeling (positive

or negative) towards the other people in the group' (bonds). Negative ties therefore do exist and can also be strong.

These ties are then 'multidimensional' and are rather elusive to quantify. Research trying to quantify the strength of the ties usually investigates small groups of people, and the results tend to be static (Wuchty, 2009). However, some researchers have tried to quantify the strength of ties as a property of the linkable characteristics between two nodes; and in order to do so, these characteristics have been grouped into two types of variables: predictors (networks) and indicators (depth of tie). Predictors of social ties refer to the environment in which the relationship takes place, for example, the type of relationship (kinship), the socio-economic background, the workspace or residence. These predictors specify the where, how and under which circumstances the relationship is to develop, which means the type of network wherein the tie is developed. Indicators refer to the depth of these ties, as depth measures the frequency of contact, the duration of that contact, proximity, mutual trust and spaciousness (breadth of discussion) of the issues involved in the conversation (Granovetter, 1973; Petróczi, 2007).

Even though these two variables are considered together in order to account for tie strength; each one of them can be individually determining or misleading. Marsden and Campbell (1984) point out that the only indicator which can determine the strength of a relationship is closeness. Frequency of contact for example, can refer to a neighbour or work colleague. This does not necessarily mean a close relationship. On the other hand, physical distance between family members does not always implies a weak tie.

According to Granovetter (1973, 1974) there are basically four indicators which define the strength of a tie: 1) intimacy; 2) emotional intensity of the relationship; 3) frequency of interactions; 4) reciprocal services. A summary of the most common indicators measured is shown in the table 3-1 from the research done by Petróczi, et al. (2007).

Measures	Category	References
Frequency	Indicator	Benassi *et al.*, 1999; Blumstein & Kollock, 1988; Granovetter, 1974; Lin *et al*, 1981; Marsden & Campbell, 1984; Mathews *et al*, 1998; Mitchell, 1987, Perlman & Fehr, 1987
Intimacy/Closeness	Indicator	Blumstein & Kollock, 1988; Marsden & Campbell, 1984; Mathews *et al*, 1998; Mitchell, 1987; Perlman & Fehr, 1987
Voluntary investment in the tie	Indicator	Blumstein & Kollock, 1988; Perlman & Fehr, 1987
Advice given/received	Indicator	Mathews *et al*, 1998
Desire for companionship	Indicator	Blumstein & Kollock, 1988; Perlman & Fehr, 1987
Multiple social context (breadth of topics)	Indicator	Blumstein & Kollock, 1988; Granovetter, 1973; Marsden & Campbell, 1984; Perlman & Fehr, 1987
Long period of time (duration)	Indicator	Blumstein & Kollock, 1988; Granovetter, 1973; Marsden & Campbell, 1984; Perlman & Fehr, 1987
Reciprocity	Indicator	Blumstein & Kollock, 1988; Friedkin, 1980 Granovetter, 1973; Mathews *et al*, 1998; Perlman & Fehr, 1987
Provide support/emotional intensity	Indicator	Blumstein & Kollock, 1988; Granovetter, 1973; Mitchell, 1987; Perlman & Fehr, 1987; Wellman, 1982; Wellman & Wortley, 1990
Mutual confiding (trust)	Indicator	Granovetter, 1973; Marsden & Campbell, 1984; Mathews *et al*, 1998
Sociability/conviviality	Indicator	Mitchell, 1987

Table 3-1 Summary of tie-strength components; Petróczi (2007)

At the same time, several " sedentary " factors are holding people back: place-based attachments and identities, dependencies on local social capital, and fixed ties to work and family (Fischer and Malmberg, 2001; Gilmartin, 2008; Gustafson, 2001, Gustafson, 2002), which can affect the measurement of the indicators.

Social capital is another concept that is usually related when analysing the social aspect of place attachment as a part of social networks. It is particularly important in this work since it is social capital which can enhance the power of influence that community leaders have (as previously address in chapter two) and is mostly linked to the political influences or connections (political capital).

Social capital refers, on the macro-scale, to 'features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions' (Putnam, 1993, p. 2) as a plus result of social ties and networks. Social capital is an addition to the individual scale as it represents 'resources embedded in a social structure that are accessed and/or mobilized in purposive actions' (Lin, 2001, p. 29) cited in (Van Der Gaag & Snijders, 2005, p. 2) . Social capital, nevertheless, in the general sense includes both the concepts of *access* and *use*. Access refers to an 'individual's collection of potentially mobilizable social resources. Use refers to 'actions, and mobilisation of the resources in order to create returns' (Van Der Gaag & Snijders, 2005, p. 2).

Social capital, however, has been a concept employed not only as a power/political value measuring procedure, but also, as a tool for studying resilience. Aldrich (2012), mentions that 'the difference between resilience and disrepair, lies in the depth of communities' social capital. He explores the way in which communities overcome disasters through robust social networks. However, though social capital can be representative of a network's *value* or that of an individual or of a group; it does not necessarily reflect the depth of the ties within it.

The social dimension of place as outlined above, plays an important role in the construction of the community's identity based on the closeness of the relationships. The closer the relationship, the better chance any place has of improvement. Studies of this improvement in place attachment in informal settlements can be directly proportional to the social capital of the community leaders. Without positive bonding of residents, place remains only a physical space with either positive or negative dependence.

3.4 Informal settlements

'Research on the placemaking strategies of relatively powerless people at a micro-level is an effective use of the idea of place'. It is even more effective, when considering place at the smallest scale of home. Researcher Geraldine Pratt found from her study with immigrant domestic workers with just bare control over their circumstances: people make their temporary home theirs by 'hanging pictures on walls'. Domestic objects can play a significant role in placemaking in the smallest scale of home and is related to what Walsh (2006) calls Transnational homing. Place making strategies are not as fluid and open as Massey (1994) states, and not at all, for people without a secure home. As it has been observed in most of the informal settlements in Mexico, security should be considered not just in terms of legality, but also in terms of how it relates to physical setting and a sense of specific areas. (Cresswell, 2015, p. 119).

Anthropologist Arturo Escobar (2012), found from his research with Colombian activists, that even from a weak position in society, Placemaking activities help to nullify the negative effects of globalization (placelessness and non-place).

These two researchers, however, approach placemaking activities from two different perspectives (as explained when defining Placemaking). Pratt refers to Placemaking as a way to make a foreign temporal place a home; it is a home under the perspective of a certain culture 'trapped' in a different environment. Escobar uses the concept to resist globalization because of the existing attachment of the place. So, placemaking on the one hand creates attachment, and, on the other hand, reinforces already attached feelings to the place, the original meaning (sense of place).

How then, do informal settlements create or develop attachment to the place, considering that: (1) the location for their settlement was not chosen by them (in most cases), meaning there were no other suitable options, (2) the 'sense of place' or initial 'spirit' of place completely neglects the concept of dwelling, (3)

the most common meaning embedded in the place is as a temporal residence, and (4)time, an important factor in developing attachment, is frequently constrained by the urge to acquire land. What process of placemaking occurs before, during and after to developing that attachment?

The longer a community stays in an informal settlement, the stronger the attachment becomes and the more the inhabitants value its place (Lombard, 2013). Sense of time depends on the notion of multiple temporalities; as mentioned before. Brown, et al. (2012) also considered the temporal characteristic of place attachment. Both authors agree that time spent in a place defines to a large degree the level of attachment that people develop towards a place. Time is thus one of the defining characteristics of attachment, in addition to age, gender, background etc. that have been previously addressed.

Everyday activities, which do not constitute overt resistance, may, nevertheless, represent claims made on urban space by the urban poor, through the "quiet encroachment of the ordinary". This refers to "noncollective, but prolonged, direct action by individuals and families to acquire the necessities of life … in a quiet and unassuming, yet illegal, fashion" (Bayat, 2004, p. 81). This extensive process of acquiring a place to live, as explained on Chapter two, adds *value* to the place.

Time, although it may strengthen attachment to the place, generally adds a social-place dependence on it; as the research from Soini et.al., (2012) revealed that residents who are socially connected, but with weak bonds, do become committed to place. The process of acquiring legal tenure for their homes takes so long that the inner dynamics of the society changes. Residents form social groups according to family ties, the geographic areas in which they live, class, age and political affiliations; but these social groups change, along with their unwritten rules. They adapt to the recent needs and interests of the community. This process weakens the identity formed, and their social network (Barry & Mayson, 2000).

'Place attachments can be strengthened or threatened by the socio-political contexts in which they are embedded. Socio-political forces prevent or threaten place attachments, such as when immigrants, women, minorities, or other groups are denied access to residential markets' (Brown, et al., 2012, p. 186). But these socio-political forces can also strengthen the attachment: '…Residents of neighbourhood enclaves or ghettos, despite larger societal views of these places as stigmatising, often develop strong place attachments, perhaps, in reaction to their low status and lack of welcome elsewhere' (Brown, et al., 2012, p. 187).

A strong community as Lombard mentioned, does not necessarily mean strong social connections or networks within the settlement. Researchers Wamsler (2007) and Whyte (1943), argue that coping mechanisms are more individualistic due to differences in people's income levels. Individuals strive to get by economically, so as a community, they have difficulties collaborating to care for shared public spaces (Drivdal, 2016).

However, there are also negative consequences of place attachment, as would be the case of residents of an informal settlement wanting to stay in a high-risk area. 'Place attachments sometimes commit us to dangerous places and practices by allowing us to minimise or deny the negative or risky qualities inherent in the objects, places, and practices central to attachment. For example, residents of a town that was periodically devastated by mudslides preferred rebuilding rather than resettling to safer areas;' 'Similarly, strong but false feelings of security in homes may blind residents to the need for protection from threats of burglary or natural disasters' (Brown, et al., 2012, p. 187). Which tends to be very common in informal settlements.

Place attachment literature on Informal Settlements, as review above, mainly focuses on the need of a place, and outlines the discordancy of social engagement through time, as socio-pollical factors emerge and affect the inner community of the settlements. Informality and fear do not contribute to the safety and security a place should have, nor does the individualistic position that residents take due to their economic conditions. Places, as locations, tend

to be unsuitable for residential purposes, and the identity created mostly refers to poverty and rejection. Attachment to place for informal settlements, as portrayed by existing literature, is generally that of need and desperation, or of endurance and resilience. And even though these 'dangerous places' get adapted, adjusted, and possessed by the residents as the only option to have a place to live (see Chapter one), there is still a void of information that clearly explains whether or how residents manage to develop a love for the place that goes beyond that of need. Placemaking, as an appropriation of the place has intended to understand that position, but research continuously attributes this work to the 'Community'; overlooking that, as a guided group and organized society, each Community has a Leader. Attachment to a place then becomes a result of the work of community leaders. This is the gap to be explored in the present research.

Conclusion

This chapter has reviewed the difficult definitions of the terminology that describes the values, characteristics and feelings embedded in places and perceived by people. While Human Geography explores the concept of Sense of Place as the emotional bond with the place (Relph, 1976), Environmental Psychology names this bond as Place Attachment (Altman & Low, 1992). Sociology emphasizes and introduces the meanings of the social context of human interactions (Greider & Garkovich, 1994), while Anthropology seeks to understand the cultural significance of places in a day to day life.

Starting from Aristotle's definition of Place as a location, Environmental and Human Geographers have agreed that Place can be embedded with meaning, a meaning that is both tangible and intangible, as well as non-static since it based on the perception of each person. Places also already have a meaning of their own, called 'natural genius (spirit)', which is then either altered or embraced by the people who use that place, giving it their own perceived meaning or Sense of Place.

For this research, and with the intention of having a merged definition of the feeling of belonging to and meaning attached to place[42], the author theorizes the following: Place Attachment is, in fact, a psychological Dependence, which can be emotional (Sense of Place) and/or spatial. Emotional dependence is comprised of identity and belonging as well as the variables of social engagement. Spatial dependance relates to the physical assets of the place as a location. Hence, Place is a space where humans have had experiences (being those positive or negative) and where they have therefore attached some significance (Zeisel, 2006).

[42] For further reading on the different definitions and uses of the terminology here presented, please see Lewicka, 2011.

Chapter 4 Methodology

This chapter addresses the methodologies proposed to gather data regarding place attachment and leadership, based on a literature review of how several methods have been used, the findings of this study, and the gaps that require further research. First the theoretical framework locates the work within the knowledge claim and research strategies to define the path to follow; then lessons learned from the methods and techniques used in pilot studies are analysed, and adapted into the final research design, methods and analysis tools. A flexible, spatial mixed methods approach is proposed.

4.1 Theoretical Framework

Discourses about informal settlements are dominated either by an economic and political approach towards their inner livelihood, or by the place-making processes and variables that contribute to the place attachment of the residents (Lombard, 2009). These considerations still tend to locate informal settlements as peripheral urban places 'under construction' with a strong attachment; and, although there has been some work looking at them as 'ordinary' places (Lombard, 2014), the specifics of the place as a *location*[43] have not been yet considered in urban studies, explained in Chapters two and three.

Place attachment studies in informal communities, mostly relate to the positive value that placemaking activities have in nullifying the negative reality of informality (Escobar, 2012), and how the encroachment and temporality of living empower residents to develop attachment to the site (Bayat, 2004). Place making theory was used as an analytical lens to study the impact that the

[43] Refer to Chapter two – Place Attachment, pg. 95, for the three components of place.

process of constructing a community, and of how place is made, has on the place attachment of the residents. Rather than attempting to gain an understanding of the appropriation of place, the focus of this research is to analyse social relations built in the settlement as a result of its physical characteristics and the 'design process' of the layout. This research observes how, depending on the site's characteristics and location of each participant, the development of social interactions constructs social bonds. Place is being made, appropriated, but as an inverse process, the place makes the people.

Regarding leadership, the literature review of Chapter two (section 2.4.2) mentioned that informal settlements relocation, development or failure rests more strongly on their residents than on the authorities, as the rootedness, participation and willingness of the inhabitants will either ease or complicate the process. The figure of the Leader plays a defining role within the community, acting both as a link to the authorities and as a 'father' figure for the residents, among other roles. However, research on leadership in informal settlements has rarely been studied due to difficult access to communities and authorities, mainly caused by political and safety issues (Hernandez, et al., 2014). There is generally, limited understanding about these places, particularly regarding the socio-spatial relationships, and the influence on them of their leaders.

It is because of this gap found in the literature, that the approach of this research intends to pick up and link with the single main characteristic of these settlements: the impact of leadership, along with the social-spatial relations that generate this influence. I suggest that this approach has the capacity to understand the social livelihood and attachment of these places in an unexplored relationship between inner governance and layout.

The methodology proposed focuses on analyzing the variables of place attachment (defined in chapter three) and relating them to the types of leadership in each informal settlement studied, as a way of understanding the influence that leaders have on the development of that attachment. The design of the research methodology consists of two parts, first, acknowledging the

type of leadership observed in each selected settlement, and, second, measuring place attachment in each informal settlement.

4.1.1 Approach to knowledge

Recognizing that it is through our different perspectives, experiences, practices and deductions that we give meaning to the world, and acknowledging that any approach that searches for truth, acquires knowledge and gains new insight has its limitations, this research study endeavours to be rational, critical and pragmatic.

Recognizing the fallible nature of knowledge (Popper, 1958), this pragmatic research study is not wedded to any one predetermined view of reality, but instead focuses on problems to be solved, rather than on methods to be adopted (Creswell, 2003). This research endeavours to improve given understanding based on new insights and thus contribute to, if not new, a different view of knowledge about informal settlements by taking advantage of both quantitative and qualitative methods, and by striving to derive solutions by seeing 'what works', in order to correlate the perceived reality with the hard-core data. Due to the temporal nature and volatile existence of informal settlements, this approach also allows for the flexibility of designing and adapting methods onsite based on the specific social characteristics of each settlement.

The selection of the proper methods and techniques applied towards the design of this research, evolved from a review of literature of methods used to measure place attachment and leadership, adapting techniques and times to best fit the social group explored. This adaptation of methods was the result of pilot research with an initial research question, which enabled the researcher to discover the importance of community leaders and hence to rethink the research aims.

4.2 Research Framework

Dealing with informal settlements and their inhabitants requires adaptation and a way to interconnect several disciplines, due to the complexity of these types of communities (relocation, eviction, high risk areas, extreme poverty, multiple temporalities, etc.). The lack of socio-spatial studies about the formation of semi-urban settlements, including the informal/irregular/illegal ones as stated before, is what highlights the importance of this research.

The methodology for this study, included a literature review of place attachment terminology, leadership theories, existing knowledge of informality, and methods of participation in order to have a clear background understanding of the topics, (outlined as chapters within this work).

The methodology also included the use of case studies as the framework, in order to test theories, with a semi-ethnographic approach. Drivdal (2016) pointed out from her studies in Cape Town that in order to understand the reality of a place, the researcher must analyse more than one case study. Following a transformative procedure to ensure proper and accurate data collection, this research works through a Grounded theory methodology following Pragmatism ontology. As part of good practice, the data, regarding specific method and gaps found is retrieved from the pilot studies and guidance is thus provided for the path to follow. As Hellweg (2014, p. 13) mentions, 'a complex field needs to be retrieved to then identify tangible questions that are defined by the life world itself and not by academic discourse'.

Working with mixed methods allows for data to be verified and compared in order to have a greater objective understanding of the results.

The qualitative part of the research allowed for it to be flexible and adaptable accordingly to in site time settings and variables. Analysing the spatial-social not as space being a reflection of what people are (Cooper Marcus, 1995 in Friedmann, 2007, p. 259), but as people being and acting as a reflection of what space/place gives them.

Three components formed part of the qualitative research: observation, interviews and workshops, each component helped complement the findings of the other. The quantitative part is formed by the Morphological Urban Analysis, and the socio-demographic data survey.

4.2.1 Ensuring data validity

In order to have a paper trail for validation of the data collected from the observation process, a journal was kept during the entire research process: at the end of the day, everything which happened during the day (as much as remembered) was recorded. Researcher Hellweg (Ludger, 2014) suggests that keeping field diaries enables the researcher to maintain the stance of an outsider and thus not endanger the analysis of the field (feelings and attachment to the site and people). As some researchers point out that 'lack of objectivity' is the main flaw of ethnographic research, keeping a daily field diary helps the process of reflection and lowers the incidence of subjectivity (Green & Thorogood, 2004). Lack of objectivity is exacerbated by the bringing the researcher's cultural baggage into the analysis, as an outsider.

Collected data reliability was ensured by coded 'descriptive and formal observation' process, under the 'inter-observer agreement'[44], scheme and undertaking the role of `the participant as observer' (this due to the ethical implications of letting the observed group know the work of the researcher). The researcher was the main observer, and the companion (a former student) was 'gatekeeper'[45], 'prop'[46] and secondary observer. This formal process allowed the researcher to focus on gathering specific data without being 'distracted' by the many situations and activities that occur when doing field research in communities (Robson & McCartan, 2011, p. 322).

[44] 'The extent to which two or more observers obtain the same results when measuring the same behaviour' (pp. 344, Robson & McCartan, 2011).
[45] Term used by Robson & McCartan, 2011, to define a person or activity that will give access to the researcher on the field of study.
[46] Term used by Robson & McCartan, 2011, to define a person or activity that will integrate the researcher within the field of study.

Case studies are 'normally based on two or more methods of data collection, known as triangulation, a technique which strengthens research rigour by using a combination of multiple methods, measures, researchers, theories and perspectives' (Denzin, 1978 in Lombard 2009, p. 153); both, the journal and the observation process were done under the 'inter-observer agreement' scheme, meaning the presence of a second observer along with the researcher. This, as also suggested by Bakeman and Gottman, (1997) in Robson & McCartan (2011), ensures the validity and accuracy of data collected.

Drawing research activities are complemented by interviews, to clarify the meaning-making of the participants' drawings and limit the researcher's subjective understanding of them (Guillemin, 2004).

For reasons of time and accuracy of data collection, appointed residents[47] were assigned on the different case studies sites to capture and map the physical characteristics of the places and quantify the type of social interactions. In addition, two key participants (based on their 20 years of experience as social workers inside these settlements as part of the Heritage and Patrimony Department in FIBAZI) were contacted in order to provide information about the livelihood of the settlements and the roles of the leaders, as no additional in depth inside information could be retrieved by any researcher.

4.2.2 Case studies selection

The selection of the site of study was based on a qualitative and convenient sample, after doing a historic geographical mapping to visualize the growth of the informality in town (further explained in chapter five). The site is the researcher's hometown which holds many informal settlements that could be easily accessed due to the social relations of the same. The case studies selected were waiting for regularization, so to ensure data accuracy and potential generalisability ten informal settlements (two pilots and eight final cases) were selected initially. The purposive sampling method was used to

[47] These appointed residents are former students of the researcher which work in a collaboration project with the researcher's home town University.

select participants; approaching participants was pursued by social networking, former students of the researcher, who live in these settlements were the initial participants. through them, their families and neighbours were approached and subsequently recruited. Community leaders were identified by newspapers research, the municipality's official record of them and former students of the researcher who live in the informal settlements.

4.2.3 Outline and general procedures

<table>
<tr><th colspan="3">Design Outline</th></tr>
<tr><td>Methodology</td><td colspan="2">Grounded Research</td></tr>
<tr><td>Framework</td><td colspan="2">Case Study</td></tr>
<tr><td rowspan="2">Research Design</td><td colspan="2">Mixed Methods</td></tr>
<tr><td>Quantitative</td><td>Qualitative</td></tr>
<tr><td>Research Method</td><td>Space Syntax</td><td>Interviews, Observation, Mapping</td></tr>
<tr><td rowspan="2">Research Tools</td><td>Appointed Residents, Maps</td><td>Workshops</td></tr>
<tr><td colspan="2">Research Journal</td></tr>
<tr><td>Data Analysis Outcomes</td><td>Morphological Urban</td><td>Place Dependence, Identity and Social Relations</td></tr>
<tr><td>Variables</td><td colspan="2">Spatial layout, Leadership, Topography</td></tr>
</table>

Table 4-1 Research design and data collection outline

The sample for the whole research project (ten informal settlements) involved around 300 residents, three authorities and two key participants; for an overall research time of 10 months (with time intervals) over a three-year period. All participants were assigned a number to assure anonymity, and to ease the correlation of answers between interviews and workshops.

One workshop, with ten participants each, was conducted for each settlement. Although somewhat similar to what would be defined as a grouped interview, workshops allowed an open and free space for participants to express the 'response' generated by the activity done, without being particularly conscious of the depth of their responses, and, therefore, not concealing information, nor adding their own bias by thinking carefully about

what and how to answer. The exercises were done with the residents of the informal communities to pursue later data correlation with interviews; and, also, to get involved with them with informal conversations as the workshop was being done, allowing to build trust between them and the researcher. The location of these varied according to each settlement, some were done in the settlements' common area, and some were done in Cruzada Cultural's[48] offices in town.

Due to the delicate and somewhat personal nature of the topics being asked through interviews, these were done individually; although it took longer than group interviews, the data collected allowed for a deeper analysis. All interviews were audio recorded for later transcription and proper analysis through NVivo software, in order to acquire quantifiable data.

Surveys**,** as verbal methods of data collection, can serve both as qualitative or quantitative to complement any method. Relating to disciplines involved in the present research, they have been widely used by geographers such as Shamai (1991), and Chia-Chin Lin and Michael Lockwood (2014); and by social sciences research such as the work done by Norsidah Ujang (2012), Norsidah Ujang and Khalilah Zakariya (2015), Kalimpour, et al. (2012), among others. Surveys provide fundamental demographic data and ethnographic registers and are frequently used as a complement to understand the size and characteristics of the population to be analysed. These surveys are generally done before the qualitative research takes places, such as the studies of Tonge (2013), Brown (2015) (2012), Burt (1984), Campbell & Lee (1991), Drivdal (2016), where the demographic background of participants needed to be understood to be able to compare mapping, photographic, or interviews results. For the present research, a generic data survey[49] applied to the 60% of the population of each site (approx. 30 participants per community) showed the overall characteristics

[48] A non-profit organization that has been working with the researcher since the pilot studies, currently offering free courses to the residents of informal communities as a follow up from some findings of the pilots and petitions of residents.
[49] See Appendix six.

of each settlement, which were used to correlate and analyse with data from both sections within the place attachment study and the leadership results.

Actual occupancy of the plots and present layout was investigated by the registers maintained by the authority and the leader, and by the mapped observation.

4.3 Research Design

The research design evolved and was adapted as per the need for encouragement of the participants' willingness and availability to engage. Divided in three stages, with weather conditions during the winter months (first and second onsite work) that allowed pleasant working environment as temperatures were an average of 34°C; while during the summer months (final onsite work) the higher temperatures of 39°C and rainy conditions limited the available time onsite. This, however, enriched the knowledge of living conditions in the informal settlements.

Due to time constraints of leaders' activities, and safety issues (it was not recommended by residents and leaders that the researcher enter or stay alone at the settlement), the research onsite was done as per leaders' availability. The researcher worked with a research team provided by the sponsor University[50], which allowed for the research to take place faster and safer. Although this research has an ethnographic approach, which would imply spending 'considerable'[51] amount of time on site, the methods and techniques used on this research, allowed for a collection of huge amounts of data within a limited timeframe, without compromising the validity of the results. The researcher, being a resident of the town, immersed in this topic since childhood, and more recently by the relationships formed with inhabitants by eight years of work as

[50] Instituto Tecnologico de la Costa Grande

[51] As this '*considerable*' amount of time is not restricted in literature, the range suggested by researchers varies between 4 months to 3 years of either 'occasional' visits to site or living onsite full time. Robson and McCartan (2011), on their book Real World Research, suggest a minimum of 6 months of regular visits for a proper ethnographic research.

a lecturer in the University where these residents study; being fluent in the language, and possessing the same cultural history, (not exactly an outsider), allowed a faster merging and understanding of the inner life of the settlements.

4.3.1 Development and adaptation of methods and techniques – Pilot studies –

The first approach to the research onsite, intended to find which and how variables of place attachment developed in the context of informal living. Done over a period of four months and consisting of two informal settlements (one with a female leader and the other with a male leader) with around 300 residents, where the methods described below were tried out to find out which ones were more appropriate and successful in gathering participation from residents to acknowledge the attachment to the place.

Interviews, as a research tool are widely used in social research; done in a formal and structured way such as surveys or concise questionnaires, semi-structured where the questions are mostly a guide to follow on a certain topic, and unstructured, which allows the interviewee to speak freely about the topic with little prompting from the researcher (Robson & McCartan, 2011, p. 284). Formal interviews used in the pilots were found to 'scare' participants and inhibit them from giving real or meaningful responses, structured questions caused anxiety and confusion to participants. Changing from 'formal' interviews to informal chats during this first stage, gave more in depth information as people felt more relaxed to speak.

Relating to place attachment studies, social science researcher Daniel R. Williams (2000) developed and used widely, 61 potential place attachment items to be measured through the Likert scale; based on the bi-dimensional variables of place identity and place dependence, but acknowledging subdivisions that place identity has, such as self-expression, centrality, importance, and satisfaction. The Likert scale technique has been widely used in place attachment studies, as it can be directly applied to the people of the place to be studied without any external input or influence from the researcher. Assigning numerical values to qualitative scales, makes this technique

quantifiable, facilitating the analysis of the results to give an estimate of the attachment.

The Likert scale questionnaires used for the pilots were however disregarded in the final study as results were found to be contradictory to what was both observed by the researcher and told by informal chats with residents; mainly due to the fact that residents found it hard to understand and measure their own answers by the scale provided, and rather preferred to explain their answer to the researcher, or write it down as their own option.

Using images and photos has been broadly used to try to understand places and feelings when doing participatory community-based research, especially when trying to identify social issues. Photo-elicitation – as named by John Collier in the 1950s (Tonge, et al., 2013, p. 43)- or Auto-Photography, used by Urban researcher Lombard (2013) and health communications expert Noland (2006), is considered to be a 'tool for building bridges with marginalized groups in the research process, since it offers researchers a way to let participants speak for themselves.' (Noland, 2006, p. 1). In this technique, participants are given a camera and are asked to take pictures of the concept under study; while Lombard focused on the act of place making and how participants expressed through photographs the likes and dislikes of their place, Noland focused more on the self-expression of identity and self-esteem through photos that described participants' selves but not photos of the participants themselves. Environmental researchers Tonge, Moore, Ryan and Beckley (2013) made use of this photo technique to explore place attachment in a Marine Park, overcoming the tiredness of the over researched visitors with this innovative and less invasive technique. Even though this technique seems accessible and easy, it was not successful in this particular context of informality due to (1) the lack of time of participants to commit to the activity, as their economic level

forces them to have more than one job, and (2) the lack of research funding to provide participants with disposable cameras for the activity[52].

Another kind of Visual method, is Picturing research: the use of drawings as a tool for revealing what cannot be put into words, i.e. because of shyness, lack of ability in verbal expression or language barrier, making it also an ideal tool to 'give easier voice to marginalised groups or groups that struggle to express themselves…' (Theron, et al., 2011, p. 10). Unlike Mapping methods that focus on the urban context, Picturing research is used in a vast amount of disciplines ranging from Medicine to Engineering, as the drawings can focus on objects, people or situations. This technique is also complemented by verbal research methods, allowing the drawer to give voice to the drawing and the possibility of analysis.

> *Artistic images [*drawings*] can help us access those elusive hard-to-put-into-words aspects of knowledge that might otherwise remain hidden or ignored* (Weber, 2008, p. 44).

In the urban realm, mapping methods have been widely used in Human Geography, as they make use of perceptions and subjective views of how the spatial environment is interpreted by people; portraying an unintentional honesty in the responses and a deep insight into the place studied by the inclusion of each person's background history in the results.

Geographers Wood, (1970); Watson, (1975); Wright, (1947); and Ladd (1970) described the use of a method called Image Geography, which bridges psychology and geography by including peoples' concepts of places and externalizing those not by words but with drawings. The use of this method can complement studies of the supposedly 'real' worlds conventionally undertaken by geographers, since it "pins down likes and dislikes, hopes and fears which motivate the movement of people from place to place […] much of what we accept as geography today, which is based on physical geography or economic

[52] The use of mobile phone cameras was discussed but disregarded as even though most of the residents have access to internet data, participants were not willing to spend their data allowance to send the photos to the researcher.

geography or political geography, may have to be altered, by image geography" (Watson, 1975 cited in Canter, 1977 p.10). Florence Ladd's study in 1970 about black youths and their perception of their neighbourhood, demonstrated at the time, the benefits of this schematic mapping method as the resulting drawings showed differences in the spatial conception of the place based on their individual mental geographies and perceived significant landscape features.

This method was introduced in the last part of this stage as an attempt to collect those data that could not be verbally told, due to consciously wanting to retain information or by unconscious fear of the results of the research. Participants were asked to draw a picture of their neighborhood, and it was found to be a very successful tool when working with illiterate people, allowing for a full expression of responses with an uncomplicated approach. Responses from this workshop varied from the full representation of the neighbourhood, to just drawing their own house; some participants would draw their neighbourhood as being filled with only the people they like, or would just be full of street names, while the houses depicted were not the ones they had, but the ideal house they would like to have. These results helped design the specific instructions for the final research.

Most importantly, community leaders stood out as a main variable for community engagement; it was noted that if residents liked and/or respected their leader, the degree of participation in the research increased and a degree of trust in the researcher was paralleled by the existing trust in the leader.

Based on these findings, some methods were adjusted to fit the profile of working with informal settlements. Fear of eviction/relocation, mistrust of the outcomes of the research, crime, and difficulty of access, defined the time frame and type of approach to the data collection process for the main and final field research.

4.3.2 Understanding Leadership

The second stage of field research focused on the role that the community leader plays within the spatial and social relations of informal settlements. The methodological strategy adopted for the present research, consists mainly of in-depth interviews with leaders, residents and authorities, detailed examination of documents, and observation. Eight informal settlements were studied for two months, to have comparative data for deduction and analysis.

The literature suggests that before starting the field work on vulnerable communities, such as informal settlements, it is important to contact the leader of these communities to establish an initial bond of trust with the community members (Garcia de Hernandez, 2006). Community leaders are key members and 'gatekeepers' who give access to the informal settlements and have an important influence on the livelihood of the community.

Chapter two, section 2.5, described concepts, perceptions and theories relating to the overall idea of Leadership, as well as to the roles that leaders play in informal communities. This research contributes to that existing knowledge by addressing a gap that has not been studied by scholars: the influence that leaders have in social networking by means of the layout of the settlement. The 'design' of these layouts nevertheless, has a why and a how, and leaders not only do develop these, but also either maintain or loosen the social bonds created within.

Leadership research has typically been addressed by quantitative methods, analysing variables such as popularity, social status, number of followers, in relation to various outcomes. After the 1980's, just when the New Leadership approach started to emerge, a tendency towards qualitative methods began to grow (Parry & Bryman, 2006).

Both types of research 'are simply different approaches to the research process, and as such can be mutually informative and illuminating about an area like leadership, and can even be combined' (Bryman, 1988; Conger, 1998;

Bryman and Bell, 2003; Kan and Parry, 2004; cited in Parry and Bryman, 2006, p. 462). Studying leadership through qualitative data allows for an opportunity to highlight specific features of context and process; such as the studies done by Parry and Hansen (2007), Parry and Meindl (2002) and Irurita (1994), where, by a qualitative approach, the issues of resolving uncertainty, enhancing adaptability, optimizing, in conjunction with a theory of identifying paradox, emerged in the research. 'The concurrent use of multiple sources of data and multiple methods of analysis [..] have great potential' (Parry & Bryman, 2006, p. 463).

Bennis and Nanus (1985), Tichy and Devanna (1986), Neuwirth (2005) and Adegbeye (2017) are just some of the writers, journalists and activists who have used qualitative research to investigate the role of the leaders within these isolated and neglected communities. The use of observation and interviews was the main source of data collection, as opinions and the experience of perceiving the real social interactions between leaders and residents is best acquired through those qualitative tools.

Demographic and urban researchers, as well as sociologists have favoured interviews in order to collect data from both the leaders and the residents of communities, such as the work of Magliano, Perissionotti and Zenklusen (2014), Drivdal (2016), Bénit and Katsaura (2014). These have been used as in-depth interviews, open-ended or semi-structured interviews and informal chats; always face-to-face and done inside the settlement. The results of the interviews on their studies have shown the way in which the community lives, with the significant appearance of the figure of leadership in every interview outcome, which supports the hypothesis of the present research. Bénit and Katsaura (2014) used the interviews as a qualitative complement to their mostly quantitative research by interviewing only key residents. This decision to interview only key participants has also been adopted by several researchers, who focus only on interviewing the leader, arguing that leaders are the ones who have more knowledge about the needs, opinions and demands of the community they represent; in addition, it is hard to get a hold of all the

population of the settlement. These key interviewees are considered capable of representing the field, that embody the heterogeneity of the environment (Breen and Thorogood, 2004, cited in Hellweg, 2014, p. 17).

Community leaders, in the present research, were treated as Key residents for collecting data referring to the history of the settlement, legal status, and community work. More than informal interviews, the data were gathered by a semi guided informal chat with the leaders, as we strolled up and down the settlement. The record of these chats was done by a research diary at the end of the day, and recorded voice notes and chats.

Three main objectives were pursued at this stage of the research: (1) Measure the degree of involvement of leadership on the design of the layout of the settlement, (2) Document and differentiate the type and state of the layout on each settlement (3) Document and measure the influence of leadership in social-spatial relationships within inhabitants.

These three objectives help in analysing the attachment to site by understanding the social processes within the settlement.

To analyze place attachment in informal settlements, the first variable that needs to be acknowledged is the type of leadership, which shows two things:

A. The type of spatial layout of the settlement
B. The degree of community participation

Characteristic B defines the type of methods to be used, with little or no direct participation of residents (the use or non-use of workshops). The researcher relied on the collection of data mainly from informal chats, open-ended interviews, detailed observation, mapping and photographs (wherever possible).

Due to time constraints, political campaigns at the time, and safety issues, the research onsite was pursued only for two months. The researcher worked with a research team provided by the sponsor University, which allowed for the research to take place in a short time.

Defining types of governance.

To obtain neutral insights about this topic, four focus groups were interviewed [53] . Research on leadership in informal settlement is scarce (mentioned in Chapter two, section 2.5), and it was noted by the researcher that interviews are mostly conducted with inhabitants and leaders, but not with authorities, as it is difficult to access them (Hernandez, et al., 2014). This research aims to bridge this gap.

Group 1 – Inhabitants

First group questions aim to gather deeper information by means of 'go along' interviews[54] (contextual) that allow for the interviewee to fully express:

- History of the settlement foundation and status
- Feelings of identity and belonging to the community and the municipality
- Knowledge of the current city planning process
- Relationship with the leader.

Participants identified as most engaged were asked for more private interviews, which were mostly made at the participant's home to allow them to feel at ease and secure.

Group 2 – Leaders

Second group questions aim to find out the role and impact of leadership and the degree of commitment to the place; the collected data included a personal background of the leader, knowledge of the current city planning process, relationship with authorities, history of the settlement foundation, work done with residents.

Group 3 – Authorities and Experts

Third group questions intend to visualize the epistemological view of the research topic by means of a guided conversation between the authority and

[53] See Appendix 8 for interview questionnaires.
[54] See Appendix 8

the researcher. The questions were just a guide since conversation flowed according to circumstances and attitude/availability of the authority. The location of the interview took place at a site other than the work place, chosen by the participant and agreed to by the researcher. This was done again in order to give and ensure anonymity for the participant and freedom of speech.

From the pilot studies, the review of the literature, and the second field research, it was found that a pre-designated layout of the settlement attests to the presence of a hierarchical leader, meaning a person who has subordinates. This type of leader rarely maintains 'power' once the residents are settled and is even deprived of basic services. There is a lack of participation in meetings, and no social activities. It was also confirmed by the pilot studies, that male leaders are more authoritarian than female leaders who engage the participants and encourage participation. This stage helped to define the importance that the leader figure has on the development of an attachment to the place, both by means of direct social influence and by the way in which the settlement is created (further explained in chapter six).

Having learned the influence of leadership on the social cohesion of residents, and in the way the physical space is improved by them; the final step was to understand how, or whether residents form place identity, transform it, or adopt the place's spirit, how residents rely on the settlement's location relative to the city (dependence), and how residents form deep social bonds out of internal working networks, through the everyday living experiences that become the Sense of Place.

4.3.3 Measuring Attachment

The final stage was approached by a more in-depth anthropological research, studying only three of those eight informal settlements, one of each type as grouped in chapter six. Having three different types of communities gave more robust findings which contributed towards a more general knowledge of place attachment in informal settlements. Firstly, and prior to relating the feeling of

attachment that residents can develop depending on the type of leadership, as 'physical features may facilitate social contacts and thus influence place attachment indirectly' (Lewicka, 2011, p. 217), the degree of attachment had to be initially acknowledged in each settlement. This process took place over the course of three months, a month spent at each settlement; all methods explained below were done in focus groups of a minimum ten participants from each settlement, to be able to correlate results later for analysis. During that month, three main methods employing several techniques were used to gain information regarding place dependence, place identity and social cohesion of the settlements.

Place attachment, as defined in Chapter three, can be analysed and viewed from several perspectives, depending on the objectives of each study and the discipline it is taken from; it is not fixed, the attachment evolves, changes or disappears with time. It can be emotional (identity) or functional (dependence). From these two main characteristics however, several sub concepts unfold and correlate as per line of thought; what for human geographers means 'sense of place', for environmental physiologists means place attachment. These two, nevertheless, do not collide on research, rather they complement each other, adding to the equation the social component of the appropriation of place.

There have been some methods and techniques that have been used to try to measure place attachment/sense of place as summarized in table 4-2. Three of them have been the most popular in studying places: Visual research, Picturing in the form of mapping, and Verbal research such as Surveys, Questionnaires and Interviews; hence they are included in this research methodology. This section analyses how they have been used, and how they are to be adapted to the present research context of informal dwellings in Mexico.

Place attachment variables or dimensions tend to be difficult to measure, this study complements those variables with measurable factors that develop independently from feelings; these quantitative factors Lewicka (2011) names as predictors, dividing them in three categories: socio-demographic, social, and physical-environmental. The present research made use of a survey to gather

this socio-demographic data (see Appendix 6). The social and physical factors were analysed as social cohesion and identity and dependence, to and of the place. Although these variables are sometimes analysed individually to capture the attachment to a place (e.g. social dependence within the site), and are, as explained in Chapter three, sometimes used interchangeably; the framework proposed here divides the analysis into (1) the physical sense of **dependence**, (2) the emotional link to it as the **identity**, and (3) the livelihoods within the place as the **social cohesion**.

	Discipline	Type of Method	Authors	Description of Method	Application in research
Place attachment measurements	Geography and psychology	Visual	Lombard, 2013; Noland, 2006.	Auto-photography methods to engage less educated people to participate.	These methods give an insight into the views and feelings/experiences of the people through pictures.
			Hunt, 2014	Urban photography, focus on capturing the place, not the people.	
			Theron, et al., 2011	Picturing research.	
			Saarinen (1973) and Nelessen (1994) in Bott and Banning, 2008.	Thematic Apperception Testing (TAT) the analysis of photographs and by a mental map, express their impressions of those photos. Likert scale used to evaluated appropriateness, likeability and potential, by means of a slides technique called the Visual Preference Survey.	
			Canter, 1977.	Visioning method, acknowledges the feelings of individuals to their surroundings.	
				Composite sketch maps aids in the identification of valuable elements to participants.	
		Psychometric scales	Brown, et al.,2012.	Emotional cartography, a record of psychological responses.	Feelings of experience.
			Lee, 1954	Socio-spatial schemata, acknowledge the perception of home-like places.	
	Human Geography	Mapping	Brown, et al.,2015, Brown and Raymond, 2007; Cacciapaglia and Yung, 2013.	Spatially explicit method for identifying place attachment, a map-based measure derived from mapped special places.	Combined methods to define special places as perceived by movements.
			Wood, 1970; Watson, 1975; Ladd, 1970.	Image Geography, a method to map likes and dislikes, movements and perceptions.	
			Golledge & Stimson, 1997.	Identitying 'home' as a spatial anchor points with Structual Mental Maps.	Similar to the dependace variable of place attachment, hence useful to determine the same.
			Burt, 1943.	Home range, a concept from Biology which identifies an individual's activities of food gathering, mating and caring.	
			Brown, et al., 2015: Brown, 2005.	PPGIS, Landscape values, includes the home range but acknowledges also the value given to each place.	
			Powell and Mitchell, 2012.	Cognitive Map, the visualization or mental concept of a place that fulfills the home range.	
			Appleyard, 1969	Detailed instructions given prior a mapping exercise can influence the participants response.	Give simple (non specific) instructions.
			Toyne & Newby, 1971	Define the different types of maps (linear, symbol) and sketches.	To understand and analyse results from workshop.
			Lynch, 1960; Ladd, 1970	Schematic mapping technique of neighbourhoods.	
			Black and Liljeblad, 2006	Special area polygons, integrates qualitative descriptor of a given place value scale.	Integrate value to the dependance variable
			Bateman et al., 1974	Special place dots, participants catalogue their own special places with different values.	
	Urban Geography	Observations	Neuwirth, 2006; Adegbeye, 2017.	Placing themselves as complete participants (insiders) to give deep insight of social living.	
			Magliano, Perissionotti and Zenklusen (2014)	Attend community meetings, and follow residents over time.	Done as a participant as observer.
			Karimi, 2018; Ostwald, 2011; Osman and Suliman (1994)	Space Syntax, as both an data collection method and an analysis tool working with objective concepts.	
	Anthropology	Informal Interviews	Kusenbach, 2003	Street phenomenology, the go-along as ethnographic research tool. Semi structured and face-to-face.	Adapted as go-along informal chats with community leaders.
		Formal Interviews	Magliano, Perissionotti and Zenklusen (2014), Drival (2016), Bénit and Katsaura (2014); Breen and Thorogood, 2004.	Interviewing key participants, to ease the process of data collection and focus on the ones that posees the most information required.	
		Narratives	Lombard, 2013; Pride, 2004; Hay, 1998.	Similar to emotional cartography but involving time, examining rootedness (culture).	Integrated in interviews.
	All disciplines	Surveys and questionnaires	Daniel R. Williams, 2000; Shamai, 1991; Lin and Lockwood, 2014, Ujang and Zakariya, 2015; Kalimpour et al., 2012.	61 potential items of bi-dimensional variables, to be measured with the use of the Likert scale.	Integrated as open ended questions during chats.

Table 4-2 Summary of place attachment measurements methods

PLACE DEPENDENCE

Place dependence was analysed as the physical dependence on a place or attachment to its instrumental meaning (Stokols & Shumaker, 1981) which can have also three scales (home, neighbourhood and city). The smallest scale of 'home' was acknowledged through informal interviews as the concept 'home' in informal settlements rather relies on the tenancy of the land; the scales of neighbourhood and city were approached by two methods: Mapped Observation and Mapping workshops.

Interviews

From the lessons learned in the pilot studies, the interviews[55] were designed as open-ended questionnaires and addressed as part of an informal interview, included in a casual conversation with each participant of the focus group; some questions made use of smaller prompts to acquire the needed specific data. The conversations tried to be held in the participant's home, and without the presence of the leader. All interviews were audio recorded, with previous consent from the participant, for later transcription and analysis.

The interview designed was based on Fried (1982), Harlan, et al., (2005), Taylor, et al. (1985), and Hidalgo and Hernandez (2001) studies that mention stability, sense of safety, home ownership and municipal services as physical predictors of attachment -hence, there were questions asking about children, relocation, mode of transportation and choice of place-.

Urban Photography and Mapped observation

To initially understand the physical elements that the place and its surroundings offer to the residents, it is necessary to understand the need for physical place dependence; this was done by two methods, urban photography and mapped observation following a space syntax structure or a morphological urban analysis.

Photographs in the urban context, when taken by the researcher, tended to be mostly used to capture the elements of the place, rather than the people using

[55] See Appendix 7

the place. When specifically used to observe the urban landscape, it is called Urban Photography [56] (Hunt, 2014) and can have applications in cultural geography, urban planning, art, etc. Although this tool can also assist in understanding values and perceptions of place from participants, it remains limited to the values given by the researcher, which is why it is often also used as a complement in Observational research, as is the case of the present research.

Photographic activity was ongoing during all three stages of the research. Photographs were taken on every visit to the site, as part of a visual diary for the researcher to have a better understanding of the place while doing the analysis and comparison of settlements.

Participant observation can take on four roles: the complete participant, the participant as observer, a marginal participant, and the observer as participant (Robson & McCartan, 2011).

Participant observation (used by Magliano, Perissionotti and Zenklusen (2014)), while attending community meetings, social and family events; as well as following leaders and residents over time (Drivdal (2016). Bénit and Katsaura (2014)), affirm that the observation process is what gives insights into what people do. As a complete participant, the work done by Ludger and Hellweg (2014) in a Brazilian Informal Settlement for four months where they taught English classes, illustrates how getting involved and merging into the studied community, can extend the opportunities of acquiring research data.

The observation process in the present research was done in the role of the participant as observer and structured as a Space Syntax breakdown for a Morphological Urban analysis.

Space Syntax as a Theory and Method was developed by Hillier and Hanson in the 1970's, searching for a way to interpret building and urban settlements quantitatively, emphasizing the relation between the space and the society

[56] For more extensive use according to geographers see Ryan (2013), Rose (2001, 2010, 2012), M. Crang (2010), Markwell (2000) and Schwartz (1996).

within it (Hillier & Hanson, 1984). In Space Syntax, 'spaces are understood as voids (streets, squares, rooms, parks, etc.). Voids are defined by obstructions that might either constrain access and/or occlude vision (such as walls, fences, furniture, partitions and other impediments)'. Neighbourhoods, 'are composed of a series of spaces – *network of spaces*-; each space has at least one link to other spaces. The structural properties that comprise these spaces and links might have an embedded social meaning that has implications on the overall behaviour of human habitat' (Al_Sayed, et al., 2014, p. 7). 'Consequently, there are two fundamental aspects of space syntax; one is configuration and the other is human activity and movement' (Can, 2012, p. 82). All these networks form a structure, that holds a certain geometry and topology – a pattern of connections, or, as called on the urban scale, an urban grid. Used widely in architectural and urban fields, Space Syntax has been used to understand the complex physical structure of cities, as shown from studies by researchers Lima (2001), Vaughan (2007), Asami, et al. (2003), and Greene and Penn (1997).

Space Syntax bases its theoretical analysis on three basic conceptions of space: Convex space/maps, Axial lines/networks, and Isovist space (a rarely used three-dimensional visibility field). Simplistically explained, Axial networks are the representation of the longest, fewest walkable paths formed within the spaces of buildings, the more axial lines crossing each other represent a higher Connectivity. Convex maps, on the other hand, represent the fewest and fattest spaces, measuring their Depth [57]. A space, therefore, can have permeable connections with other spaces (such as a plaza or garden prior to the entrance of a building). An isovist, or viewshed, is the area in a spatial environment directly visible from a point (Franz & Wiener, 2008). It can be constructed from an area (convex space) or from a path (axial networks) (Al_Sayed, et al., 2014, p. 29), this analysis produces a Visibility graph, which in

[57] A topological distance in a graph that represents the least number of syntactic steps -, a syntactic step reveals the direct connection or relation between spaces and their neighbours (Jacoby, 2006 in Can, 2016 p. 84).

the present research helped determine the possibility of social engagement on sites with difficult topography.

Researchers have developed several measures for the purpose of explaining social behaviour through space syntax. Some of the most important are: (1) Connectivity, number of immediate neighbours (nodes) directly connected to a space; (2) Integration, a measure of mean depth between spaces (how many turns and changes have to be made in order to access one space from another), ranking from the most integrated to the most segregated, this is usually indicative of how many people are likely to be in a space (Hillier, 1996) (3) Control, the degree to which a space controls access to its immediate neighbours, accounting for the alternative connections each one has; (4) Choice, movement flows through spaces (most likely used with Axial networks); (5) Constitutedness, very similar to connectivity but different in the sense that this also includes the topological depth into account.

These measures are integrated in the Morphological Urban technique in order to collect data and analyse the results into social cohesion perceptions, consisting of site observation on pedestrian flow and static activities in the urban environment. Although similar to other field observations types used in other disciples, the techniques used by Space Syntax Observation focus primarily on the use of space by: (1) Gate counts, which record the density of pedestrian or vehicular flow in an urban layout, specifically located at points to cover an area of study, and can be categorized according to what is being researched: people (age, gender, etc.) or vehicles (van, truck, car, etc.); (2)Static snapshots, this records the pattern use of spaces in an urban context, for a specific area and period of time during regular intervals; (3) Movement traces, tracks and maps collect flow dynamics through a predefined area, particularly, to understand where people are likely to enter/exit the area; (4) Ethnographic observations, which for the purpose of this study, have been specified further in this chapter.

It is a quantitative method that represents, analyses and interprets how towns work, and the relation between patterns of use and movement, a

Morphological Urban tool mapping: (1) movement patterns, (2) connectivity as a static measure of integration, (3) topological steps as an indication of constitutedness, (4) segment connectivity as an indication of proper pedestrian flow, (5) ground floor use along with block sizes to indicate importance, (6) people to people technique analyses the social interactions occurring at a specific place during specific times. The use of this method enabled the researcher to relate social bonds and activities to the physical space; creating an interrelation that shows the influence of layout on social relations.

Quantitatively, the adaptation of the Space Syntax to the present work includes the topographic characteristics and implications of the site, - based on the work of Asami, et al. (2003)-, to better analyse the social and spatial relationship, as 'human spatial behaviour and experience cannot be investigated independently from the shape and configuration of environments' (Franz & Wiener, 2008). Disregarding the use of sophisticated software, but rather using Brown's approach to place attachment studies, with map-based measures, through the Morphological Urban technique explained in the following paragraph. The present research has been adapted as a simplified 3Dimensional space syntax study (rather than the original 2D), following the claim that Ratti (2004) made saying that one common inconsistency that the method has is that it ignores the third dimension (height of buildings and topography). Although Vaughan mentions that 'to put extra lines where the street is slightly hilly or not would not change the overall model (Vaughan, 1998 in Can, 2012), the present research site's characteristic topography does make an impact on the urban model. Western and non-western buildings possess different layouts that could not be 'measured' by the same standards (Osman & Suliman, 1994, p. 199). Similarly, informal settlements possess different spatial characteristics than formal city neighbourhoods; therefore, the need to 'adapt' the method for integrating not only topography but also the quality and type of material used in streets and walkways has been considered a variable in this adaptation of Space Syntax. It was found in the pilot studies, that connectivity and connectedness were directly affected by these as well as the

adequate or inadequate state of public areas, as these influence place attachment.

Morphological urban analysis

Mapping was achieved through detailed observation and topographic survey of the settlements. Two scales were used to determine the urban state, to reflect the influence that leadership has on the use and care of the settlement, and to correlate the results of the social behaviour of the community.

The maps were thematically divided by the type of data gathered; hence, the mapping procedures for connectivity were done as a line maps, as they were used to show relationships between points or areas; whereas, services and infrastructure maps were drawn as symbol maps, to portray distributions at points or within areas (Toyne & Newby, 1971).

Macro Scale (city) – Variables: (a) location of services and infrastructure, (b) transport routes available towards the settlement; as the second dimension of place dependence, the relationship between the residents and the city was captured by means of observing the interaction that residents have with and towards the city. A record of the patterns of interaction was done by means of a tally chart (Table 4-3).

Intention: City and settlement interaction				
Action: Everyday life				
Location:				
Time:				
Variables:				*Code*
Carrying bags				1
Work-like uniform				2
Construction-like clothes/tools				3
Semi-formal dressing				4
Normal dressing				5
Check-list				
1	2	3	4	5

Table 4-3 Tally chart of City and Settlement interaction

This table was designed based on the concept of 'home range' used by Brown, Raymond and Corcoran (2015), which represented the area as a value of the individual's normal activities. These *normal* activities, for the research are

categorized by work (work/school-like uniform and construction-like clothes/tools), leisure (semi-formal dressing, normal dressing), shopping (carrying bags) and visiting (semi-formal dressing, normal dressing).

The collected data is a quantitative measure (frequency) of the resident's dependence on the settlement's location in relation to the town's services; which was analysed and substantiated with the qualitative data gathered from interviews (question no. 2) and workshops.

Medium Scale (settlement[58]) - *Variables*: (a) chosen location in respect to the city (b) entrances, how many? (c) state of streets and walkways, improvements, materials? (d) shacks or houses[59]? (e) easy or hard access? (f) services and infrastructure

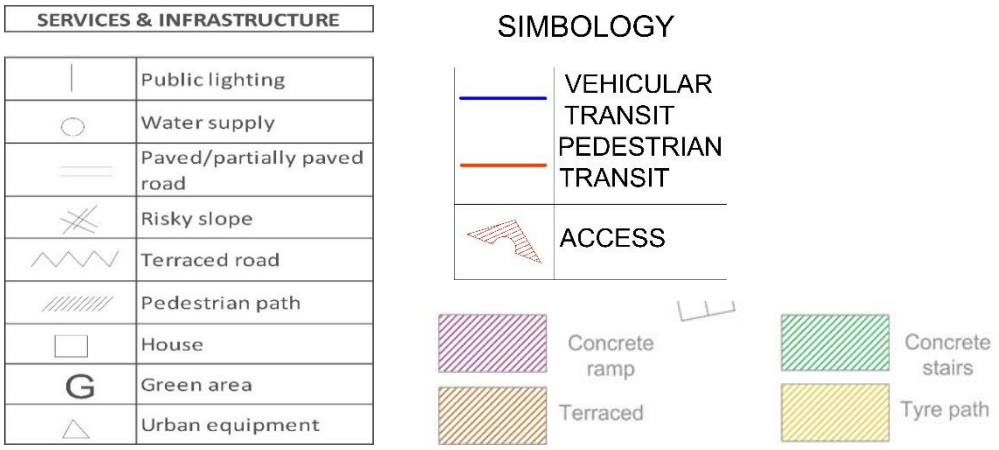


Table 4-4 Legends for mapping the settlements' urban characteristics.

The observation process consisted also in registering activities on site for a month, with three all-day visits to the site (two work days and one weekend) per week. Firstly, there was a walk over all the place to observe the busiest spots with the aim to determine whether the place was actually being used and why. Secondly, an observer was stationed at the busiest points in the settlement, counting people and noting their activity. This procedure was based

[58] Each of these charts was used on every settlement map, not included here as there were eight different ones.
[59] The location of houses by a topographic survey was done on the official plans given by either FIBAZI or the Town Hall

on the work done by Ittleson, et al., (1970) which he called “behavioural maps”, acting as a summary of the observed frequency of activities.

Commonly found in the settlements were such activities as kids playing, people chatting, walking, community meetings, etc. All these activities were mapped on the plan of each settlement using the present layout.

SIMBOL	DATA
	Kids playing
	People walking
	People chatting
	Any other activity

Figure 4-1 Mapping legend for the use of place

During these visits, the researcher took note of the way in which walkways were used or avoided (too steep, slippery in the rainy season). This was based on the theory mentioned by Gustafson (2002) (2009) (2006), that mentions that ‘mobility can take different forms, and hence it can affect place bonding in various ways’. Commuting to and from work, being also one of those ways, (van der Klis & Karsten, 2009), was recorded by a workshop explained below.

At the end of each day, in addition to the records of the use of the place, the researcher kept both a written diary of what happened during the day and an audio recording during the visit. Photographs were taken during the day to capture the activities recorded on the maps. This helped in the later analysis of the data, making it easier to remember and relate mapped events with facts.

The results of the behavioural maps as a form of social interaction patterns and place bonding, intends to show how residents use places where they feel more comfortable, safer, and accessible, thus, determining the physical dependence to the site.

Workshops

To complement the observation data, a workshop focused on locating those four main variables for place dependence on the city scale: work place, grocery

shopping, leisure time and visiting -meaning contact with family and friends outside the settlement-. The workshop also focussed on the city map, asking the participants to show on the map, the places he/she visits constantly in the city. In order to separate Leisure, Work, Shopping, and Visiting activities, they were divided by a colour scheme.

Brown's technique of mapping places of importance (value) and special places on a 'home range[60]' approach, includes the symbolic content of place identity and the functional component of place dependence. He defined ten basic landscape values: life support, economic, scientific, recreation, aesthetic, wildlife, biotic diversity, natural. Landscape values, or home range values as he described them, were used to measure place dependence, acknowledging the attachment as the identity with the place. Although Brown defined a good diversity of parameters, the availability of some of what he stated as basic landscape values can vary among places; hence, these can be taken as options from which to choose as per place characteristics. In the case of the present research location, as settlements were located in a small city, only four of these landscape values were considered; by measuring distance from the valued place to each settlement, the location of these parameters was based within the home range in order to highlight the dependence of the place as a location.

Distance, rather than area, was measured and analysed to find the mean for each variable. Under that same concept of 'home range' (Brown, et al., 2015), it was established that the shorter the distance from home to city, the more dependent they were on it.



Table 4-5 Legend for the location of home range activities.

[60] What biologist describe as the area traversed by the individual in its normal activities of food gathering, mating and caring for the young (Burt, 1943).

The analysis of this dimension gave frequency and distance as two quantitative measurements of dependence.

IDENTITY

Acknowledging identity, as a concept of belonging to or being part of, was analysed in two subjects; firstly by observing that people have made the place their own by means of road names, clean and cared for spaces, etc. as Lombard (2014) and Taylor, et al., (1984) suggest; and, secondly by noting how and what makes them identify themselves as residents of that specific settlement, (stewardship, pride, etc.) (Lombard, 2013). Place and people's identity were captured by observation, informal interviews and workshops.

Observation.

The data gathered in this process was done simultaneously with the place dependence observation work, recording the names and state of conservation of streets and houses. It was also observed whether and where any new improvement work or maintenance was done; as one of the physical predictors that Lewicka (2011), Harlan, et al., (2005) and Hidalgo & Hernandez (2001) mention, can be ratings of precinct cleanliness.

	Codding explained for mapping.				
A	Neighbourhood state				
B	State of conservation of households				
	SCALE for A				
G	Good	Street signs, working public lighting, defined areas, clean.			
S	Sufficient	Defined street and walkways, working public			
B	Bad	Dark alleys, no defined pedestrian paths, dumpster			
	SCALE for B				
G	Good	Well constructed, defined and clean entrance, garden			
S	Sufficient	Defined built area			
B	Bad	Abandoned			

Table 4-6 Mapping state of maintenance of settlement and dwellings (value of place)

The state of other places (e.g. Chapel, corner store, playground), was also noted. Another predictor of place identity is naming the streets (Lombard,

2009); during this mapped observation process, it was noted if street names were placed around the settlement; then there would be further questions about these names during the interviews.

Interviews

Semi-structured, informal, face-to-face and recorded for later analysis, interviews were conducted individually with each of the ten participants of the focus groups. Researchers limited their questioning sessions to a single encounter to limit the time demand on the participants.

Questions[61] were based on four principles of identity described by Breakwell (1993): Distinctiveness, and Self-efficacy, and Continuity and Self-esteem. The first two relate to the place and the last two to the residents, as was explained in chapter three. Questions to acknowledge likes and dislikes, and appropriation and belonging helped to identify those four principles: the degree of pleasantness people express towards and about their place are physical predictors linked to the identity dimension of place attachment (Félonneau, 2004), naming places is a form of appropriation and place making (Lombard, 2014), which reflects on the identity of the place, and sense of belonging acknowledges the place's identity as an expression of self (Williams, 2000).

Questions were not divided by principle to allow a free flow of answers if linked to one another by the participant.

Another type of verbal research is the Research through narratives, or the narratives of place, such as Patricia Pride's (2004) research 'Dry Place', in Cresswell (2015) which describes the stories of immigrants and the way in which they have made the hosting country their home. Lombard (2013) when analysing place making in informal communities in Mexico, noted that residents define themselves as part of a particular settlement through the narratives of struggle and appropriation of place.

[61] See Attachment 7

The use of narratives allows for a full detailed story of personal experiences, they not only provide a timeline of the formation of the settlement but allows for participants to express their feelings and perceptions. The use of narratives was included in the informal interviews as a single open question (see Attachment 2) and was also used as a measure of social bonding when the narratives shared a commonality between participants, since 'the emotional connections [are] based on shared history, interest or concerns.' (Perkins and Long, 2002 in Raymond, et al., 2010, p. 423).

Mapping[62]

Workshops, to get more in-depth insights, were needed to understand the experiences of life in an informal settlement, and were best accomplished with smaller groups, as suggested by Krüger& Casey (2009, p. 74), so ten participants were selected for each settlement at a time.

Also representing the cognitions of places (personal geographies) into sketch maps, a process referred to as Cognitive Mapping (Powell & Mitchell, 2012) was included. Brown, et al. (2012) focused on special places and called this emotional cartography, which tracks and records psychological responses of participants during a walk, where memories of places, feelings and events reveal rich data of experiences with places, later developing a typology to map landscape values**.** Similar to this and to show the individuality of the participants, Lee (1968) developed a socio-spatial schema (participants drew a line around the part they considered as their neighbourhood); each participant drew the settlement differently according to each individual experience in the same.

Emotional cartography merged with a socio-spatial scheme is one of the techniques used in the present research to determine the perceived identity of the place. The instruction to acquire data for the Identity variable was just to 'draw the way to your house in the settlement from the entrance you use' on a blank sheet of paper. The objective of this exercise was to determine the actual

[62] The mapping workshop integrated the variable of Identity into the exercises along with the dependence and the social cohesion variables, each variable is explained separately in this text.

path/way used by residents inside the community (how well they know their settlement), contributing to analyse identity per participant. Asking them to locate their home and build the map of the settlement based on that, was taken from the research done by Golledge & Stimson (1997) where identifying their 'home' served as the main spatial anchor.

SOCIAL COHESION

This third dimension of place attachment, 'the most powerful predictor of community attachment' according to Kasarda and Janowitz (1974), was analysed as another variable that can be factored into the correlation. Often referred to as Social Network Analysis (SNA), measuring the social component of place attachment can be quite complicated as perceptions of how we become attached to people, evolve and adapt according to personal situations, time and distance. Consequently, even when the measurement takes place at a certain point in time and at a certain place under certain conditions, there is no continuous scale to measure social ties; results can only imply a mere resemblance of the social ties between people.

Independently of the type of technique used to measure social ties, there are common variables that are always considered able to quantify the tie, these variables are grouped by Granovetter (1973) and Petróczi (2007) as predictors (networks) and indicators (depth of tie)[63], and are studied as a relationship in between the 'ego' and the 'alters'.

When analysing community cohesion, firstly the personal networks must be addressed, from there, the community is constructed, and each tie is analysed to determine its depth and strength.

Table 4.7 summarizes the methods and techniques that have been used to try to quantitatively measure social ties and shows how these were integrated into the research.

[63] See Chapter three section 3.3.3

	Authors	Variable	Scale	Description	Application
Social measurements	Wellman (1979), Fischer (1982), Burt (1984) and Marsden (1990)	Networks and ties	**Name generators**		Divided as questions acknowledging network extension and depth of ties.
	Fu 2005		Quantity: extension of network	Single question	Included as questions
	Granovetter (1973), Petróczi (2007), Marin & Hampton			Acknowledge role relationships, network properties, number of contacts and source of	
	Merluzzi and Burt (2013)			Five names is the cost-effective number of sociometric citations.	Used just as a parameter.
	Granovetter (1973, 1974), Milardo (1988), Van Der Poel (1993) and Marin & Hampton		Quality: depth of ties	Four approaches of personal networks; 1)intimacy; 2) emotional intensity of the relationship; 3) frequency of interactions; 4) reciprocal services	Included as questions
	Marin (2004)			Closeness and mutual trust factors.	
	Fu 2007	Networks and ties	**Contact Diary**	Records every contact made during a period of time.	Disregarded as a diary as participants did not have time to keep one, but integrated as a single question in the informal interviews.
	Lin and Dumin	Social Capital	Type of ties	Position generators	Adapted as questions in informal interviews with leaders and chats with residents.
	Schiffer and Hauck (2010)			Net-Map technique	
	Van Der Gaag and Snijders (2005)			Resource generator	

Table 4-7 Social measurements methods

Name generators have been used to measure the extend of the personal network and the role of the people mentioned in this network. Creating name generators is commonly done through simple questions which ask the participant to basically write down the names of people in their networks according to different categories. Follow up is conducted by *name interpreters* who gather information on the demographic characteristics of each alter.

According to Milardo (1988) and Van Der Poel (1993) , the study of these personal networks can be divided into four approaches: role-relation approach (influence of social domains: neighbours, friends or kin); interaction approach (contact over a period of time); affective approach (closeness, affectionate and significant); exchange approach (exchange of support between egos and alters).

Marin (2004) formulated specific questions to enlist networks by including the closeness and mutual trust factors (e.g. the GSS generator: 'during the last six months whom did you discuss important matters with?' and 'think of those people with whom you did something together'), although, name generators with the affective approach tend to have the problem of definitions and interpretations of, for example, what *friend* means (Burt, 1983). Milardo (1988) focused on daily interactions by asking question such as 'with who have you interacted over the last week, month, or year? Then again, the validity of such answers lacks the stability of a continuous social network. Marin and Hampton (2007) remark that name generators with the role relation and affective approach tend to be ambiguous due to the interpretation across populations but do have value when just referring social ties to the classical dichotomy studies. The exchange approach, they argue, has more valid criteria for selecting and mentioning strong ties, since the concept of friend is invariably merged with the people in the network that provide regular support.

Questions such as 'Who do you rely on for help with everyday tasks?' or 'from whom could you borrow a large sum of money?' have a strong face validity with less different interpretations (Marin & Hampton, 2007, p. 167). These can also have three different components, which define social support more broadly: emotional aid, instrumental aid and companionship. 'Social support is a multidimensional concept and a valid measure of support should require generators that tap different dimensions of support' (Marin & Hampton, 2007, p. 181).

The single-item survey (Fu, 2005), as another name generator method, does not define the type of names that a participant would write down, which could still disregard meaningful relationships, but instead records the overall number of interpersonal contacts in everyday life with a question such as: '*On average, about how many contacts do you have on a typical day, including all those who you say hello to, chat with, talk or discuss matters with, whether you do it face-to-face, by telephone, by mail or on the internet and whether you personally know the person or not*? (Fu, 2005, p. 173). It can be useful as an alternative to

the Contact Diary (Fu, 2007) - a technique that records all one-on-one interpersonal contacts, being close contacts, acquaintances or complete strangers- when participants do not have the time or the willingness to keep a detailed diary of their social interactions, as is the case of the participants of the present research.

There has been methodological work offering guidance regarding what kind of relationships to ask about: frequency versus emotional closeness, obligatory versus discretionary, (see Marsden and Campbell, 1984; Baron and Podolny, 1997; Burt, 1997, 2010; Bearman and Parigi, 2004; Marin and Hampton, 2007). However, how many names are enough to identify someone's network? Researchers Merluzzi and Burt (2013) proposed that five names is the cost-effective number of sociometric citations to record in a General Social Survey (GSS), based also on the fact that even when presented with an unconstrained choice set, participants generally mention six contacts at the most (Fischer, 1982; Burt, 1984; Marsen, 1990, in Merluzzi and Burt, 2013, p. 333). Then again, restraining the number of alters may also cause the network to be artificially inflated (Kossinets, 2006, in Merluzzi & Burt, 2013, pg. 332). This restriction may help in acknowledging the strongest ties, as Marin (2004) showed that respondents tend to list first the names of those individuals with whom they share stronger relationships.

Still the big problem relies on the perception and interpretation of the questions: what does 'meaningful' mean? what is 'important'? what does 'discuss' imply? All these interpretations bias the response in some name generators. Although this technique gives a good reflection of network relationships, Brewer (2000) found that people sometimes disregard some of their relations, especially when the participants network is very broad. Fu (2007) also agrees with the fact that name generators are not reliable enough to estimate one's actual personal networks.

Although for example the contact diary offers direct, non-biased and up to date data from the source, the present research overcomes these problems by correlating responses from the informal interviews and the mapping workshops

to help determine the real network composition of the participants, and, hence, the cohesion of the whole community.

The social capital acknowledged in this research, apart from determining the strength of the community in relation to the city authorities, helped in highlighting the importance of the community leaders within the socio-political relations to the benefit of the community. This refers to the benefits that can come from social relations with alters in a powerful position (political capital); a variable very valuable in the present research when analyzing the work done by community leaders. Several methods have been used to indicate the degree of social capital that a person has: (1) Position generators developed by Lin and Dumin (1986) focus on measuring and comparing the power relations amongst close kins and acquaintances. (2) Net-Map technique (Schiffer & Hauck, 2010) also measures power relations according to a theme, by participation of the people involved in the particular issue. (3) Resource generator (Van Der Gaag & Snijders, 2005), also measures social capital, but rather than focusing on social relations, this theory focuses on social resources, and how these can be accessed through network ties. These techniques were also adapted as questions in the informal interviews conducting with the participants, and the leaders.

Interviews

Firstly, the questionnaire focuses on building information about the social networks existing in the settlement, and the relation of the inhabitants within the networks (predictors). Questions were designed based on the theory of Granovetter (1973), Petróczi (2007), Marin & Hampton (2007), and Marin (2004) as explained above and further in Chapter three, which acknowledge role relationships, network properties, number of contacts and sources; and Fu's (2005) single-item survey question.

Secondly, the questionnaire aimed to measure the frequency and depth of social ties (indicators), not phrased as an interview but more as a guided conversation, trying to acknowledge the four approaches of personal networks according to Granovetter (1973, 1974), Milardo (1988), Van Der Poel (1993) and

Marin & Hampton (2007): 1)intimacy; 2) emotional intensity of the relationship; 3) frequency of interactions; 4) reciprocal services (Huszti, et al., 2013, p. 43). There was a concluding question to acknowledge the overall cohesion of the residents by means of shared stories or/and history (Perkins & Long, 2002).

Workshop

Building on Brown's (Brown, et al., 2015) mapping technique, Black and Liljeblad (2006) developed a method for integrating qualitative descriptors of place values with spatially referenced "special area" polygons; which takes the landscape values Brown defined as nodes to create a polygon. Different polygons from different participants are then compared by area, to establish a high or low dependence on the place. Another research by Brown and Raymond, 2007 varied Black's by not using a predefined set of limiting generalized landscape values to locate polygons, but letting the participant catalogue their special places by using 'special place dots' with different 'importance' values, which would allow not only to define the area, but to quantify the real value embedded in each place by each participant. 'By representing the various degrees of like/dislike numerically, it was possible to produce a map of the area, in which contours represented the varying degree to which places were considered undesirable residential locations.' (Canter, 1977, p. 6).

For the present research, this special area polygons technique was adapted and merged with the special place dots. This method changed the importance value placed on types of social relations among residents of the same settlement. The technique helped to define specific social levels (or depth of relationship): friend, neighbour, compadre, family; which would then form a polygon of social interactions within the settlement. his procedure made it possible to quantify and compare the degree of community cohesion in each settlement. Although mostly qualitative, Image Geography as a method of mapping cognition and feelings towards the surroundings, becomes an ideal tool for deepening the understanding of the attachment of the residents, especially when dealing with illiterate and poor communities -such as informal settlements-, where GIS

technologies for surveys and mapping can hardly be understood or used by the inhabitants. Though the validity of this research method as reliable data collection has been questioned, arguing that, cognitive mapping, as a very personal response (qualitative information), can be affected by time, the same participant may produce quite different sketches on different occasions. These drawings may selectively express what the participant wants to portray, rather than actually portray the 'reality' of the place. This technique can also limit the type of participants as it depends on their drawing ability (Samuel and Bryant, (1996); Kitchin (1994); Golledge and Stimson, (1997)). The adaptation and merging of techniques as used in the present research do allow for a quantitative and measurable data to assess the variables of place attachment through this method.

The adapted technique used in this research for the exercises of the workshop, was based on drawings as a reflection of the perceived space, based on Image Geography (Canter, 1977, p. 10), as per Boulding's (1973) concept of the perceived world, and Lynch's (1960) and Ladd´s (1970) schematic mapping technique of neighbourhoods, to produce Structural Mental Maps (Golledge & Stimson, 1997) in the first exercise. Drawing as a hook to engage residents in a fast, simple process of participation where the instruction was simple, direct, and the results focused and easy to analyse. This method was complemented by the interviews as 'composite sketch maps bears a strong resemblance to the verbal interview regarding the identification of elements.' (Canter, 1977). This was a perfect choice to use with illiterate, low income, shy and extremely busy residents[64] of the informal communities of the case studies.

The instructions were simple: (a) locate your friends/family in the settlement by colour and state how frequently you see them, (b) mark with an X your *emergency person*. Keeping the instructions simple ensured no influence on the information to be provided by the participants, as Appleyard (1969) found from

[64] Most of the residents have two jobs to make enough money for a living.

his study in Ciudad Guayana. Ten participants of each settlement were given a blank sheet of paper, pencil and colours.

This aimed to show:

1. The type of social ties.
2. The strength of social ties.
3. Any specific landmark in the settlement (place's identity, main character)

(a)&(b) The first and second activity consisted in locating friends, family and the emergency person, both on a blank sheet of paper and on a scale map of the settlement. This added value by distance to the strength of ties, considering that the shorter the distance drawn on the free sketch map, the stronger the bond; as the perceived environment of the participant locates friendship above obstacles. This comparative method is proposed by the researcher as a variation of Boulding's theory and Lynch's technique, applied to determine the strength of social ties.

4.4 Analysis outline

Even though the methodology includes qualitative data collection methods, the analysis of these data was done as quantitatively as possible using NVivo software, graphs and percentages. The 'adapted' Space Syntax used as a quantitative method gives a clear picture of the degree of attachment to the place through a compact, yet profound urban analysis of the place, focusing on relating connectivity with the development of social relations. Relating the quantitative results of the urban analysis to the qualitative outcomes of the spatial-social relations of 'Inverse[65]' Place-Making theory, gives factual data of the place attachment. Overcoming the shortcomings of the Space syntax method about inferring data from the society that makes use of the settlement (Osman & Suliman, 1994) and explaining it through an inverse point of view of

[65] How place's characteristics influence on the livelihood of a community

Place Making theory; hence complementing each other. Vinit Mukhija (2001), and Abbott's (2002) (2003) work found that the physical conditions of a setting— the location of settlements, the land uses in them, settlement layouts, and the sizes of the lots within them — can impact the success of upgrading strategies, particularly, the preference of beneficiaries for different strategies. This could be of use for both relocation or improvement purposes as well.

Correlations between the results from interviews and workshops were done by participant and by variable, being able to group results as a community and compare results between settlements.

4.5 Limitations

The theoretical research work was funded by the National Council for Science and Technology (CONACyT) and the Tecnologico Nacional de Mexico (TecNM), however the onsite research work was fully funded by the researcher, limiting the scope of activities due to the lack of access to purchase material and proper equipment. Nevertheless, the TecNM supported the researcher onsite with human resources in the form of students as research assistants, which helped to reduce the time spent onsite, and allowed for a less biased perspective of the settlements.

Political campaigns during the second stage of the research reduced the availability of the leaders; however, for the second visit, the researcher, being a town local, was welcomed without difficulty by residents to the onsite work. Interviews with the leaders were then programmed as per their availability.

Weather conditions during the last stage of the research had an impact on the actual time spent onsite, due to the risky conditions that torrential rains have on the physical status of informal settlements. This, however, helped deepen the understanding of the living conditions that residents deal with in informal settlements, and hence, became more of an asset to the research data than a setback.

Conclusions

Place attachment, when measured in informal settlements, must recognize the need for a home as a crucial variable that affects results in attitudinal surveys and direct questionnaires and interviews. Place attachment must be approached through Urban quantitative studies as they do not affect the perception of the researcher toward life in the settlement. This is demonstrated when short and fast studies are made to establish parameters for relocation or improvement of the settlement, which describes most studies in Mexico that result from the design and planning of new Urban Development Plans is to be designed.

Following Grounded Research, the methodology explained here has evolved throughout the entire period of research; from the pilot case studies, which defined and helped identify the difficulties that had to be overcome when doing research on informal settlements in Mexico (table 4-8); to the final case studies, where even when the methodology was aimed at certain data collection (table 4-9), it was adjusted in time and form according to what the circumstances were on site, as is further explained in Chapter seven.

By adapting concepts from Place Making and Perceived world theories, the methodology enabled the researcher to perceive the "*soul of the site*" and how that perception influences the sense of belonging of the residents.

	Authors	Type of Method	Description of Method	Application
Discarded	Lombard, 2013; Noland, 2006.	Visual	Auto-photography and Photo-elicitation. This methods give an insight on the views and feelings of the people through pictures.	Not feasible to use with low income busy residents.
	Daniel R. Williams, 2000; Shamai, 1991; Lin and Lockwood, 2014, Ujang and Zakariya, 2015; Kalimpour et al., 2012.	Surveys and questionnaires	61 potential items of the bi-dimensional varibales, to be measured with the use of the Likert scale.	Discarded, as the scale could not fully express what the participants wanted to measure.
Place attachment measurements	Hunt, 2014	Visual	Urban photography, focus on capturing the place, not the people.	Used to correlate and understand responses from interviews and as part of the urban analysis of the settlement.
	Brown, et al.,2015, Brown and Raymond, 2007; Cacciapaglia and Yung, 2013; Theron, et al., 2011; Canter, 1977	Picturing research trhough Mapping	Composite sketch maps aids in the identification of valuable elements to participants.	Development of workshops activities.
	Wood, 1970; Watson, 1975; Ladd, 1970.		Image Geography, a method to map likes and dislikes, movements and	
	Powell and Mitchell, 2012.		Cognitive Map, the visualization or mental concept of a place that fulfills the home range.	Home range as an anchor /reference to the drawing workshops.
	Burt, 1943.		Home range, a concept from Biology which identifies and individual's activities of food gathering, mating and caring.	
	Brown, et al., 2015: Brown, 2005; Golledge & Stimson, 1997.		PPGIS, Landscape values, includes the home range but acknowledges also the value given to each place.	
	Black and Liljeblad, 2006		Special area polygons, integrates qualitative descriptor of a given place value scale.	Adapted to measure social cohesion creating a poligon of social types of ties.
	Bateman et al., 1974		Special place dots, participants catalogue their own special places with different values.	
	Magliano, Perissionotti and Zenklusen (2014)		Attend community meetings, and follow residents over time.	Done as a participant as observer.
	Karimi, 2018; Ostwald, 2011; Osman and Suliman (1994)		Space Syntax, as both an data collection method and an analysis tool working with objective concepts.	
	Magliano, Perissionotti and Zenklusen (2014), Drival (2016), Bénit and Katsaura (2014); Breen and Thorogood, 2004.	Interviews	Interviewing key participant, to ease the process of data collection and focus on the ones that posees the most information required.	Key participant being the community leaders of each settlement.

Table 4-8 Final Methodology

	Authors	Description of Method	Application
Social Cohesion	Lombard, 2013; Pride, 2004; Hay, 1998.	Narratives, similar to emotional cartography but involving time, examining rootness (culture).	Inserted as a question in the informal interviews.
	Granovetter (1973, 1974), Milardo (1988), Van Der Poel (1993) and Marin & Hampton (2007)	Depth of ties - four approaches of personal networks: 1)intimacy; 2) emotional intensity of the relationship; 3) frequency of interactions; 4) reciprocal services	
	Fu 2005	Single question	
	Granovetter (1973), Petróczi (2007), Marin & Hampton (2007), and Marin (2004)	Theory to acknowledge relationship's characteristics.	Used to measure and scale types of relationships.
Identity	Williams, 2000	Place's identity as an expression of self	Personal identity
	Lombard, 2014	Place naming as a reflection of the identity of the place.	Place identity
	Félonneau, 2004	Degree of pleasantness expreses the 'love' towards the place.	Sense of belonging
	Breakwell (1993)	Distinctiveness, and Self-efficacy, and Continuity and Self-esteem, the four principles of identity.	Personal identity
Dependance	van der Klis & Karsten, 2009; Gustafson (2002) (2009) (2006)	Mobility affects place bonding.	Reflected on the cognitive mapping exercise.
	Ittleson, et al., (1970)	Behavioural Maps.	Along with the Home range concept to detect dependance to the location of the settlements.

Table 4-9 The specific methods for the three components of Place Attachment.

Chapter 5 Zihuatanejo

Ixtapa-Zihuatanejo, as it is known to tourists today, is the case study site chosen to analyse the theory regarding the influence that community leadership has on place attachment of informal settlements. This city, originally a small fishing village, grew exponentially during the 1980's due to the market politics of the central government. This fast growth, along with the unplanned economic development of the city, created the conditions for the expansion of informal settlements.

This chapter describes the location and geographical characteristics of the city, followed by a description of the social, political and economic context of Zihuatanejo and an analysis of its history, including an account of city sprawl through informal settlements. The researcher goes on to describe the impact that these changes have made on the urban image of the town, followed by an explanation of how land uses have been legally adapted to regularize these settlements.



Figure 5-1 View of Zihuatanejo Bay. Author's photo.

5.1 Location

The state of Guerrero located in the south-western part of Mexico, has approximately 3, 533, 251 inhabitants, and occupies first place in social marginalization of the country with over 50% of its Municipalities lacking basic services and a very low level of education (Secretaria de Desarrollo Social, 2010). The Municipality of Zihuatanejo de Azueta (formerly Jose Azueta) -Map 5.1-, which comprises the cities of Ixtapa and Zihuatanejo among 203 others, is nevertheless rated as having low and very low degrees of marginalization.



Map 5-1 Location of the Municipality of Zihuatanejo de Azueta in Mexico

Ixtapa-Zihuatanejo is located in the 'Costa Grande' region of Guerrero on the north-west coast (Map 5-3), about 240 kilometres north of Acapulco (101º33´ W, 17º38´ N). Zihuatanejo is the Head of the Municipality, Ixtapa is located further north, just about 8 km from Zihuatanejo's town centre.



Map 5-2 Ixtapa and Zihuatanejo, Google Earth, 2020

5.2 Geographical Characteristics

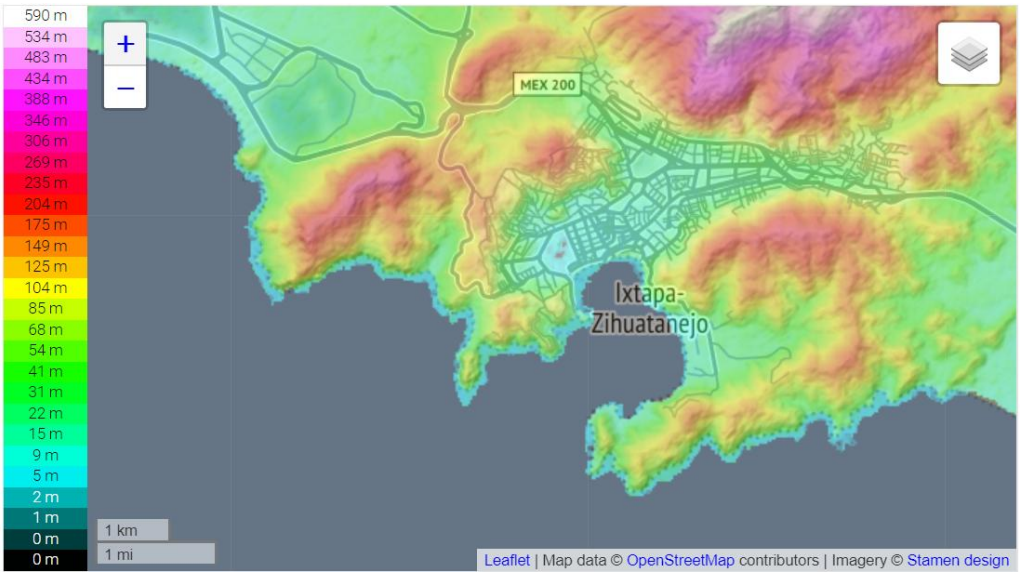
What makes this dual destination a year-round tourist attraction is its weather, with the characteristics of a hot humid climate, Zihuatanejo has an average temperature of 30°C during the day all year (Table 5-1) (weatherbase, n.d.).

Zihuatanejo - Average climatic parameters													
Mes	Ene.	Feb.	Mar.	Abr.	May.	Jun.	Jul.	Ago.	Sep.	Oct.	Nov.	Dic.	Annual
Max. Abs.Temp.(°C)	36.5	37	36	37.5	41	39	42	41	38	39	38	38	
Max. Aver.Temp. (°C)	31	31	31	32	32	32	32	32	31	32	31	31	**32**
Min. Aver. Temp. (°C)	19	18	19	21	22	24	23	23	23	23	22	20	**21**
Min. Abs.Temp. mín.(°C)	10	12	14	14.5	14.5	19	16.5	17.5	17.5	17	14	12	
Total Precipitation (mm)	27	8	0	0	21	186	196	215	375	108	26	11	**116**

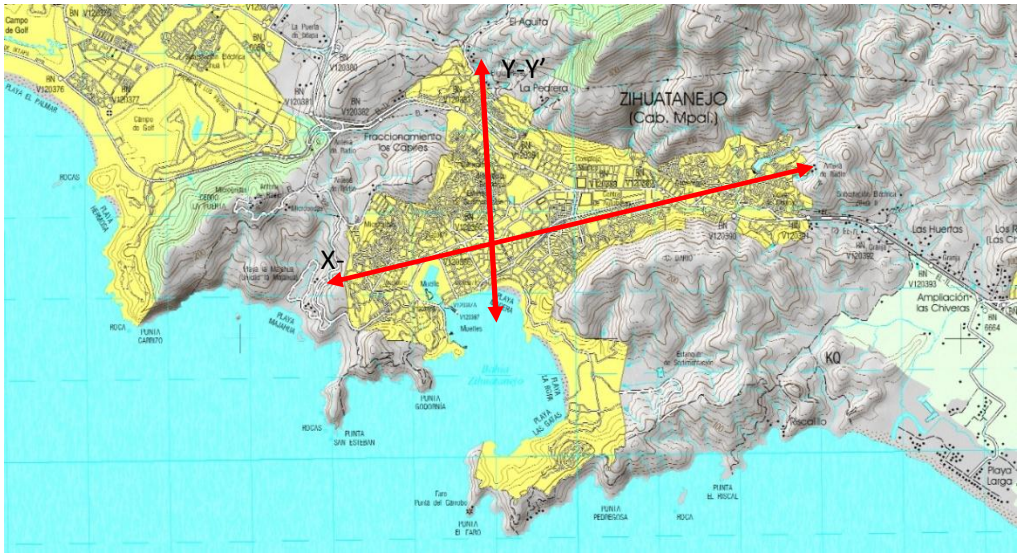
Table 5-1 Weather parameters of Zihuatanejo, (www.weatherbase.com)

The rainy season is mostly during summer (from July to September), with strong winds and a precipitation varying from highs of 3,000mm to lows of 1,000mm. Thunder storms appear mostly from August to October.

Surrounded by the mountain range called 'Sierra Madre del Sur', Zihuatanejo' bay tend to be protected inland from cyclones and hurricanes (Academia Nacional de Investigacion y Desarrollo A.C., 2014), (Map 5-4).



Map 5-4 Topographic Map of Zihuatanejo (www.es-mx.topographic-map.com)



Map 5-3 Elevations on Zihuatanejo Bay (INEGI, 2019)

The elevations below show the plain where the urban area of Zihuatanejo is located, flanked on the southeast by the elevations of hills such as Darío, Cerro

El Vigía and to the northeast, Cerro La Puerta, with slopes of between 20 and up to 35 ° (Planea Tropical S. de R.L. de C.V., 2019, p. 30).



Map 5-5 X-X' Longitudinal elevation of town. Author's work from Google Earth.



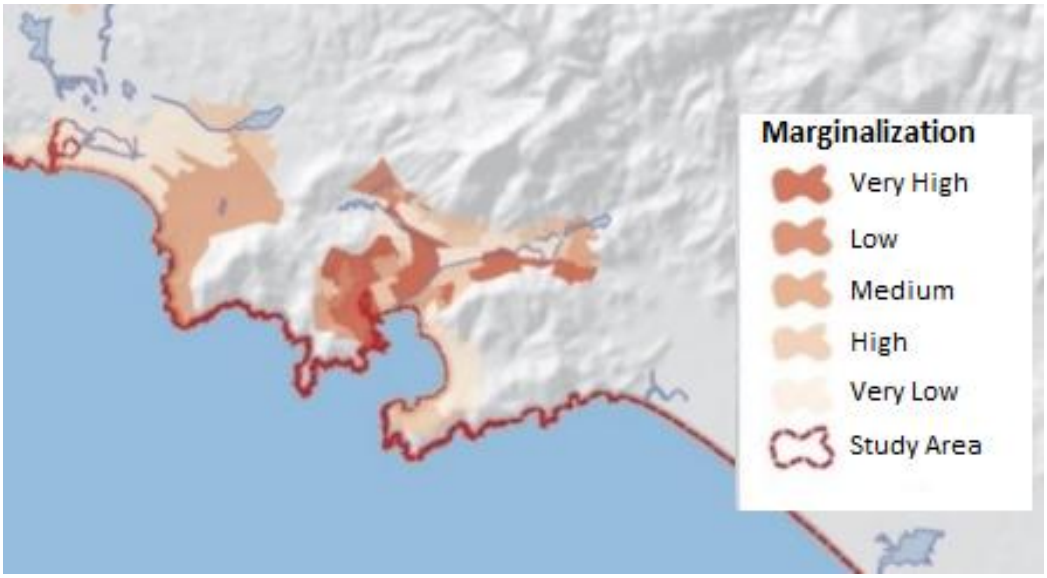
Map 5-6 Y-Y' Transversal elevation of town towards the bay. Author's work from Google Earth.

The surrounding mountains of the town, once had a full ecosystem consisting of palms, huje, parota, mango, ceiba, and banana trees among many others typical of the tropical rainforest, as well as iguanas, snakes, armadillos, rabbits, crocodiles etc. Although some Ecological Protection Areas still exist, these creatures have been slowly harvested and hunted as their habitat is now used as residential areas (formal and informal). The coastal ecosystem includes turtles, sharks, clams, oysters, red snapper, and a wide variety of fish that had originally made Zihuatanejo a fishing village (Planea Tropical S. de R.L. de C.V., 2019).

The State of Guerrero is located over a continental fault, with a high earthquake rate [23 earthquakes in 14 years, 11 of those over 6 in the Richter scale] (Geofisica UNAM, 2019); as such Zihuatanejo is exposed to risks arising from earthquakes, tsunamis, and tropical rains.

5.3 Socio Economic Characteristics

Education is a key variable that impacts on the level of income that the population can achieve. In the Municipality of Zihuatanejo de Azueta, around 80% of the population have basic education (Primary School), 14% have higher education levels and 7% have none (INEGI, 2015). Most of these people work in tourism as waitresses, housekeepers, cleaners, desk clerks. The other sector in high demand is construction (Planea Tropical S. de R.L. de C.V., 2019). Although construction work is mostly filled by people with no education, the seasonal nature of jobs in the tourism sector creates seasonal unemployment[66] (INEGI, 2015). When mapped, the worst socio-economic conditions are located precisely on the periphery of Zihuatanejo, in the informal settlements (Map 5-8).



Map 5-7 Marginalization zones in Zihuatanejo-Ixtapa, CONAPO 2015.

5.4 History

The case study areas are located in Ixtapa-Zihuatanejo, where FONATUR (National Fund for Tourism Development), planned and developed its second

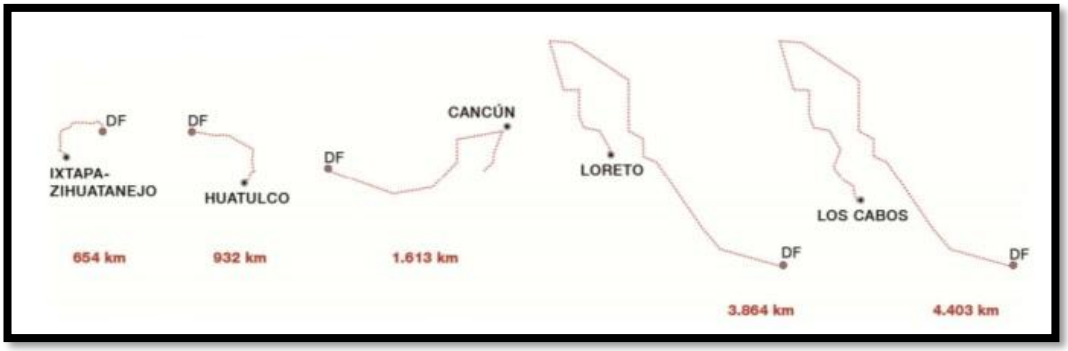
[66] The official minimum wage range goes from £3 to £3.4 a day (Politico, 2018)

Integrally Planned Centre: Ixtapa, which began operations simultaneously with Cancun in 1974, (Chapter two, section 2.6), when the agrarian law was reformed to allow the expropriation of ejido land for other economic purposes.

The creation of FONATUR in 1974 had been preceded by the creation of the Guarantee Fund and Development of Tourism (FOGATUR), by a presidential decree of November 14, 1956. FOGATUR was later charged to Nacional Financiera SA (National Financing), in order to stimulate lending for domestic tourism investment. By indenture dated May 22, 1969 and through the Secretariat of Finance and Public Credit and the Bank of Mexico, SA, the Tourist Promotion Fund and Infrastructure (INFRATUR) was created. The objectives of INFRATUR were the promotion and creation of infrastructure, related to the program designed by the Federal Government for the development of new resorts and for the substantial improvement of others which had shown their potential as tourist attractions. Based on the Federal Law for Tourism Development, published in the Official Journal of the Federation on January 28, 1974, the National Fund for Tourism Development (FONATUR) was created and was formalized by the trust agreement on March 29 of the same year. The merging of these two trusts was concluded later between the Ministry of Finance in its capacity as trustor in the federal government and Nacional Financiera, SA, as trustee. According to the Organic Law of Federal Public Administration, FONATUR is part of the public sector and is a parastatal entity, which has a Technical Committee, that studies and approves the programs and activities of the Trust. By Presidential Decree of February 22, 2001, FONATUR is the under sectoral coordination of the Ministry of Tourism, coordinating their activities with the National Development Plan and the National Tourism Program. The Organic Law of the Federal Public Administration, the Federal Law on Public Enterprises and the Federal Tourism Law are the main legal systems that regulate FONATUR (FONATUR, n.d.).

Explained in chapter two, section 2.6, the shift in international markets defined the development of these projects all over the country. The proximity of Ixtapa-Zihuatanejo to Mexico City, identified on the maps as DF (Fig 5-2), allowed

Ixtapa-Zihuatanejo to relieve the excessive seasonal demands placed on Acapulco. It was also the first tourism project in Mexico to be funded by the



World Bank.

Figure 5-2 Travel distances to Mexico City (DF), Davila Lopez,2014

The naming of this destination as 'Ixtapa-Zihuatanejo' originates from the dual function that each city plays in tourism. Ixtapa was designed as a high-level tourist site, while Zihuatanejo was developed into the 'working' town to support Ixtapa. Although there are residential areas in Ixtapa, land prices for acquiring land there are more expensive and mostly reserved by FONATUR for future residential condominiums; hence Zihuatanejo is where most of the working population lives. The 'charm' of Zihuatanejo as a typical Mexican town, has also developed tourist areas in the city, and gives the destination that duality and versatility that captures international tourism.

Zihuatanejo was a small fishing village in 1953, (officially becoming a city in 1977), according to the Organic Law no. 59 of territorial division. Getting started as a fishing village (Fig 5-3), the population initially resided primarily in a neighbourhood named Agua de Correa, away from the coast because it was unhealthy as it was bordered by an estuary infested by mosquitoes and malaria. In what is now the city centre of Zihuatanejo, fishermen built huts for use on fishing days and returned to their homes on weekends.



Figure 5-3 View of Zihuatanejo Bay around the 1930s, Zihuatanejo del Recuerdo [Facebook page]

When Infratur- FONATUR arrived (during the presidency of Luis Echeverria Alvarez, 1970-1976), there were already more settlements in the periphery of the bay: La Noria, La Vicente Guerrero, La Dario Galena, El Limon. Zihuatanejo, as a small town had only one gas station in the town centre, there was only one store in town, that sold candles, buckets, ropes and basic groceries that the people at the time required (Rojas Flores, 2015).



Figure 5-4 Av.Montes de Oca, Zihuatanejo Centre, late 1970s. Zihuatanejo del Recuerdo [Facebook page]

To develop and improve the tourism potential of the area of Zihuatanejo, FONATUR installed a fish packing company (managed by the Federation), a concrete block industry, a limekiln, a pig farm and a hotel near the beach. These developments were built on expropriated ejidos [67], and some on the expropriated 'private property' (also Ejido though) of the Leyva family, part of which is now Ixtapa.



Figure 5-5 Zihuatanejo's town, late 1970s. Zihuatanejo del Recuerdo [Facebook page]

The master plan for the tourist development started in 1971 and envisioned a total surface of 4,245 hectares. From this area, Ixtapa was designed as a polygon of 2,016 hectares, originally divided into a tourist area (46.48%) and a conservation area (40.60%). Zihuatanejo was designed as a polygon of 2,230 hectares, including the settlements already in town (Fondo Nacional de Turismo, 1982).

These hectares were expropriated from communal lands holders as follows: 813.91 ha. from Agua de Correa, 1,873.64 ha. from Zihuatanejo and 1,086.40 ha. from El Rincon, according to the Official Paper (Gobierno Constitucional de los Estados Unidos Mexicanos, 1976, cited in Hernandez Lobato, et al., 2014).

[67] Agricultural land owned collectively by farmers under Mexican law.

As such, land in Ixtapa became the property of FONATUR, while land in Zihuatanejo became property of FIBAZI.

Original inhabitants of these communal lands were compensated with an amount of money that the government considered appropriate according to the extent of the land expropriated. Findings from recent research by the University of the State of Guerrero regarding the impact that the tourist development had on this rural community[68] shows that 62.2% of the communal lands holders agreed to the expropriation while the rest claimed that the compensation did not seem fair; also 60.7% felt positively affected by this expropriation since public services such as electricity, potable water, drainage, street paving, schools and hospitals would be created and/or improved. This improved their quality of life as before the expropriation, a little over 80% had rustic housing made with materials from the region and 14% of concrete. After the expropriation, there was a significant increase in concrete housing, up to 74.8% with a considerable decrease in the rustic type of housing. There was a slight increase in the percentage of those who did not have their own housing before expropriation. Also, 50% of the communal land owners said that before the expropriation they lived with many shortcomings, 44% with a few and 6% without. Following the expropriation, 19% lived with many shortcomings, 70% with a few, and 11% without. The negative consequences that they mentioned was that all their arable lands were expropriated, and, in some cases, also their homes (for being on those lands). This also changed the economic drive of the population: before the expropriation, farming and agriculture covered 90% of the economic activity of the original inhabitants. Fishing was only done for self-consumption, not for economic reasons. After the expropriation only 53% continued to rely on agriculture. There was a substantial increase in those who dedicated themselves to household activities: workers, traders and various tourist-related activities (Hernandez Lobato, et al., 2014). In fact, it is the families of the original inhabitants of the area, who find themselves looking for

[68] information collected directly with the original inhabitants of the municipality, members of the three communal lands affected by the expropriation, their families, curators and excomisaries, and other inhabitants of the municipality.

available housing, on land that was once owned by their ancestors (ejido). This, as addressed in chapter seven, is one of the reasons for attachments to the land and aligns to Mangin and Turner's (1968) debate on informal development.

One of the significant results of this rapid socio-economic development was the extremely high internal migration rate. Population grew exponentially in the Municipality from 1,619 in 1960 (Ludger, 1999), to 124,824 in 2015 (INEGI, 2015). Most of these people came from the countryside and the sierra looking for jobs, since agriculture and farming jobs were no longer economically viable (Fondo Nacional de Turismo, 1982), mainly due to the economic policy directions of the time (Chapter two, section 2.6.2).

1 Feb 1973	Publication in the Official Gazette of the decree of expropriation for public utility reasons of 2,017 hectares for the development Ixtapa- Zihuatanejo
1974	Construction of the airport in Ixtapa begins. Zihuatanejo City Council authorizes the urban development plan for Ixtapa-Zihuatanejo. Beginning of public works related to the creation of infrastructure.
1975	Two hotels are built in Ixtapa (Presidente and Aristos). Work on the Golf Course is started. The construction of the first sewage treatment plant starts, as well as the construction of the shopping centre in Ixtapa. Ixtapa offers 491 rooms shared between 11 hotels; 33K visitors arrive on 770 flights.
1976	Ixtapa-Zihuatanejo offers 12 hotels, almost 65K visitors arrive on 1,315 flights.
1977	Ixtapa-Zihuatanejo offers 13 hotels, with 884 rooms in total; almost 122K visitors arrive on 1,765 flights.
1979	Ixtapa-Zihuatanejo offers 16 hotels, with 1,497 rooms in total; almost 158K visitors arrive on 1,940 flights.
1982	Ixtapa-Zihuatanejo offers 21 hotels, with 3,343 rooms in total; almost 310K visitors arrive on 4,188 flights.
1983	Ixtapa-Zihuatanejo offers 24 hotels, with 3,840 rooms in total; almost 370K visitors arrive on 4,591 flights; of those, 62.2% are national tourists.
1984	Ixtapa-Zihuatanejo offers 27 hotels, with approx. 4K rooms in total; almost 340K visitors arrive on 4,838 flights.

1986	Ixtapa-Zihuatanejo offers 27 hotels, with 3940 rooms in total; almost 316K visitors arrive in 3,464 flights.
1987	Ixtapa-Zihuatanejo offers 29 hotels, with 3,814 rooms in total; almost 346K visitors.
1990	The Ixtapa Marina is under construction, in a joint action of FONATUR and the Sidek group. 300K visitors arrive on 3,015 flights.
1991	338K visitors arrive on 3,227 flights
1992	360K visitors arrive on 3,590 flights
1994	Ixtapa-Zihuatanejo offers 31 hotels, with 4,136 rooms in total, 307K visitors arrive on 5,089 flights
1995	Porto Arcano, a residential development, starts urbanization in Ixtapa.
1996	The highway connecting Ixtapa Zihuatanejo to the airport is built, as well as the boulevard Paseo Ixtapa. In September, the first Naval Hospital is built. In December the sewage treatment plant enlargement is done as well as the electric substation; the new Town Hall is built and the urbanization of the Real Ixtapa project is started.
1997	The bike path in Ixtapa is built in June. Urbanization works for Contramar project is started. Ixtapa-Zihuatanejo offers 33 hotels, with 4,738 rooms in total, 397K visitors arrive on 4,193 flights
1999	Contramar, a 46 ha. area project with sea view, that includes hotels, condominium and residential areas is completed. Paseo de los Viveros, a 66 Ha. area project, that includes, green and recreational spaces, residential zones, and a natural reserve is also completed.
2012	208,861 visitors.
2016	A new highway is built that improves connections with the centre of the country.

Table 5-2- Chronology of the growth of tourism in Ixtapa-Zihuatanejo. Authors' compilation.

The current socioeconomic influence of Ixtapa-Zihuatanejo also comprises the municipalities of La Union and Patatlán (see map 5-9)(Bravo Lujano, 1994; FONATUR, 1984 cited in Ludger, 1999), which has had an enormous impact on population growth in the town.[69]

[69] To meet tourist demand, Ixtapa has approximately more than 4,700 operating rooms that maintain an average occupancy of about 70% (FONAUR).



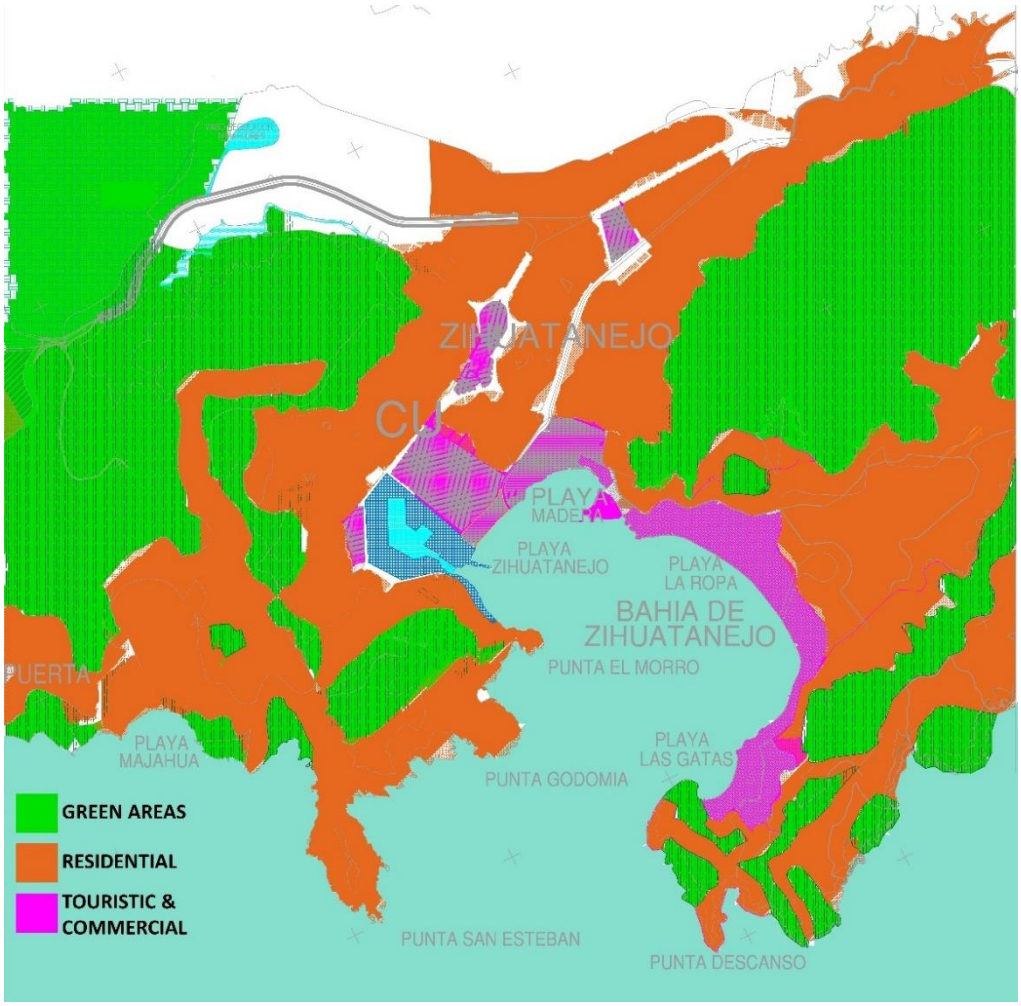
Map 5-8 Neighbouring Municipalities, INEGI 2010

5.5 City sprawl

The original development studies done by FONATUR did envision the huge impact of population growth due to the town's being a tourist destination, as mentioned in their book: "Ixtapa Zihuatanejo, a Tourism Development at the Golden Pacific" (Fondo Nacional de Turismo, 1982). The master plan developed by FONATUR and FIBAZI[70] (Trust of Zihuatanejo Bay) specified areas for high density residential that could be sold in the future for housing developments (Map 5.10). However, the cost of acquiring residential land is expensive for the low-income workers. Land available in Ixtapa is managed by FONATUR and requires at least 47 times the minimum wage salary plus tax just for credit evaluation, with an approximate price of £60[71] ($1,500 MXP) per square metre[72]; land available in Zihuatanejo is managed by FIBAZI, with an

[70] FONATUR manages the area of Ixtapa (land property, waste services, cleaning services, water treatment plants), FIBAZI was created later by FONATUR to focus on managing only land property of Zihuatanejo; all other public services in Zihuatanejo are provided by the Town Hall.
[71] All prices stated in this document have an exchange rate of 25 mexican pesos per British pound on March 2019.
[72] Prices given by Real State Agencies in Ixtapa-Zihuatanejo; FONATUR and FIBAZI did not agree to provide prices.

approximate price of £40 ($1,000 MXP) per square meter. With an average household income of £102 per month, informal settlements represent the best option of acquiring land; especially because once regularized, the price to legally buy the piece of land (of normally 90m2) is £20 ($500 MXP) per square metre, with monthly credit payments of £40 ($1000 MXP) over a three year period[73] (Cristian, 2019).



Map 5-9- Master Plan of Zihuatanejo 1976, FONATUR

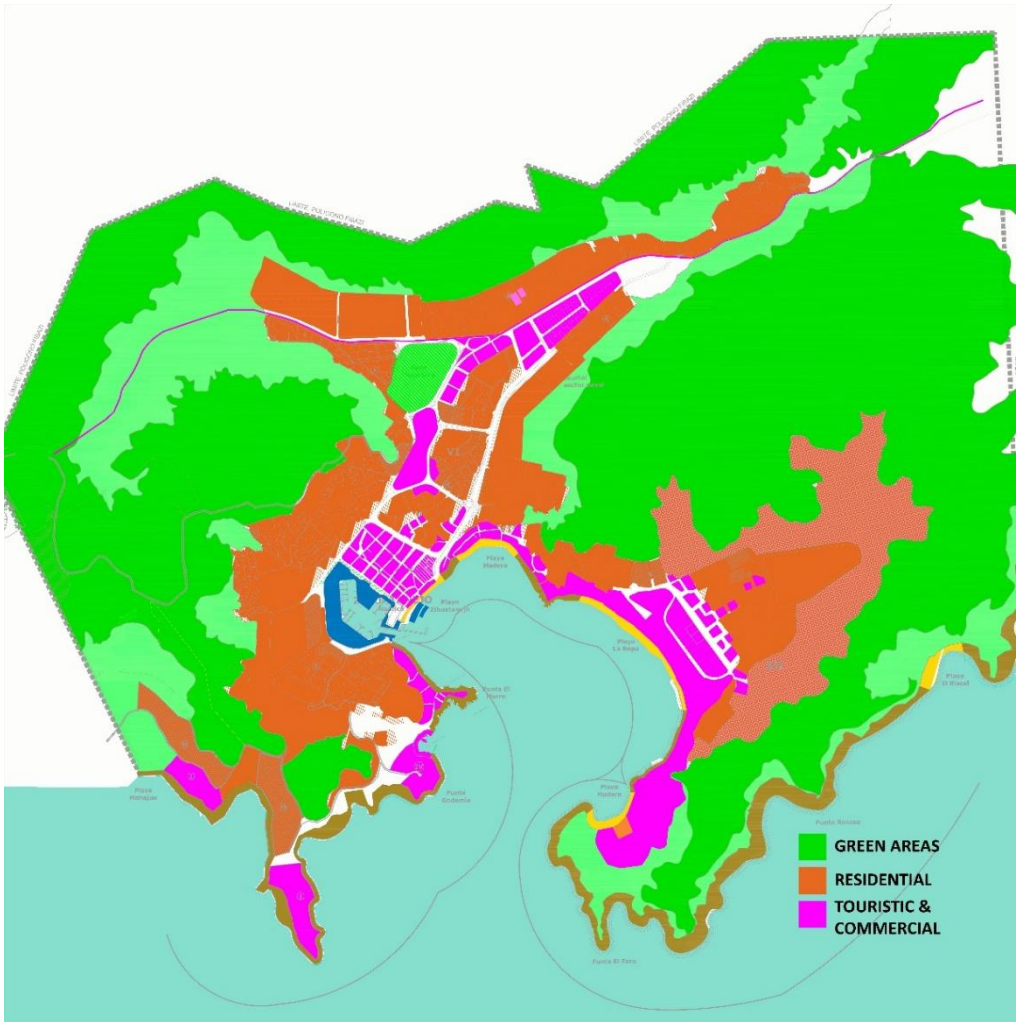
With around 118,211 people in the municipality of Zihuatanejo de Azueta in 2010, 487 homes did not have access to potable water, drainage and electricity; 15,175 people had no school education (Instituto Nacional de Estadistica y Geografia, 2010), and 16,057 lived in extreme poverty. According to SEDESOL, Ixtapa-Zihuatanejo itself had by year 2010, 76,400 inhabitants (Secretaria de

[73] Official prices as given by the Municipality.

Desarrollo Social, 2010), which is more than half of the total municipal population. Up to 2015, there were 124, 824 people (INEGI, 2015) in the Municipality, with around 33,700 inhabitants living in extreme poverty, and 5,000 of those with high marginal rates (Gobierno Municipal, 2016, p. 14).

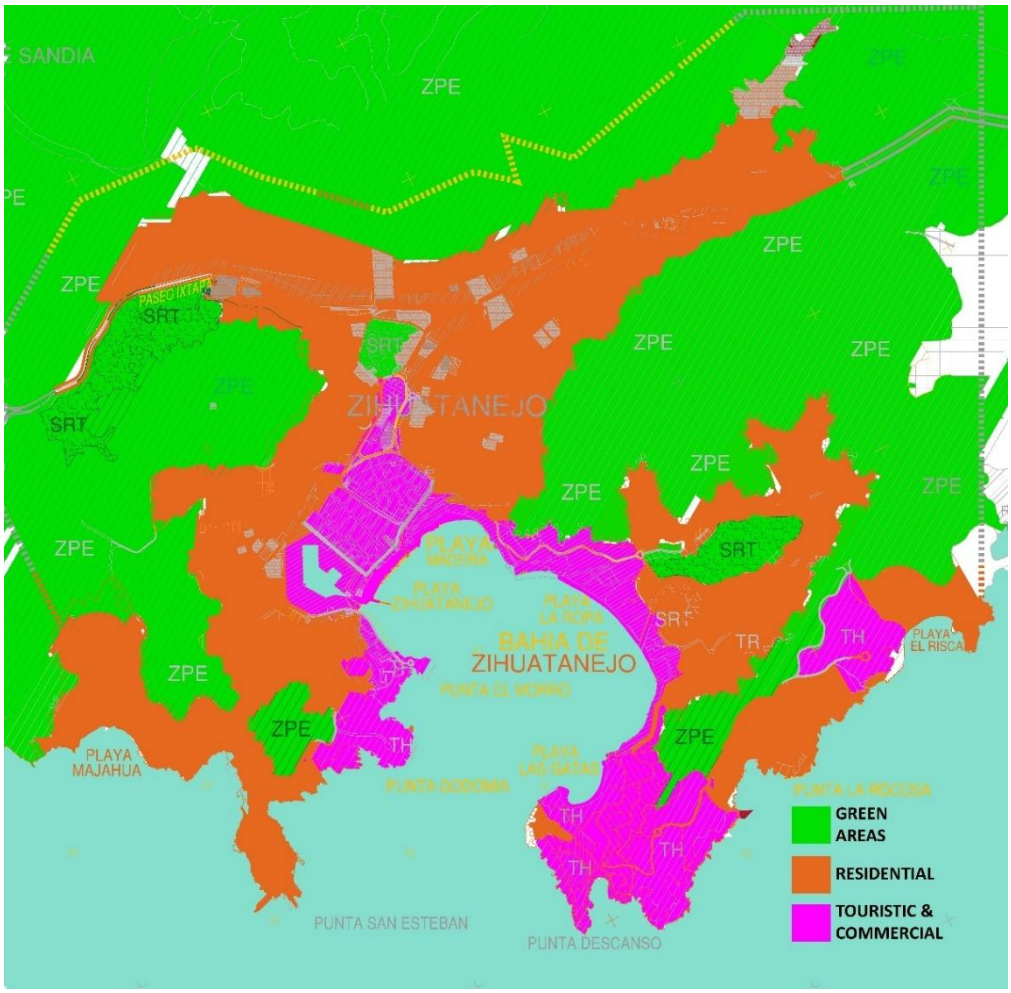
The need for housing for all the labour required to keep the tourist economy moving, has been the main cause of informal settlements in Zihuatanejo. Informal settlements here have, as in many other cities, shaped the city's boundaries, which continue to be integrated into formal city plans every time a new one is to be designed; the chronology of plans shown next explains in more detail these 'extensions' of the legal housing boundaries of the city. Between 1995 and 2012, the urban area grew 1,070 ha, at a precarious and irregular annual rhythm of 2.4% (Osorio Garcia, et al., 2019). It is important to note that, although the city boundaries planned in 1976, almost included what today is the informal residence sector (Map 5-10), it has nevertheless overtaken areas designated as Ecological Reserves, rather than the ones planned for housing.

According to local newspapers and urban plans, by 1980 there were already informal settlements formed on the peripherals of Zihuatanejo (Pacheco Leon, 2013) Map 5.11.



Map 5-10 Master Plan of Zihuatanejo 1982, PDU

By July 2003 there were already 33 informal settlements established (Escobar, 2003). Then, between 2009-2012, there were 18 informal settlements that had been 'regularized', 16 were under the process of being 'regularized' and 10 were still pending (Municipales, 2009-2012). By December 10, 2015, there were 23 'new' informal settlements in the process of being 'regularized' plus 12 others for which the process of regularization had not been completed by the previous municipal administration (Rios Espinoza, 2015). As of 2016, there were 45 informal settlements since '[…] the study area lacks areas suitable for urban growth, particularly land for housing for people with limited resources' (Ayuntamiento de Zihuatanejo de Azueta, 2016, p. 138) Map 5.12.



Map 5-11- Master Plan of Zihuatanejo, 2016, PDU[74]

The urban sprawl in Zihuatanejo has caused a continuous increase in population arriving from the nearest and poorest villages, demanding services for which the city's resources are not prepared. For example, only 34% of the population of the town has daily access to potable water. There are issues relating not only to potable water, but to the management of sewage, since the treatment plants have problems with capacity and separation of solids. Furthermore, the treatment of sewage water is of low quality and is mostly discharged into the sea, which contaminates the coastal strip (Osorio Garcia, et al., 2019). The continuous sprawl of these informal settlements on the periphery of the city has impacted the areas initially designated as Natural Reserves and Ecological Protection Areas.

[74] PDU stands for Plan de Desarrollo Urbano (Urban Development Plan)

Most of these families are well aware of their invading and living on private property or of being located on risky plots of land, Antonio Lopez, a carpenter in one of these settlements mentions: '*we are living in very poor conditions, but our necessity forces us to live that way*'; most of them have come from other places looking for a better quality of life. As Jesus Cruz says: '*being here is way better than there, here it is relaxed and tranquil, which is important, and better job opportunities*' (Dominguez Mariano, 2007).

Community leaders have tried to get some response from authorities, about whom, they say: '*during political campaigns [they] come to ask for our support and offer to solve our situation*'; however, their petitions have not been considered when modification to the urban master plan of the municipality is in process (Dominguez Mariano, 2007). This uncertainty has caused discontent amongst the inhabitants of the informal settlements and has precipitated several riots in the city (Escobar, 2014).

Studies made about some of these settlements show that around 50% of the houses are abandoned, which raises the concern that invasion of these properties has not been done out of necessity but for the profit of a few (community leaders and authorities). The Coordinator of the Coddehum[75], Sandra Leon mentioned this issue in an interview right after meeting to analyse the problem of informal settlements in town. She was then reassured by the former director of FIBAZI that the inhabitants of these settlements would not be asked to give any more money to these leaders since a relocation process would be started (Anon., 2012).

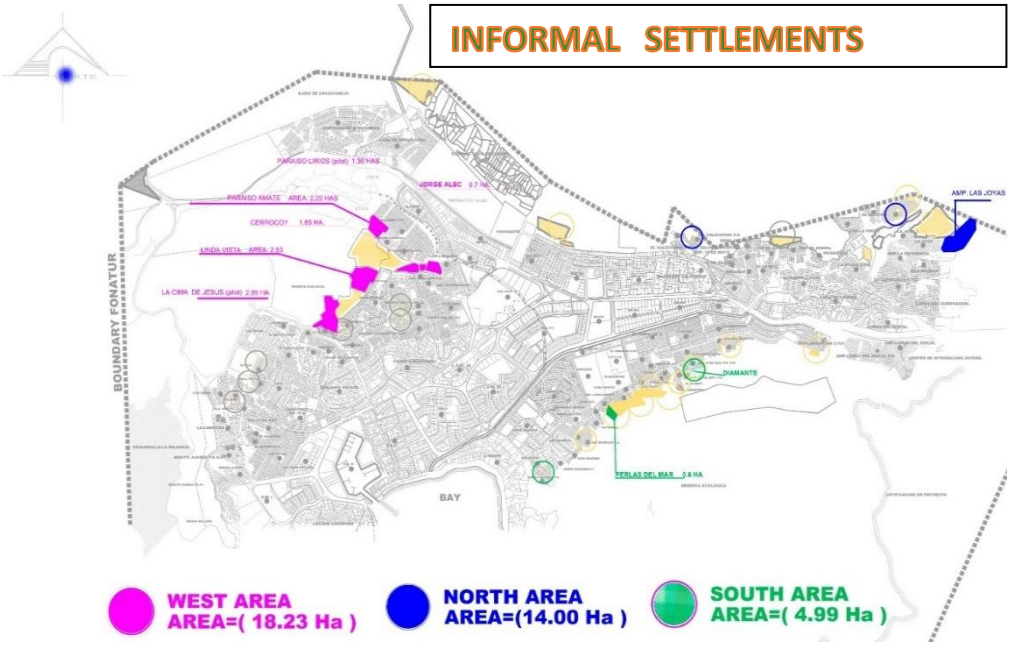
5.6 Informal Settlements in Town

All case studies of this thesis are located in Zihuatanejo, offering a very wide range of choices regarding informal settlements. The surrounding hills and

[75] Coddehum (Comisión de Defensa de los Derechos Humanos) – Human Rights Defence Commission.

mountains of its bay offer the informal residents not only unused land but also beautiful views of the sea and the town centre[76].

As of the date of the research, out of the 45 informal settlements existing in 2016, there were only 20 in 2018 with that illegal status. For political campaign reasons[77]; the other 25 were promptly promised regularization during 2017. Out of these 20 settlements, 10 of them were already on the list for being regularized[78] during 2018. Two of these ten settlements on the waiting list for regularization are the pilot study cases; the other eight are the case studies to which this research refers.



Map 5-12 Informal Settlements for case study highlighted by zone.

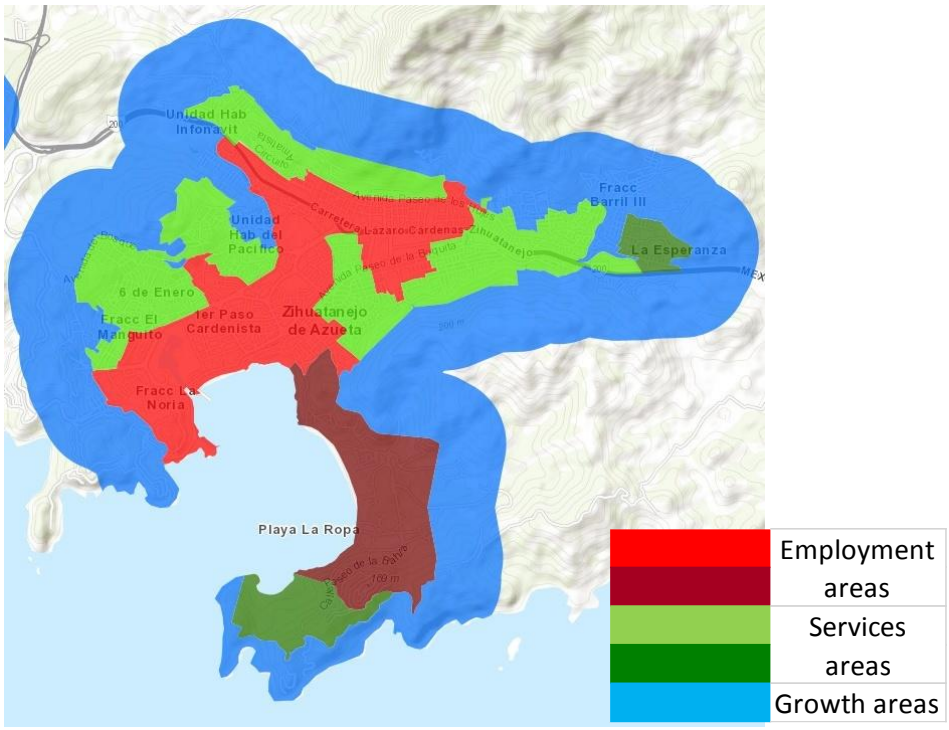
The location of these settlements is shown on map 5-13, highlighted amongst the 45 settlements existing in 2016. As seen, variables such as distance to city centre, topography, nature and infrastructure vary for all of them. However, Zihuatanejo is a small town, and if public transport were non-existent, people would still be able to walk towards, through and around it with ease; the longest walking distance from the farthest urban informal settlement shown on

[76] This useful general and clear view of the town is what sometimes draws delinquency (drug cartels) into these settlements.
[77] Elections for Municipal President were held in July 2018.
[78] As these settlements have complied with the requirements set by the Municipality, (section 5.6).

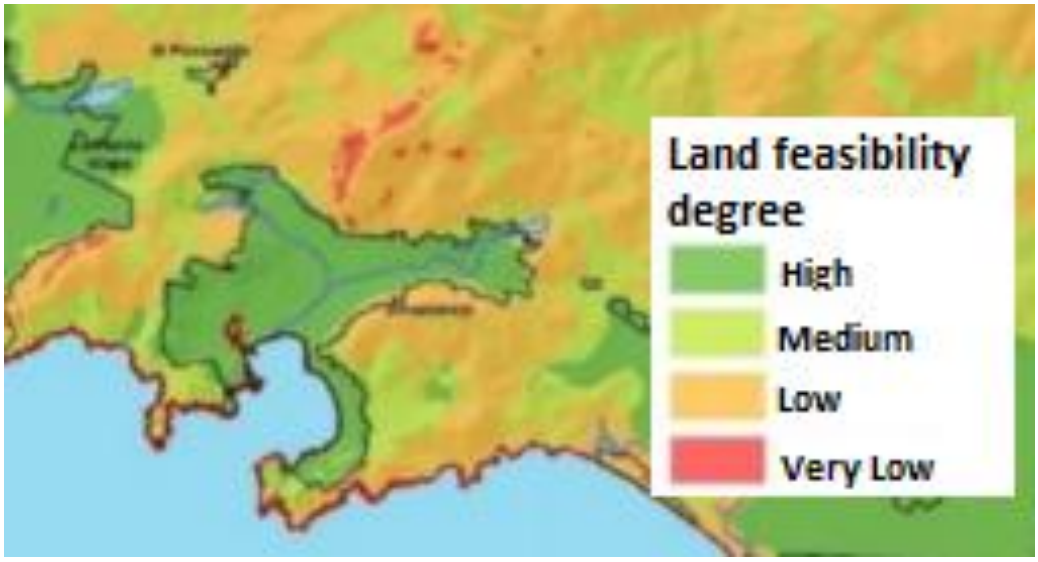
the map to the city centre is around 47 minutes, the problem would then be the hot and humid weather prevailing in the town all year around.

The implications of topography are another factor that the informal residents must overcome in order to gain a piece of land; considering that the Government had established that the maximum height for residences on the hills was 70 metres above the sea level. Above that level, the cost to the city of providing services such as water and sewage multiplies and is beyond the city's ability to provide them. All the informal settlements are well beyond that restriction mark. This is troubling not only for the government to get them services and infrastructure once they are regularized, but also for public and private transport to reach them. Even when the urban contention parameters established by CONAVI (Map 5.14) mark those areas as land feasible for housing[79], on the last Urban Development Plan (Map 5.15), those settlements located on the highest parts of the hills surrounding Zihuatanejo, were marked as areas least likely to be developed for housing (Planea Tropical S. de R.L. de C.V., 2019).

[79] These parameters only take into account the distance from and to the city centre, regarding access to jobs, services and infrastructure, but not the topographical implications of the land (SEDATU & CONAVI, 2018).



Map 5-13 Urban Contention Parameters in Zihuatanejo, CONAVI, 2017

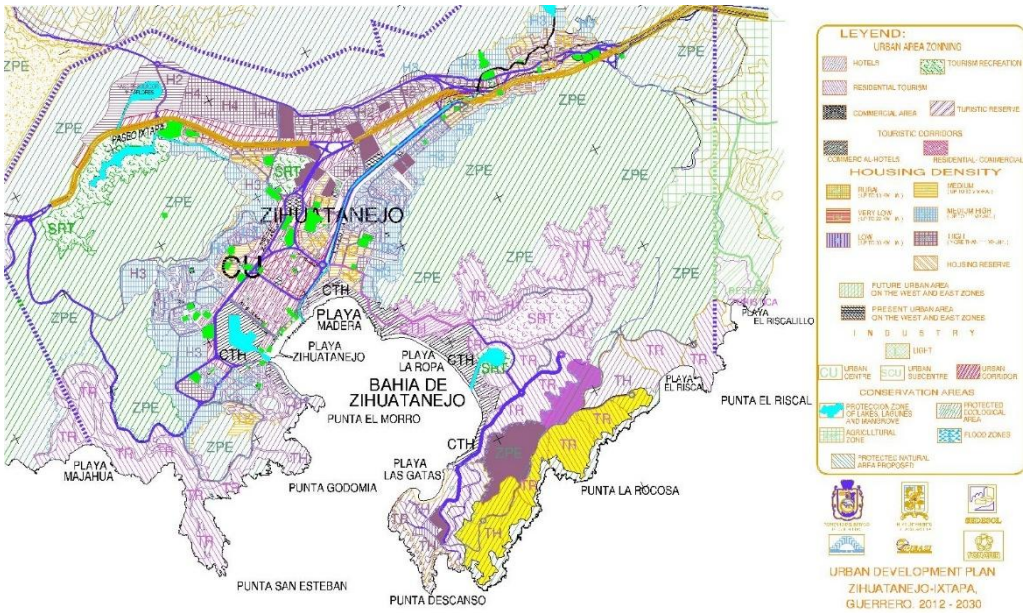


Map 5-14 Land feasibility for housing development, PDU, 2016

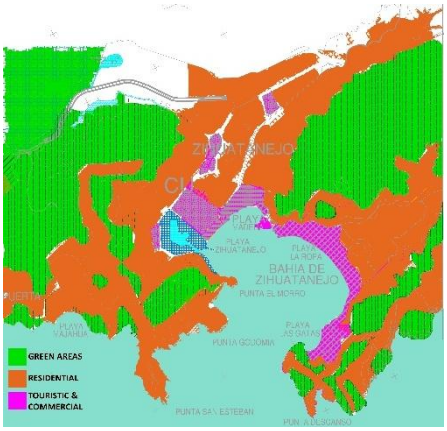
5.7 Land uses adaptations in Zihuatanejo

The current master plan for the 2012-2030 urban development (Map 5-16) shows, amongst the different land uses, the types of housing density. It can be noted from the evolution of the city shown above, that the current informal

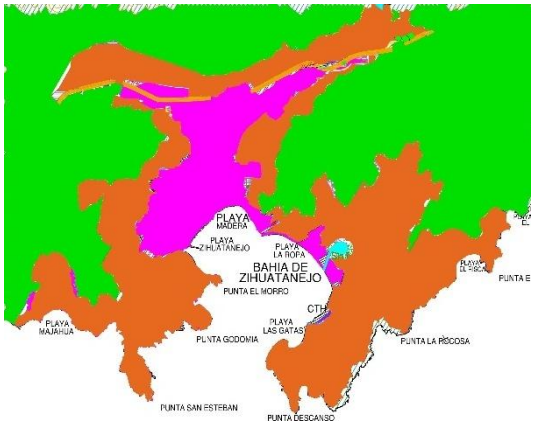
settlements are already considered as a High-Density residential area (H3) and that the Protected Ecological area (ZPE) has been reduced. This plan also envisions areas for tourism development (SRT, TR) on the otherwise marked having low feasibility for housing (Map 5-15). Several inconsistencies are then present, including political issues or/and just information misinterpreted from the written PDU to plans. Regularization has become the path that this city has taken for growth. Comparing the 1976 plan to the present one, it can be observed how land uses have been shaped to include the informal sector of housing (Maps 5-17 and 5-18).



Map 5-15 Urban Development Plan 2012-2030.



Map 5-16 Zihuatanejo PDU 1976



Map 5-17 Zihuatanejo PDU 2019

Residential areas marked in orange, have overtaken the once green protected areas. This has mostly happened since commercial and tourist areas (marked in violet) have monopolized the city centre. Rather than a planned development (as was intended), the high prices for the land assigned for housing, (due to that land being categorized now as Tourist-Residential), informal settlements take any available land.

Regularization procedures in the Municipality[80] follow a simple process once the settlements have been recognized as 'entitled' to enter the process of regularization:[81] (1) Starts with the land use change in the Urban Development Plan; (2) a Manifest of Environmental Impact needs to be executed by the State Civil Protection agency; (3) the Federal Commission of Energy (CFE) and the Water and Sewerage Commission (CAPAZ) must mandate the viability of provision of services to those areas; (4) FIBAZI (if the settlement is on its properties and not on ejido land) or the Municipality, begin land surveillance and topographic measurements of the site, in order to determine if roads comply with the normed sloped; (5) a report is made describing the origins of the settlement and specifying the polygon measurements to be regularized; (6) the plan for the settlement is designed by FIBAZI as per the Neighbourhood Regulations booklet, which states that the minimum plot for housing must be of 90sqm; (7) this plan is submitted to the Municipality for approval or corrections; (8) once officially approved, residents are then able to buy their plot (Chavarria Sanchez, 2017).

[80] The Municipality dictates the use of land; regularization procedures involve the autorization of the Municipality on FIBAZI's land.
[81] See Chapter two for norms and laws regarding regularization rights.



Figure 5-6 Photo of the President of Zihuatanejo, with the Director of FIBAZI and residents of 4 regularized settlements, receiving the official maps and permission to buy, FIBAZI, Feb. 2019.

Conclusion

The city of Zihuatanejo evolved from a small rural fishing village in the early 1940's to an international tourist destination during the early 1980's. Original residents had their ejido land expropriated for the development of Ixtapa, and Zihuatanejo changed its economy from agriculture and farming into tourism. Former farmers became waitresses, housekeepers, with their incomes linked to a seasonal tourism economy. International investment fuelled the growth of Ixtapa-Zihuatanejo, attracting more visitors and hence a bigger need for labour, both for construction and tourism. Land managed by FONATUR and FIBAZI focused on sales to international investors at high prices. With a very limited minimum wage established by the Federal Government, workers can hardly have access to buy land, but the need for housing keeps growing as the city's tourist market increases. This has been the cause of the sprawl of informal settlements, acting both as a response to the need for housing for those displaced residents (once ejido owners) and immigrants from the nearby towns, and as a socio-political tool of control by the Municipality.

This chapter illustrates the concept of attachment to the place with the ejido possession and later expropriation of the land, relating back to the point made on *Genius Loci* in Chapter three and the history of ejido land in Mexico on

Chapter two. People's identity is affected when they lose their home land and find themselves without the livelihood and resources they once had, being now dependent on the seasonal economy.

Given the rapid rate of changes to land use in municipalities like this one, leaders have emerged here as in many cities with informal settlements as a way to represent the needs of these people, acting as a link with the authorities to assure the poor a piece of land.

Chapter 6 History and Leadership

Having tested and researched a wide context of the variables of place attachment in informal settlements in the pilot studies (Chapter four), it was found that leadership is one important and feasible variable to study affecting the social context. This chapter intends to point out the enormous influence that leaders have on the formation of both the physical and the social community in informal settlements. This influence (direct and indirect) also builds the identity of the place and a community that identifies with it (hence, attachment).

This chapter presents results from six of the eight case studies[82], describing the formation, organization of each settlement and type of leadership in each. It argues that the settlements exhibit marked differences depending on the type of leadership found. The chapter draws upon the results of informal interviews with authorities, leaders and informal chats with residents to acknowledge the history of the origins of the settlements, and to gather points of view of how leaders are being perceived by their community and by the authorities.

Findings on types of leadership include differences according to gender, experience and political capital as the main issues defining each type. Plus, the different types of leadership were found to have a direct influence on how each settlement was created, how it is organized and what type of social engagement can be found among their residents.

[82] Two case studies were disregarded as further explained.

6.1 Settlements description.

Most of the informal settlements in this town are located on hills, some more pronounced than others; some are found between creeks, or rivers. This is a very common characteristic of informality, as these types of lands are rarely wanted for urban development due to the physical risk of the land, (explained in chapter two). All of them share the same initial, unique spirit of place[83]: a natural lush area, on the edges of town, which manifests a strong 'personality or natural genius[84]' before being taken and converted into residential area. As this place gets populated, its spirit gets imbedded with a different sense of place imposed by the residents; it however, never loses its initial spirit which is absorbed by the inhabitants, as one resident mentioned in an informal chat "*I love living in the jungle, it makes me feel free, and that is why I plant more tropical trees*".

This work chose settlements from around the city -north, south, and west- (Map 6-1), so that the results would be richer and could be better compared and analysed. The case studies selected for the first stage of the final study, tried to provide wider perspective on informality, initially considering not only settlements placed on government land, but also a settlement otherwise considered as rural community that due to their non-legal status is still regarded as informal settlement (Mata de Sandia). Due to this settlement's history and location, the data did not provide significant information for the research and is not further described in section 6.3; nor is settlement Perlas del Mar as the community leader was never available. However, their general demographics and basic information on their leadership given by the few available residents during the site visit is considered in the overall tables for comparison.

[83] Spirit of place: the intangible genius of the creator, leaves a permanent impression on place and gives it meaning whereas the place itself (Bott & Banning, 2008).
[84] Natural genius: special atmosphere and a contained spirit', given by the natural/historical contents of the space within the place (Norberg-Schulz, 1980).

SELECTED CASE STUDIES SETTLEMENTS						
SETTLEMENT	**DATE OF ESTABLISMENT**	**LOCATION**	**LAND OWNERSHIP**	**LEGAL STATUS**	**POPULATION**	**AREA**
PILOT CASES						
Cima de Jesus	2011	North-west	FIBAZI	Irregular	300	2.85 Ha.
Paraiso Lirios	2007	North-west	FIBAZI	Irregular		1.36 Ha.
FINAL CASES						
Paraiso Amate Limon	2006	North-west	FIBAZI	Irregular	510	10 Ha.
Diamante	2007	South-east	FIBAZI	Irregular	328	19 Ha.
Amp. Las Joyas	2008	North-east	FIBAZI	Irregular	471	40 Ha.
Jorge Allec	2009	North-west	FIBAZI	Irregular	420	16 Ha.
Cerrocoy	2012	North-west	FIBAZI	Irregular	213	1 Ha.
Linda Vista	2009	North-west	FIBAZI	Irregular	700	22.67 Ha.
Perlas del mar	2012	South-east	FIBAZI	Irregular	225	
Mata de Sandia	1945	North	Ejido	Irregular	200	

Table 6-1 Selected case studies settlements - Characteristics

Based on ethnographic methods and following a Grounded Research methodology, the present work's data was obtained by face to face interviews with the leaders of each settlement and from 375 surveys of residents.

This section describes and compares the demographics of six case studies, followed in the next section, by a detailed description of their individual history and governance.

6.1.1 Physical setting

Although the topographic implications are further analysed later for each settlement as a variable in the formation of social bonds, the figures below show typical schemes of how the land has to be altered. Being on top of mountains rather than on hills, the soil is mostly composed of rock, making it very hard for residents to be able to 'adapt' the land to make flat areas to build

their shacks[85]. This is why most of the constructions are placed over ground filled protected by a wall of wheels, compacted dirt, bricks if possible, or sacks of sand. (Figure 6-1).



Figure 6-1 Tyres, Soil and sandbags as land contention barriers

6.1.2 Socio-demographic aspects

As part of any community social research, demographic data is important to understand the general characteristics of the population. This was collected through questionnaires with questions about age, gender, monthly income, economic activity, family members, and civil status[86]. There was a total number of 379 responses, divided as shown on table 6-2.

Settlement	No. of responses	Percentaje of the adult population
Paraiso Amate	50	15%
Cerrocoy	41	34%
Amp. Las Joyas	67	26%
Linda Vista	75	20%
Mata de Sandia	50	25%
Jorge Allec	54	20%
Diamante	42	21%

Table 6-2 Number of responses to the socio-demographic survey

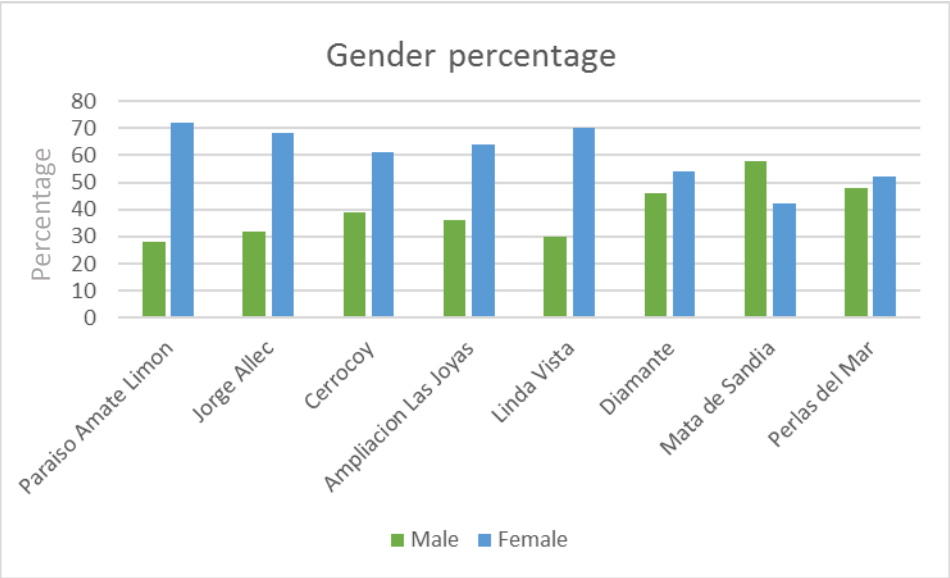
[85] A house, per the architectural definition, implies a proper and safe construction of a living space; therefore, these are only considered as shacks or shanties.
[86] See Appendix 6 for the complete questionnaire.

The results from the survey[87] shown in this section reflect an average of 23% of the views of the adult population and their demographics. This survey result is mainly because of the busy work schedule of the residents. The specific socio-demographic characteristics of each settlement are explained in the next section; a summary and brief explanation is shown here as an introductory overview of the case studies.

As most of the country, 90% of the settlements follow the Catholic faith; this, as is seen in the specifics for each settlement, has included the construction of a Chapel as a vital element to have in the settlement.

Surveys results showed that 60% of the respondents were women, as in the pilot studies. This lack of balance in the outcome however is not associated with the general idea of their being housewives, but, as the leaders explained, is rather associated with the notion of the ownership of the plot of land. Women usually participate more in informal communities since the plots of land are registered under their names to protect them and ensure a home for their families. Men are considered less than committed residents, as they rarely participate in community work. This will be discussed in more detail later. Also, men, who are still the main source of income for families, tend to rest during weekends and rarely [if ever] get involved in community meetings, unless the leader indicates that there is physical work to be done.

[87] The questionnaires were done by research teams which assisted the researcher to be able to tackle a bigger number of settlements. All questionnaires were done face to face, having all the participants gathered together at the meeting place, by the leaders, on a weekend.



Graph 6-1 Gender percentage in settlements

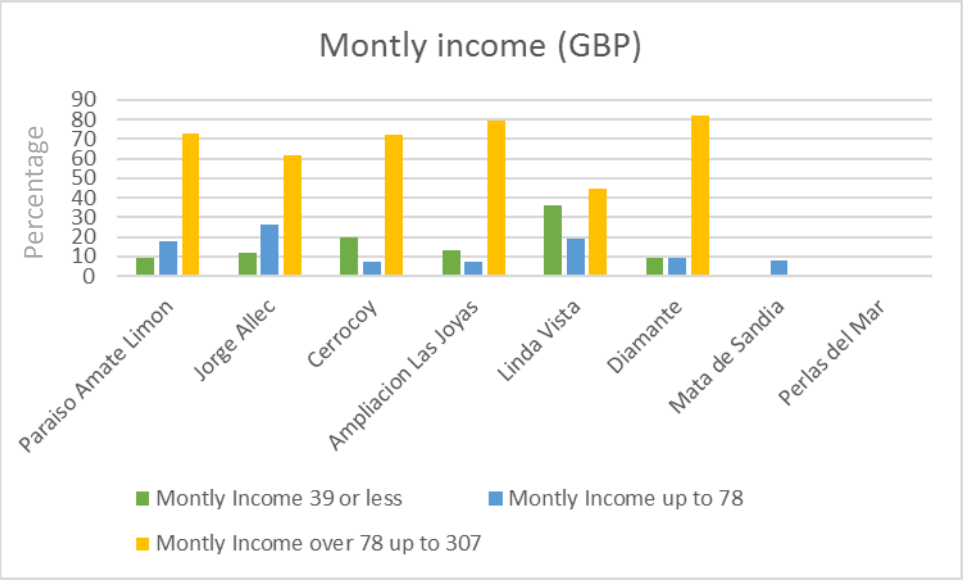
From informal chats with several residents, and eight formal interviews with leaders, it was found that families are also non-stable households[88]. Typical households in informal settlements consist of mother, father and one to three children; however, sometimes households also include elderly parents, and/or young married offspring. Leaders provided examples to explain the situation as follows: if a single male resident partners with a widower or divorced female resident of the same settlement, household numbers get reduced, as they are obliged by the leader to give up one plot. But if a family member gets married and has a family, then household numbers increase, as the new family will require a separate plot. Having no real commitment to the place, as they have not put any money into it other than their shack, some residents also leave, leaving their plot vacant and available. Others transfer their 'place'. This will be further explained by examples from each settlement. This is the reason why, some leaders account for this when planning for regularization agreements.

Income

Each informal settlement keeps the common characteristic of informal settlements: low income (Graph 6-2). It is important to notice that for most of the families, the constant need for money to satisfy their basic needs, keeps

[88] Further explained later on the text, case by case.

them busy all week long; so, both partners work. Most of them have two jobs, and work over the weekend as well. The income reflected in the graph 6-2, therefore, can be multiplied by two since the household monthly income in total, would include the income of both partners together.



Graph 6-2 Monthly income (GBP) by percentages

Residents from the settlement of Perlas del Mar unfortunately did not answer the income question on the surveys; some of the residents of Mata de Sandia preferred not to give income information due to agriculture being their main economic activity. As they said, they had no assurance of regular income.

Since you can only define whether incomes are low or not by comparing them to living costs; a general overview of the monthly expenses is explained. People in the informal settlements rarely own a vehicle, so most of them use public transportation, which costs about 63 pence if going from the closest settlements to the city centre. Transportation is around the same price when going to Ixtapa (one of the main places of work), and 70 pence going to Amp. Las Joyas, the furthest settlement within the city limits. This means a total expense of £29.76 a month per person. For the average family of three in these settlements, who send their children to school, transportation costs increase to £89.28 a month per household. According to the National Council for the Evaluation of Social Development Policy in Mexico (Conasami), basic living costs

(grocery, clothing, education, recreation, housing) are about £109 per month. Another study conducted by Professor Hector Luis Del Toro, economist and researcher from the Department of Quantitative Methods of the University Centre of Economic-Administrative Sciences (CUCEA) in Guadalajara, showed that the real cost of living in the whole country has gone from £405 to £453 per month. National Commission of Minimum Wages had established a rise in the minimum wage from £3 p/d to £3.4 p/d for the 2018 fiscal year; that is £102 per month (Politico, 2018). As per the results from the survey, the average income per person is £231 and the average per household income is £462. Even though they are earning at least twice as much as the official minimum wage, these families can barely subsist (table 6-2).

Monthly living income and expenses	
Costs	**Amount**
Transport	£89.28
Basic living (grocery, clothing, education, recreation, housing)	£453.00
Total Expenses	**£542.28**
Income per household in settlements	£462.00
Shortage of income	**£80.28**

Table 6-3 Monthly living expenses and income per household

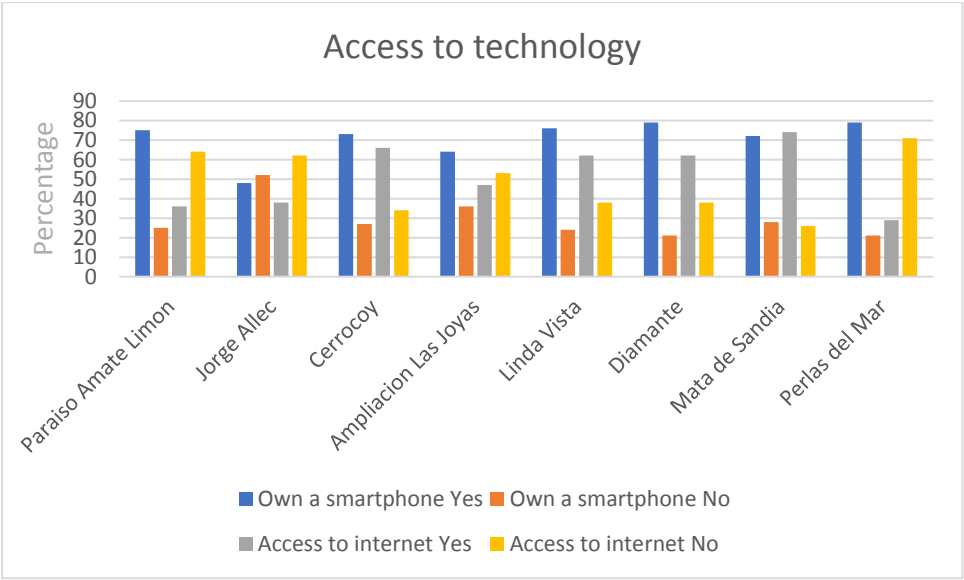
The above chart assumes that people own a place to live and that living costs are the same in every city. In Ixtapa-Zihuatanejo, this is not the case. Ixtapa-Zihuatanejo, being an international tourist destination, has higher living costs than many big cities in the country, however, their minimum wage is the same as established by law. As shown from the surveys, 60% of the population of the city earns between two to five times the minimum wage. In contrast, 15.8% of the population earns less than twice the minimum wage (Planea Tropical S. de R.L. de C.V., 2015). With estimated living costs per month of almost £650[89] in this city, residents of informal settlements barely survive.

[89] Estimated based on the researcher's living expenses throughout the time of the research

Residents however, manage to squeeze their combined income and many of the households enjoy the benefits of cable TV, or big HD televisions (Fig. 6-2) and have a smartphone or a tablet (or both), with internet access (Graph 6-3). This is possible since many retail shops allow monthly payments for these goods, with interest.



Figure 6-2 House with satellite TV.



Graph 6-3 Access to technology (percentage).

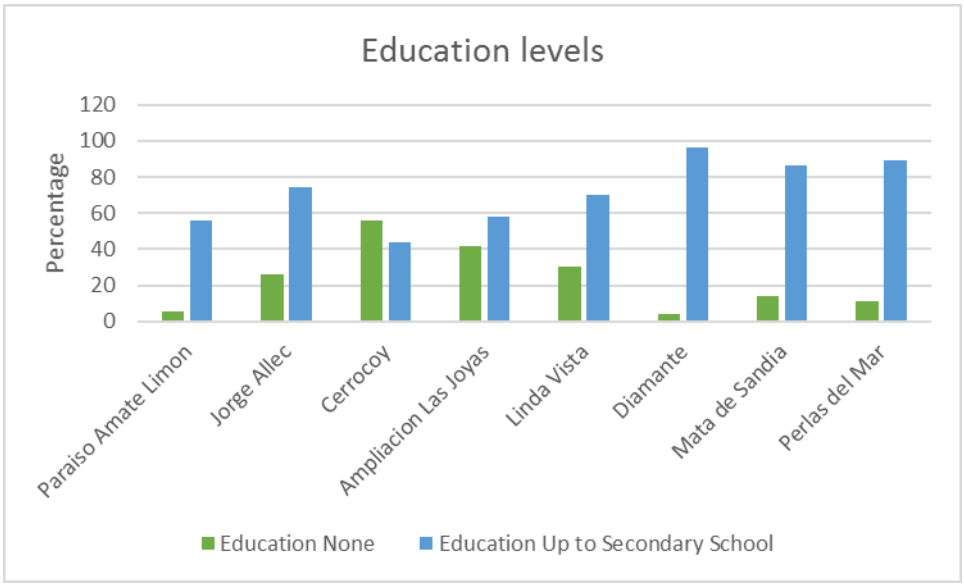
Economic activity

The most frequent economic activity of the residents is tourism (58%), as Ixtapa-Zihuatanejo continues to be a popular international tourist destination; 77.5% of the total population of the city works in tourist-related activities

(Planea Tropical S. de R.L. de C.V., 2015). The main economic activity of 17% of the participants is linked to business and the commercial sector while the remaining 25% depend on working in stores, construction or fishing. It is precisely the 58% of the population which depends directly on the tourist trade that suffers most during the low seasons. Unemployment rises, and families must survive by engaging in other forms of economic activity[90]. Although it is the city's main economic activity, the reason why many people fled to Ixtapa-Zihuatanejo from their home towns is also the biggest reason for their low-income status and their inability to purchase a home in a legal place.

Education

Education plays an important role in determining income. In the case of these settlements, 25% of their population (representing 7.7% of the Municipality (Planea Tropical S. de R.L. de C.V., 2015)) is lacking an academic education. As only 74% of the population (representing 79.6% of the municipality (Planea Tropical S. de R.L. de C.V., 2015)) has completed secondary school, all they can get are certain types of low paying, non-specialized jobs. The remaining 1% of the population is pursuing higher education[91].



Graph 6-4 Education levels in the informal settlements.

[90] Drug dealing in some cases; and illegal or informal commerce.
[91] Students at the local Universities.

The age range of the residents in the eight settlements varies from very young to 80 years of age; most of the population being in their 30ʾs. This demographic is consistent with the fact that a higher percentage of the population is married and has been established in the settlement for more than five years.

The diagram shows the common profile of informal settlements: mostly young, poorly educated residents with families, working in the tourism sector and struggling to earn a living wage to support themselves, and gain access to proper housing credits.

6.1.3 Leaders and their relationship with authorities

Building a community, working in a team, achieving a common goal, all of these activities require a way to organize the people. As social entities, we all need a way to coordinate a multitude of activities. In the case of informal settlements, (chapter two section 2.6.3), the figure of a leader surfaces as the ʻ*Captain of the ship*ʾ, as was wisely put by one of the interviewed leaders; this is a ʻnaturalʾ or ʻrawʾ form of governance. Leaders are constantly fighting and searching for opportunities to improve their settlements, but, as mentioned in chapter two, the section on Leadership, they face many issues.

As is generally the case in developing countries, all the leaders from these eight case studies, usually maintain an ongoing relationship with the authorities. All the leaders hear false promises during political campaigns, and then have to relay these promises to the residents. The residents sometimes disown their leaders when promises are not kept. Then too, leaders also often must deal with scams and frauds perpetrated by the residents.

These settlements are illegal, not part of the city, hence are not considered by the government as residential areas. However, ever since the 1970ʾs, the institutionalization of regularization policies has been taking place in Mexico (Fernandez & Varley, 1998); and more recently the government has enhanced the General Law of Human Settlements, which recognizes the existence of these types of settlements and urges the governments to solve the issues that generate them (Camara de Diputados del H. Congreso de la Union, 2016). Based

on that law, the leaders of the informal settlements are to be registered in the government, not as figures of authority *per se*, but as the main link with the population of the settlements.

This registration with the authorities, specifically with the office of State Government, is what allows the leaders to ask for support and apply for governmental programs and benefits. One of the leaders mentioned that when you form a Committee in the settlement, you must register a seal, as well as the names of the Committee Members. In addition to the signature of the leader on the document, every registered settlement must have an official seal, which is to be used in every official communication between the settlement and the government. Although not all the leaders and not all the settlements have registered a Committee or a seal with the government; the ones who do, have more opportunity of getting aid from the government, such as free groceries delivered every now and then to the people, getting involved in Presidential visits, having gifts delivered on Christmas Day, and so on. This registration allows government to 'control' the growth and spread of the settlement by having a representative to work with, rather than facing massive protests by residents.

Another political aspect affecting the welfare of the residents, is the fact that they are not allowed to build with brick and stone. Once again, although irregular, the government tolerates the settlement; 'looks the other way' *per se*, but has given strict instructions to the leaders to let their people know that they are not allowed to build using concrete, because these constructions would be destroyed, and people sued for invasion of private property. This bizarre arrangement under which informal settlements are tolerated in Mexico, dates to the 1970's as explained in chapter one.

Law suits are commonly issued to leaders, especially to those who don't possess any political capital[92], or those who lack enough political capital at the time of the invasion. One, out of the eight leaders of these case studies was

[92] Refer to Chapter three for the definition of political capital.

sued for several months, delaying the progress of the settlement, until a person with the 'right' political connections and enough political capital approached him and allowed him to continue his 'work' with the settlement.

6.2 Creating a settlement

To be able to understand the influence that each leader has put in developing the social relationship created inside the settlement, it is important to describe each leader and provide a summary of the way in which each settlement was created. In this section, the figure of the Leader is analysed in the context of a person who develops social bonds by planning the allocation of space in the settlement. Described below are the different ways in which the settlements of the case studies were formed; this includes a consideration of the leader's socio-political capital, experience, initiative, will to help, and so on. All these factors shape the way the spatial layout of the settlement is made/designed.

Official government plans for regularization, when available, are shown to demonstrate the significant impact that leaders can have on the final outcome of the layout. The general process of design is detailed in chapter one, and comparison and impact analyses are presented in chapter seven.

It is important to mention, that the *modus operandi* of informal settlements as mentioned in several studies of informality (Garcia de Hernandez, 2006), consists in taking over the land overnight and over the weekend (while authorities are not at work,) building quick shacks to settle in, and then staying put for around 15 days to ensure non-eviction from the site by the authorities.

From the results of the interviews with the leaders, 94% of the plots of land in the settlements are occupied. Two things are demonstrated by this: there is a real need for housing for the poor, and, the leaders have done a good job done by identifying duplicitous people who would expect to sell their portion for a profit later on. Data presented below is a summary of statements by leaders as well as informal interviews with residents that took place during the site visits in 2017-2018. The objective of these summaries is (a) to measure the degree of

involvement by the leadership on the design of the layout[93], and (b) to acknowledge the organization of community work[94]. Further explanations are described settlement by settlement in the subsections that follow[95].

6.2.1 Paraiso Amate Limon

Located on the north-west part of town, at 160 metres above the sea level, the settlement of Paraiso Amate Limon is adjacent to the settlements of Buenos Aires and Paraiso Limon (Map 6-1) and has two access points. The most popular

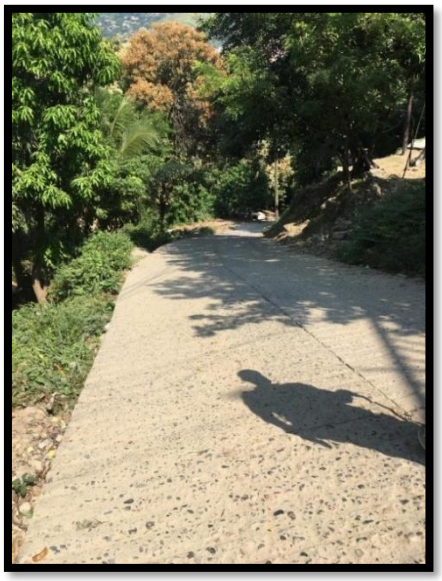


Figure 6-3 Road from regularized settlement below



Figure 6-4- Road coming from neighbouring informal settlement Jorge Allec

access is extremely slow and tiring, around 20 minutes walking uphill (Fig 6-4), and it ends at the settlement Jorge Allec, (Fig 6-3).

The second means of access is to take public transportation from downtown, around a 15-minute ride. This route goes up to the settlement Aquiles Serdan; from there, there is still a 15-minute walk through the settlement Ampliacion

[93]Questions asked were: Do you know of how this settlement's layout is the way it is? And why it is located here? (or) When you were thinking about the design of the layout, what did you have in mind? How was the process of occupying the land? Have you had any issues related to the risky topography of the place?

[94] Questions asked were: Do you hold community meetings? What for? Are there any other 'natural' leaders or second in command? Why? How do you work with them?

[95] The three informal settlements in bold font, are the ones to be further analysed in Chapters seven and eight.

24 de Abril (Map 6-1), and through a private plot in the settlement Buenos Aires.

Demographics

With a total number of 170 families, and an average family structure of three members, this settlement has approximately 510 residents: 52% of these are children, 64% of the population is less than 31 years of age, and 86% is either married or living with a partner, as per the results of the survey.

Leaders

There are two leaders in this settlement; the founder lady (Leader A) and the one left in charge (Leader B), when the former one, for family reasons, had to leave. Presently, the officially registered leader is Leader B.

History

The land was originally taken over by Leader A in the year 2006, solving the personal housing needs of her daughter; she lived in the settlement below. There were several violent attacks to remove the first shack. It was the ensuing commotion which attracted the attention of fellow neighbours in need of a home. The next attempt to take over the land was then made by a group of 48 families. The group was forcibly evicted several times, and it was during this process that Leader B joined the fight, as she lived in the settlement below and was horrified to see the evictions: '*it was heart breaking to see women and children being evicted in the middle of the night*'. This led to a fifteen-day sit-in strike outside the offices of FIBAZI, until the Director of FIBAZI agreed to let them set up camp on the invaded site the following day.

Houses were built around the 'provisional camp', locating them wherever they considered it possible to build. Leaders simply suggested that the place to choose should be as stable and as flat as possible. By 2009, the settlement had already outgrown its maximum capacity, but still 40 families from the settlement below settled in. In 2018, the settlement had 170 families living in a very small area. The area of the settlement was far too small for that number

of households; presumably, a hundred households would have to be relocated to another settlement whenever the regularization plans were initiated.

Accessing the site presented another issue to be resolved. While Leader A took a confrontational approach as she considered it an obligation of the government to give them proper street access, (even though it would have to be through someone else's private property). She demanded the aid of the government, based on the premise that peacefully occupying land for more than five years enables the occupant to be a positional owner of the land. The law in fact gives the occupant legal entitlement to purchase the land[96], on the basis that, if the owner is not using it, and the property should be available for occupancy; the land should then be sold (Camara de Diputados del H. Congreso de la Union, 2018). Leader B, taking a more independent approach, made an agreement with the government to buy the plot. This cost the residents £6 per family, but more importantly, it divided the residents into two groups, one for each leader. This division was exacerbated when construction began on that plot in 2011. Access was finally granted by the Government after Leader A joined the leader of settlement Jorge Allec, which also needed the same access point.

The settlement's division into two groups also brought about the confrontation of some residents relating to the tenancy of the land. Transferring plots is a very common procedure amongst residents of informal settlements. Once a resident does no longer need or want a plot, they transfer (sell) it to someone else. These types of transfers were arranged by each group without telling the Leader of the opposite group. People who had taken a transferred plot from one group, and then wanted to join the other group, were not welcomed since the transferred was done without 'permission' from that Leader. Without security of tenancy once the place was regularized, they were not authorized to settle. This constant battle for power and acknowledgement between the

[96]Art. 1136 of the Federal Civil Code Mexico: The acquisition of property by virtue of possession is called positive prescription.

two leaders has caused friction regarding the possibility of regularization. Residents cannot be sure which leader's group members would receive consideration. Such struggles have increased the discontent of the residents. Both Leaders have assured their groups that land would be given to the ones who had suffered through the process since the beginning and had remained living in the settlement ever since[97].

Services and infrastructure

As with the vast majority of informal settlements, the infrastructure is very poor and inadequate. There is no proper vehicle nor pedestrian access. Walkways are mostly made of compressed dirt, and stairs are made of tyres, wood and some pieces of concrete (Fig 6-6). These narrow alleys are about 1.5 metres at their widest.

There is no potable water or sewage infrastructure. All houses have septic tanks; and the responsibility for distributing potable water is administered by one neighbour who oversees buying the water pipe every day and of filling the water tanks of all the residents who required it. This neighbour lady charges £4 to fill up a tank of 1100 lts (Fig 6-7), or £3.40 / £4.15 depending whether she '*likes you or not*' (as the lady mentioned during the informal interview). This same lady also manages the distribution of jugs of drinking water[98].



Figure 6-5- State of walkways

[97] Official plans and plot allocation was done in 2019 by the authorities based on the availability of suitable land, and the registers of both the leaders.

[98] In many cities in Mexico, water from the tap is not drinking water quality, so it has to be bought separately from specialized companies.

Services have also been a point of discussion among the two leaders. Leader A had been wanting to connect sewage pipes to the main pipe in the settlement below and was waiting for another donation of 4" PVC's to connect the houses. Leader B however, considered that it an unnecessary expense since once regularized, the government, by law, would have to supply the settlement with this infrastructure. For a two-year period until 2017, Leader A had also managed to get water pipes donated regularly by private companies.



Figure 6-7 Water tanks

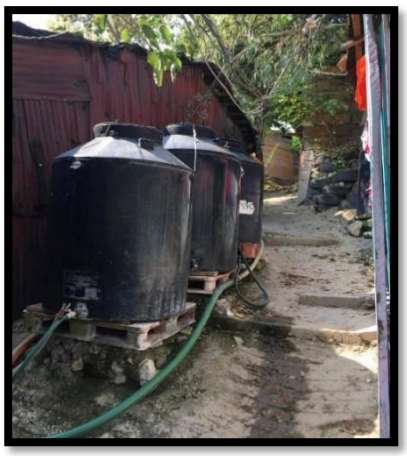


Figure 6-6- Water tanks, hoses, and electric cables just hanging on top.

Electricity was stolen from the neighbouring settlement at the lower level (Paraiso), Leader B negotiated with the Federal Electricity Commission (CFE) to install a proper meter board for the settlement. Without public lighting service in the very narrow alleys, the only source of illumination had been light from neighbouring houses.



Figure 6-8 Electric meter board

There are no grocery stores in the settlement, but there is a small Catholic chapel, and a tortilleria (tortilla shop). The Catholic chapel was built by leader A's group. The tortilleria is the only proper construction on the site, made of definite construction materials like concrete and bricks; a type of construction that is not allowed in informal settlements until they are regularized (explained in Chapter two).[99] The chapel is located right in front of the tortilleria, and both are located in the upper part of the settlement, near the main entrance through the empty plot facing the main street.



Figure 6-10- Tortilleria (tortilla shop)



Figure 6-9- Catholic Chapel

Internal Governance

The type of community has also been affected by the division of the settlement into two groups. Although not specifically separated geographically, it was understood by the informal chats and observation, that leader A's group is mostly located in the upper part, and leader B's in the lower part. As each group works separately for the improvement of the settlement, a climate for constructive interaction among all the residents has not developed; rather a feeling of jealousy has been generated, especially when one group gets more benefits than the other.

[99] A non-written rule, but a real one indeed imposed by the authorities to the residents of the illegal settlements.

Leader A never asks for money. Based on her social and political network, she manages to get donations made to the settlement; these donations have included medication, water supply, and construction materials. All work is voluntary, and if there is something to be paid, everyone cooperates as much as they can; no arranged amount is asked for. Leader B on the other hand, believes that when working towards something, everyone must be fully engaged, and that includes being aware of the need for money to acquire things. She does ask for money when construction work is required, but she does not charge anything for the negotiations that she does with the authorities, because, as she says, she does this to help the people. So, even when leaders say that the call for work is voluntary, they do put a lot of emphasis on the huge benefit for the whole community, for example, the need to pave a path. No one reprimands them if they do not cooperate and help.

Both leaders agree that, to do community work to improve the settlement, they have to be there working along with the residents. As one resident mentioned: '*if the leader did not ask us to do work, maybe we wouldn't do any*'. Leaders therefore must act in coordination with each other and order work to be done for improvement (paving the walkways, cleaning the paths, etc.).

6.2.2 Jorge Allec

Settlement Jorge Allec is located behind settlement Buenos Aires, at 165 metres above sea level, between settlements Linda Vista and Paraiso Amate, on the same north-west side of town. Its main vehicle entrance is shared with the pedestrian entrance of settlement Paraiso Amate (Fig 6-4).

Demographics

With 140 families, and an average family structure of three members, this settlement has approximately 420 residents: 24% of these are children; 56% of the population is over 31 years of age, and 70% is either married or living with a partner, as per the results of the survey.

Leader

The leader of the settlement is a middle-aged man, easy going and family oriented. He is the second leader of the settlement and was democratically elected by the residents after the first leader left town for personal reasons. The present leader arrived at the settlement in 2012; being very involved in the life of the community, was elected leader in 2015. He explains that he was never a candidate for community leadership, but that his name was put forward at a public meeting to choose a leader. Out of three candidates, he received 70% of the votes, (with 10% opposed and 20% abstaining).

History



Figure 6-11 Official seal of the settlement. Designed by Marco Espinoza, leader.

This settlement was created in 2007 by a group of four families and neighbours of the site. The area where the settlement is located was a green area that was left in between other informal settlements and was one of the principal initial reasons for dispute between neighbours since the other settlements did not want people to take over the land. These original settlers were approached by the leader of the settlement above, who invited them to amalgamate with them. This leader was the Chief of Police and the personal guard of the Town Mayor at the time. This person also had a group of people (police officers) who needed places to live near the city centre. As more and more people arrived, mostly family and friends of the ones already in the settlement, it began to grow. The town Mayor was a very important and powerful man in the state, not only because of his political position, but also because of several other powerful relationship that he had. Connections with the town Mayor eased the

process of taking over the land and staying on it without being disturbed by the state authorities, since it was through the leader, that the Mayor of the town assured the residents that they would be protected against eviction. Although there were some attempts made by FIBAZI to evict them, those plans never came to fruition. They seized the land during the rainy season, building their cardboard and plastic shacks in order to withstand strong tropical rains. The leader at the time made a proper design layout, and residents were all asked to cooperate economically to pay for the surveyor's service.

This settlement borders to the east with an Ecological Reserve called Parque Ecologico El Limon, so for that reason, FIBAZI made a signed agreement with them to restrict the growth of the settlement to prevent the invasion of the Reserve. Residents have also protected the area from being taken over by other people, because, they say, it would affect their own settlement.

A lady who arrived at the beginning of the settlement mentioned that transfers have also been made on the settlement, but in this case new residents have been welcomed by the community: "*Sometimes they arrive very tight-lipped, they believe the Committee will now allow them in*". But as long as they do not come from other irregular settlements they are welcomed, and they immediately start to blend in with the existing community. This lady explained that they soon start to participate and engage with the rest of the residents. Some of them however, "*do start complaining of the lack of services and infrastructure as soon as they arrive, not understanding that the only thing they bought when they got the transferred deal, was not the land, but the wood of the house built on the land"*. She says, that once they understand that, they become participants in the life and activities of the community.

Services and Infrastructure

Streets and walkways are mostly made of compacted dirt; some stairways are built with wood and tyres as well (Fig. 6-12). The main difference this settlement has with the previous one is that their streets are as wide as 4 and 6 metres.



Figure 6-12- Materials of stairs and walkways.

All the streets have been built by the residents, men get together to do the construction work while women take care of the children and prepare the food. As residents explained, they had to do all the excavations manually because the machinery was too large to pass through the streets.

Electricity was also installed by working together. One resident narrated that a group of ten or fifteen people pooled their money together, bought the cable, the fuse box and connected it (stole it) from the settlement below (El Limon). People would then just connect smaller cables to pass the electricity into their homes. The first meter board was located on the lower part of the settlement, residents from the upper part solicited another one to be placed on the top as well. Most of the residents have electricity and pay for it. A minority still just connects 'illegally' to the main connection designed to serve up to ten houses. This is problematic for those who do not pay as the voltage is low. The current leader has told these people that he can get another meter board from CFE installed so that they would not have that problem, but, as he said: "*they are just happy to have the service without paying for it*".

Potable water and sewage infrastructure are not available; residents buy water from private companies; water access is provided through pipes which go through the street connected to the main paved road. For drainage, they all have septic tanks.

There are no convenience stores or places of worship. Since the place is very close to other settlements, small grocery shopping is done at those settlements.

Internal Governance

Being an organized person, the leader of this settlement has divided the settlement into blocks[100]. Blocks are organized into working teams which function more easily, more reliable and more conveniently than otherwise. The Leader has assigned block representatives, people who are available and eager to help; on their block, these representatives act then, as the leader and coordinator of any work to be done, but who, at the same time, liaise with the settlement leader as the head of the community. Contacting residents for meeting, community work or recreation activities is done through the block representatives.

Meetings are held only when and if there is an important issue to address. As explained by the leader, weekly meetings cause exhaustion and disillusionment for residents when there is no significant information to be given. Residents lose confidence in the work of a leader, and the community starts to break down.

The leader also has a Committee, which is one of the requirements of the Municipality for the settlement to be registered[101] . This committee however, was not selected by him, but was imposed on him by opposing residents. This has become a constant obstacle to overcome every time that there is a proposal for work to be done, a project to be developed or a way to approach the

[100] Number of residents per block vary, see chapter seven, section 7.1.2 for the layout and block divisions.
[101] See chapter two.

authorities. The leader explained that the same committee members have also tried to set the residents against him, but his hard work and pleasing personality have allowed him to stay on in leadership.

To maintain the cleanliness of the settlement, the leader organizes work groups, trying to educate residents on the importance of keeping the settlement clean. Conscious that all the rubbish left on the paths will eventually end up downtown due to the rain and that informal settlements are considered by the rest of the citizens to be the cause of pollution of the bay, the leaders acknowledges that his hardest job is to persuade people to clean up after themselves. He is in no position to force anyone to clean up, "*It is a thing of culture*" he says as he also considered the work needed for the rehabilitation and conservation of green areas. For example, the area marked as 'Donation area' on the plan[102] was originally envisioned as a space to grow fruit trees.

6.2.3 Cerrocoy

Cerrocoy is located on the same north-west side of town, at 165 metres above sea level and located beside the informal settlement Paraiso Lirios (one of the pilot study cases). This settlement has two pedestrian accesses, one which is approximately two metres wide, connecting to the main street, Vicente Guerrero, through which a public transportation route passes, and the second one connecting to the regularized settlement below.

Demographics

With a total number of 71 families, and also an average family structure of three members, this settlement has approximately 213 residents. This is the smallest settlement in the study where: 50% are children, 62% of the population is over 31 years of age, and 73% is either married or living with a partner, as per the results of the survey.

[102] See Chapter seven.

Leader

Due to his own initiative of helping people to find a place to live, the leader has been a noted figure for 18 years, as it was he who formed the settlement of Ampliacion 24 de Abril, now regularized. He works as a sports fisherman and tourist guide, and along the work he does, he also belongs to an altruistic association that takes care of the Bay. Born and raised in Zihuatanejo, with two 'ejidatarios'[103] grandfathers; although he did not inherit the ejido, his heritage has guided his thinking about land distribution, as he states: "*I always tell the other leaders not to invade ejido land, because that belongs to the original inhabitants of Zihuatanejo, while the land owned by FIBAZI, that one we can take as there is no proper housing offer for the poo*r"[104]. He is a secondary school graduate with an appetite for knowledge, "*knowledge is power"* he says.

History

The area where the settlement is located used to be a green protected area that had been reforested several times by FIBAZI and by the leader. People also had tried to invade it several times. According to the leader, the settlement was created, at his initiative, as a 'protective' measure. He decided that, if it was going to be invaded anyway, he might as well carry out the invasion himself with people he knew and trusted. He did not choose people at random; rather he chose people from 'his' previous settlement who had outgrown the site, and who really needed a place to live. The leader explained that the process of acquiring the land was done in an orderly fashion. Before allowing people into the settlement and allocating housing sites, he predesigned the area considering good sized plots, walkways, alleys and future streets that would eventually connect with the settlement below. After a short interview, he selected the people who were to have a plot on the site by considering who they were, where they came from, and the nature of their work. Having had previous experience at Ampliacion 24 de Abril, the people whom he called also

[103] Ejidatario is the owner of ejido land, or communal land. Several land of Zihuatanejo was ejido land before it was expropriated by the government, as explained in Chapter one.
[104] Ejido land possesses strong *Genius Loci*, hence it is less likely to be invaded in this town.

trusted that he would do a good job with the new settlement. It was this previous experience that made people ask him to take charge of the process, distribute land allocations and organize them properly. Plots were assigned according to when they had made the request and their place on the waiting list.

Transferring also occurs here, and the leader is aware of these transactions, but, as he says, he has to make sure that the people who 'sell', do it for good reasons, and that the ones who 'buy' are interviewed and advised as well, of the illegal state of the settlement.

Services and Infrastructure

There is a small Catholic Chapel (Fig 6-15) in the lower part of the settlement; there are no convenience stores mainly because it is a small settlement and other settlements have stores near them. Public transportation is easy to access.



Figure 6-13 Catholic Chapel

Water supply is bought from water tanks and distributed to each individual house's tank (Fig 6-15). Electricity is taken from the settlement above (the previous settlement that the leader regularized) by some residents; others have already connected to the meter board (Fig 6-14); and a sewage system has been

constructed by each neighbour and connects to the main pipe of the regularized settlement below.



Figure 6-15- Water tanks and hoes



Figure 6-14- Meter board

Internal Governance

The leader does not have a Committee[105], so as not to interrupt residents from their jobs, and thus feel pressured with the work of the settlement. He argues that this has made the residents more participative in community work "*When it has to be done*," he says, "*they argue less".*

The community work that is mostly performed is cleaning. He stresses that this is the most important job for informal settlements. Cleaning must be done constantly because, as they are located in the hills surrounding the town centre, during the rainy season all the dirt washes down into town. As the leader works in the tourism sector and in fishing, he is very conscious that that is not good for the town image.

The second community task that the leader does himself, is to raise awareness about living with neighbours. Coming from farms, some residents are used to having chickens and 'making noise', so the leader tries to educate them about keeping the noise level down after 11pm, and of taking care of their animals. Dogs are also a big problem he says, not only because they are noisy, but because they have also caused problems between neighbours.

[105] Although registering a Committee allows for more benefits from the Government, and is one condition that eases the regularization process, it is not always taken on board by Leaders.

6.2.4 Amp. Las Joyas

At 157 metres above sea level, settlement Amp. Las Joyas is located on the far north-east area of Zihuatanejo, on a hill that looms over the original settlement of Zihuatanejo, (Col. Agua de Correa). Its main vehicular entrance connects with the street of the regularized settlement below, La Joya Sector II.

Demographics

With a total number of 157 families, and an average family structure of three members, this settlement has approximately 471 residents: 41% are children, 58% of the population is less than 31 years of age, and 74% are either married or living with a partner, as per the results of the survey.

Leader

The present leader is a mechanic; a very approachable, polite and friendly person, who is fluent in English since he lived in the US. Born and raised in Zihuatanejo.

History

Developed in 2008, by leaders of the neighbouring settlements, it is an expanding site for the settlement Las Joyas' growing population. The current leader worked together with them assigning plots to the people on a first come, first served basis. They started from the bottom and working their way up the hill, taking into consideration petitions from residents.

The process of taking the land was similar to every informal settlement in the city, and in most other parts of the country. People gather together and get ready on a Friday morning, and wait until governmental office hours are over in order to start cleaning, cutting and building the initial plastic and cardboard shacks on the site. By the next working day (Monday), the site would be taken. People stay there all day, every day for at least fifteen days, so as to ensure that the government does not take back the land. There was never a problem with this process.

The leader was democratically elected, chosen over one of the two initial leaders by the community, as he was considered to be a more serious and stable person. As many residents mentioned, other people have tried to take his place, but the community has always supported him as the leader.

Services and Infrastructure

The settlement has access to public transportation on the main and only paved street.

This was another achievement of the leader who convinced the drivers first and then made a plea to the transportation company. They even built a bus stop at the top on the settlement, which is the last stop of the service.



Figure 6-17- Bus stop



Figure 6-16- Public transport van service

Water is provided by the municipality and paid for by the residents. The filling of each water tank of 1,100 lts costs £4.50. Sewage has been installed in the first and oldest section of the settlement. It was organized and paid for as team project of the residents. Residents of the other side, the newer one, only have septic tanks, as connecting to the central line would mean passing through other people's plots, precisely due to the disorganized layout



Figure 6-19- Sewage pipes as they run over ground.



Figure 6-18- Water tanks on each property

Electricity is paid by all the inhabitants. There is a proper meter board installed, (Fig. 6-22), another achievement of the leader, as for about a year and a half, they used to steal the energy from the settlement below.

When CFE[106] tried to disconnect them, the leader negotiated the payment of a fine, originally of £3,110, but reduced to £388, an amount which was paid through the cooperation of the residents. They later built the meter board, which cost £19 plus labour for each resident. The settlement also has public lighting.



Figure 6-20 Electric post and cables over of the streets.



Figure 6-21 Meter board

[106] CFE stands for Comision Federal de Electricidad – the power supply company.

There used to be about ten convenience stores in the settlement, but due to the proximity of the neighbouring centre of Agua de Correa, sales declined, and now, only four stores exist. There is a tortilleria right next to the sports area, and as was mentioned, there is a Catholic chapel on the top.



Figure 6-23 Convenience stores



Figure 6-22 Tortilleria on main street

Internal Governance

Work is done, and residents participate only if and when the leader is present. He observed "*even if I am just there doing nothing, the fact that they see me there keeps them working*". As such, the main street and the Chapel were built as a joint venture of the leader and the residents. The leader does have a committee, as per the requirement by the municipality, for a registered informal settlement. All the members of the committee have tasks to perform. However, it is mainly one lady from the committee along with a female assistant from the community, who help the leader to communicate to the residents the work that is to be done. Meetings used to be every fifteen days, but since the process of regularization had already started, meetings were only called when there was something important to tell or documents to collect.

The leader mentioned that although there are people who do not cooperate in doing the work, it is their children, who have already grown into young adults, and who have seen the improvement of the settlement, who are more willing to help with anything, as they understand the need to work as a team. That for the leader "*is what gives me the strength and will to continue".* Residents know the leader and are friendly towards him. The leader, however happy he may be to be helping in this process, does regret to the fact that he had been neglecting his own family in order to serve the community, "*We have no days off, no weekends, no holidays, those days are used to work with the residents on improving the community*".

6.2.5 Linda Vista

Unlike the other settlements, Linda Vista only has one entrance, because the Ecological Reserve is located at the top of the settlement. This access connects with the regularized settlement Buenos Aires, so public transportation can be reached.

Demographics

With a total number of 175 families, and an average family structure of four members, this settlement has approximately 700 residents, this is the biggest settlement of the study. Around 42% are children, 73% of the population are over 31 years of age, and 60% are either married or living with a partner.

Leader

Perceived by the residents and the researcher to be a straight-talking, very strong-minded man, without political inclinations, the leader used to live in the settlement when he had a job in the city as a fisherman. He has now moved to a nearby town (Petatlan), about a thirty-minute ride from Zihuatanejo. His apolitical personality has not helped him achieve the goal of regularization in a timely manner, as he compared the length of the process for this settlement (9 years already) to that of Cima de Jesus (one of the pilot studies). Cima de Jesus is only 5 years old and was already regularized in 2017. He claims that the leader

of Cima de Jesus has benefitted from being very 'helpful[107]' with the authorities, whereas he mentions "*I will not put up with political abuse*" and hence, will only participate with politicians when he considers it the right thing to do. He considers that putting up with the demands and favours that politicians ask in exchange for help in regularizing the settlement, goes against his moral principles of rectitude and pride. Unless he is assured by a politician that the promise in question is achievable, he is not open to any form of blackmail nor to any form of participation in political campaigns in exchange for what he labels 'empty promises'. The result of his stance is a very slow process of the regularization of the settlement. As a long-time leader, having already tried and failed to take over land several times in the past, this person has experienced jail, lawsuits, evictions and constant antagonism with several governments. "*Politicians treat us like criminals*" he says.

History

The land was invaded on the 17th of July 2009, during the rainy season. The site where this settlement is located was originally disconnected from the city centre. It was a virgin green area with no surrounding settlements. The creation of this settlement opened the opportunity for emergence of other nearby settlements such as Cima de Jesus, Jorge Allec, Ampliacion Buenos Aires, Paraiso Limon, and Ampliacion Paraiso Amate. Even the site of this settlement had to be fought over by the leader against other six leaders. It was out of necessity, he says, "*rents are too expensive for us poor people"*. The leader arrived at the site with only sixteen people, built a cover of 9 metres x 12 metres for the rain, and stayed. This settlement was evicted many times, and the people started to get desperate and impatient to get settled.

The leader wanted to organize the people, and he would not let other leaders influence the residents telling them to just take a piece of land and build a house. "*I am not in this for the money*", he said, as many other leaders are (Ruiz-Velasco & Solinis, 1988) since the more people you settle, the more money you

[107] Moves the people of his settlement to support a specific political party.

make (leaders usually charge £76 to £114 per plot[108]). Although they lived in constant fear of eviction during their initial years due to the enmity of the leader and the Mayor at the time, the successor Mayor told the leader: "*in a month, when I am in charge, I will be deaf and blind, so you do as you need*"[109]. With that support, more people started to arrive at the settlement, the leader would register every request for a plot, evaluate the real need and either accept or reject the petition, and finally assign a plot. The leader belongs to a group of thirteen other leaders, which has given them a voice to be heard by the municipality, in order to push forward the regularization process.

Although informal settlements are normally evicted because the land which they invade is either green area or a Natural Reserve (Azuela de la Cueva, 1993), the leader mentioned that the real reason why the area of the settlements mentioned above has caused so many disputes and disagreements with the authorities, is not because it was a natural reserve, but because it was intended to be sold to foreigners: "*Japanese investors would have paid much more money for the land than the purchases of the informal settlements' residents can pay for regularization*". This statement was confirmed by the authorities, who mentioned that the land would have sold for millions of dollars, and not thousands of pesos[110].

Since the leader does not presently live onsite, and keeps working towards regularization, he does charge a monthly rate to the inhabitants of the settlement. He argues "*someone has to pay for my time, petrol, and copies that this work requires*". He thinks that this is only fair since "*the people of the*

[108] Data acquired by comments and chats with several residents, and other community leaders.
[109] As narrated by the leader, but a common act in most political campaigns.
[110]The name of the authority is omitted for political reasons. This is a common case of non-written agreements between authorities and private investors. The residential area Cerro del Vigia in Zihuatanejo, an originally non-residential area as marked by the Urban Development Plan, was later changed into low density residential for the development of an exclusive high-income foreign village, is a clear example of these agreements. It is precisely those cases that annoy informal residents, since they argue that the limit established by 'cota 70' (the construction limit height) only applies when it is convenient for the government. What is real however, is that the price the private foreign investors pay for the land, allow the government to pay for the proper supply of water, drainage and electricity infrastructure; something that can't be afforded with the price payed by the regularized settlements.

informal settlements want to have everything but are not always willing to contribute towards it", as he says.

Although the leader had located each resident when he designed the layout and approved each request, transfers have also been made without the immediate knowledge of the leader. "*Transferring plots from informal settlements is a big business*" he says. There are people who take plots in many informal settlements at a time and then transfer them to people who really need the place to live. In this settlement, he accounts for around five plots that have being transferred, all from the same family, with prices that go from £458 as down payment, to £1,910 final price; without any security of tenancy. The leader mentions that he will make sure that the people who really need the plot are the ones that get the plot when the regularization process begins. While the leader is not against transferring plots, because, he says, sometimes they do it out of need; he argues that they must tell him about the process so that he can give the new 'owners' a document with the official seal of the settlement and his signature to support this transaction. To process this document he charges £76, because, as he says, he has done so much work to get the settlement to where it is now, that he must at least get some payment for it when original settlers 'sell'.

"Being a leader is tough", he says, "*as the amount of work you do is rarely recognized by the residents"*; "*there is group of people that have been trying for some time now, to turn the residents against me*", to avoid this from happening, the leader solicited to FIBAZI to officially register him as the leader of that settlement.

Services and Infrastructure

The only entrance was built by the residents with no support from the government, since they are illegal and no official support from the government can be given to them. They only had support from the government with mortar and cement materials because the street that they were building would connect to the formal settlement below.

There is sewage at the bottom of their main street, but they all have septic tanks. Water is supplied by water pipes that fill individual tanks every week (Fig. 6-25).



Figure 6-25- Water tanks



Figure 6-24- Electric cables.

Electricity was the first thing they worked towards getting. They used to steal the electricity by connecting to the supply meters of the settlement below, but they had the problem of overloading at night, which would cut off the supply for both the settlements. Causing a discontent with the settlement below, neighbours complained with CFE about this issue. They had stolen electricity for two years, until the leader made an agreement with the accountant of CFE, to pay a fine of £30.

Public lighting was their final achievement, as they started just two weeks prior to regularization, having convinced CFE that they would soon be regularized.

Internal Governance

The leader has been responsible for organizing community work for improvement, "*there was no initiative by the residents whatsoever*" as the leader pointed out. Participation involves around 40 to 50 people, while the rest of the residents just wait until things are done. Those people however, do criticize the work that is done, and complain if it is not completed on time or not done properly. The reason why the leader is only waiting to finalize the regularization process is so that he can retire and let them choose whomever

they want next; but until then, he will not step down from the leadership, whether they like it or not. "*It is a matter of pride"* he says.

It was observed during the research, at one of the weekly meetings, that although he had mentioned that he did all the work himself, he does have a lady who is in charge of the settlement while he is away (the whole week), since he only goes to the settlement now to organize work, or meetings. This lady was collecting the documents required for the regularization process, which were to be handed in soon. During the meeting, it appeared that the lady is the second in command, as she was making the decisions about what to receive and from whom.

6.2.6 Diamante

Diamante is located in the south-east area of Zihuatanejo, at a height of 110 metres above sea level, and bounded by the Ecological Reserve. It has only pedestrian access through the regularized settlement Los Pinos where it connects to the only public transportation route.

Demographics

With a total number of 120 families, 94 men and 105 women and an average family structure of three members, this settlement has 328 residents. Of these, 39% are children (73 boys and 56 girls); 53% of the population are over 31 years of age, and 72% are either married or living with a partner.

Leader

The leader of this settlement is a lady, with a career as an adult education teacher, with a governmental agency called INEA[111]. A native of the state of Veracruz, raised in Cancun, and later married and emigrated to Zihuatanejo for work reasons. Her strong political relationships have facilitated improvements and provided support for the settlement.

[111] Instituto Nacional para la Educación de los Adultos (National Institute for Adult Education)

History

As explained by the leader and residents, the settlement was taken by groups of people who saw an opportunity in 2007 to occupy land, chiefly because they were renters in the regularized settlement below. Consequently, many of them decided to participate in order to eventually gain tenancy of the land and have something of their own instead of having to pay rent. There was no leader guiding them there, so there was no order. People just arrived and placed their shacks wherever possible, starting from the bottom and going to the top. After a month or so, through a community meeting, a leader was elected; a man who was only interested in making money, charging a monthly quota for transportation, labour and materials for improvement. With no visible results, residents got organized and displaced him, choosing another male leader who later had to leave for work reasons. The current leader was the 'second in command', hand chosen in 2009 by the outgoing leader for her political capital, and her approval by the residents. After she became the leader, no more people were allowed to settle on the site.

The leader's political capital has helped to prevent evictions by the local government. She recalls that she would let the FIBAZI director at the time know when police officers were being sent to evict them and the evictions would stop.

Although most of the residents support the leader, but there is a group of around four people, who have been wanting to take over her role. Rumours are spread, and negative campaigns are created to build distrust in the leader; but most of the residents have stayed loyal to the leader. These divisions have also impacted on the process of regularization. Some of the residents were persuaded by members of the group of four that payments for plots were not necessary for completion of the regularization process. Needless to say, documents and payments by all residents must be submitted in order to start legalizing the properties.

Services and Infrastructure

It was observed during the site visits, that water is pumped to a temporary tank located at the top of the settlement from the main water tank located at the bottom of the settlement. From there it is spread through a network of hoses to each settler's water tanks (Fig. 6-26). One of the Committee members is required to go down and pump up the water, and then return to open the correct valve. The leader mentioned that she charges £1.15 to each person who needs to get the tank filled.



Figure 6-27- Potable water distribution system



Figure 6-26- Sewage improvised piping

The settlement has no electric meters. Energy is stolen from the settlement below. Residents mentioned that sometimes neighbours buy the cable, connect it to the supply down the hill, and then share the energy with someone else.

There are just a couple of convenience stores in the settlement, and no chapel. There is no vehicle access.

Internal Governance

The leader has a proper Committee consisting of a Secretary, a Treasurer and two vocal assistants, who help her organize the community. They collect documents, organize the settlement into groups to do improvements and the

cleaning work. The primary task of dealing with regularization is done entirely by the leader.

One important detail mentioned by this leader and the leaders of Linda Vista, Amp. Las Joyas, and Paraiso Amate, is that they all formed a group to have a stronger presence in the municipality. Having an organized group of leaders, as a stronger and louder force, has accelerated the regularization process with this administration.

6.3 Leadership – Governance

Table 6.4 shows a comparison summary of the principal elements considered when analysing the figure of the leader and the impact that the leader has on the community as per the results from this study; table 6.5 shows the elements that form the characteristics of the governance of the leader[112].

SETTLEMENT			LEADERSHIP				
	DATE OF ESTABLISMENT	No. OF FAMILIES	GENDER OF LEADER	MUNICIPALITY RECOGNITION	DESIGNED LAYOUT	ASSIGNATION OF PLOTS	POLITICAL CAPITAL
Paraiso Amate Limon	2006	170	Female Female	Registered	No	Residents	Yes No
Diamante	2007	120	Female	Registered	No	Residents	Yes
Amp. Las Joyas	2008	157	Male	Registered	Yes	Leader	Yes
Jorge Allec	2009	140	Male	Registered	Yes	Leader	Yes
Cerrocoy	2012	71	Male	Registered	Yes	Leader	Yes
Linda Vista	2009	175	Male	Registered	Yes	Leader	No
Perlas del mar	2012	75	Female	Non registered	No	Residents	No
Mata de Sandia	1945	200 people	Male	Non registered	No	Residents	No

Table 6-4 General characteristics of settlements and work of the leaders.

[112] Settlements shaded represent one of each kind of leadership, which are to be further explained in the next chapters.

SETTLEMENT	GOVERNANCE				
	WORK ORGANIZATION	WORK DONE IN SETTLEMENT	POWER ACQUISITION	ECONOMIC ADMINISTRATION	LAND ACQUISITION
Paraiso Amate Limon	Self	Voluntary	Self Appointed	No fee	By leader
			Elected	Fee for supplies and services	
Diamante	Committee	Voluntary	Elected	No fee	By people
Amp. Las Joyas	Committee	Joint	Elected	No fee	By leader
Jorge Allec	Block Leaders and Committee	Joint	Elected	No fee	By people
Cerrocoy	Self	Imposed	Self Appointed	No fee	By leader
Linda Vista	Self	Imposed	Self Appointed	Fee for supplies and services	By leader
Perlas del mar	None	Voluntary	No information	No information	By leader
Mata de Sandia	Residents	Voluntary	Self Appointed	No fee	By people

Table 6-5 Types of governance used by leaders

Having described the types of leadership, creation of settlements and layout scheme in six case studies, it is theoretically possible to categorize how governance is influenced by the type of leadership in question. Several variables, drawn upon from the literature in chapters two and three, were considered to create categories and group the settlements as per the type of leadership:

I. Precinct cleanliness, maintenance and improvement works are considered as predictors in the development of identity[113] (Lewicka (2011), Harlan, et al., (2005) and Hidalgo & Hernandez (2001)).
II. Power struggles subdivide communities (Barry and Mayson (2000)).
III. Fees from leaders are perceived by the residents as an abuse (Taylor, 2003).
IV. Leaders' personalities and political capital (Drivdal, 2016) were observed to influence the way that they relate to authorities; this then affects how much support the settlements can get in return. Their personalities as alluded to by residents, have influenced the ways in

[113] See chapter three and four.

which residents get involved and become committed to improving the site (Pugalis, et al., 2014).

V. Selection or imposition of power is contrary to what Xaba (Xaba, 1994) mentioned. Some leaders in this study were democratically selected, inferring a more comfortable and organized community.

VI. There is a clear distinction between a Leader and a Boss (Regader, n.d.). Characteristics of what could be considered to be a good leader include a spirit of cooperation, optimism, and the ability to lead by example (Gächter, et al., 2012).

Based on the variables above, and on the characteristics explained in each settlement grouped and compared in tables 6-3 and 6-4 above; three types of governance are proposed: (a) self-caring, (b) mandatory, (c) optional.

a) Self-caring. Residents *like* the place, they are conscious that they must keep it clean and safe for their own wellbeing; they respond promptly to the call of the leader when there are meetings for cleaning or construction activities. No sanction is imposed by the leader if a resident does not participate. Presumably, strong community and strong social bonds can be created in these settlements. The settlements Jorge Allec and Amp. Las Joyas belong to this group; both leaders agreed that work cannot be imposed on the people; also, both leaders were democratically elected. They have worked on educating their residents about caring, rather than forcing the concept on them; and most of the people have responded positively. The work done here is teamwork; everyone helps everyone else, whether building a walkway or improving their homes, the settlement is not split into factions or divided by self-interests. The leaders have people who help them organize work (other than the Committee); these people work with groups of residents and get the work done faster.

b) Mandatory. Residents *need* the place; the place grows into them because of the need for a home. Leaders of this type tend to be more authoritarian; work is obligatory. Consequences of not participating in

settlement improvement works can vary from not being assigned a plot in the regularization process, to not be considered for governmental assistance. Residents then feel that they have to comply with the work assigned to them by the leader. Work in these types of settlements is done by street or walkway; residents are to keep their walkway clean and safe, but rarely help or participate when building new walkways or someone else's house. People in these types of settlement tend to be more isolated, although the community is kept strong by the control of the leader. The settlements Cerrocoy and Linda Vista belong to this group.

c) Optional. The work done here by the residents is only 'suggested' by the leader. Residents are aware of the need for improvement, but do not want to do any work themselves unless the leader makes a specific request and offers either a reward or a penalty. People in these types of settlements tend to think of the leader as the one who must do everything and solve all the problems; so, the suggestions of community work are sometimes taken as an attempt by the leader to delegate work that the leader should be doing. The little work that is done is for personal benefit only. An example of this was explained by a resident of settlement Diamante, when he talked about a neighbour who put light bulbs on the walkway going up towards her house: she turns them on only when she is to be using the walkway. This type of community is presumably dispersed, rather than strong, as interviewed neighbours said that a lot of neighbours are envious of each other. The light bulbs, for example, have been stolen and broken several times by residents who do not approve of the lack of sharing. The settlements Diamante and Paraiso Amate belong to this group.

Gender does influence the type of governance practiced by leaders. Usually, female leaders encourage participation and tend to be more maternal in their approach. They are somewhat disorganized regarding planning and community

work. Male leaders, on the other hand, tend to be more practical and organized, but are also more dictatorial and more detached.

Conclusions

This chapter portrayed the work of community leaders as urban planners and community developers, rather than as opportunistic illegal land developers who abuse the needs of the poor, which is how they are commonly portrayed in research studies. Results of this research has shown that for 90% of these case studies, leaders have had to fight these residents with the same motivation: the acquisition of a cheap piece of land in order to sell it or rent it later when the site has been regularized. Leaders have become another type of real estate agent in developing countries

The unstable condition of the households in these settlements is mainly due to illegal transfers of land. Such transactions cause social problems with residents; as they are also commonly done by 'owners' of two or more plots and/or with houses in risk areas. The families acquiring these plots are generally not well received by the community. However, the government does include them in the regularization process in order to relocate them either within the same settlement or inside another one.

As shown by the research above, each account of an informal leader taking over a settlement is not necessarily always an example of exerting the will and taking advantage of an opportunity to acquire land. Conflict is generated by other factors: leaders and residents of neighbouring sites who wish to retain whatever advantage they have, and politicians who claim responsibility for protection and expansion or who insist on including historical considerations.

Despite their struggles, community leaders find the work personally rewarding; and even when all the informal settlements studied possess the same typical characteristics (poor infrastructure, illegal possession of land, risky living

conditions), the work of each type of leader (personality, social capital, gender) has a great influence on the degree of improvement possible, whether through community work, or from the amount of support that the settlement can get from the authorities.

Clearly, the way an informal community is constructed is highly dependent on the type of leader it has. Research was grouped into three categories and a settlement was selected from each category in order to provide a deeper analysis (in the following chapters) of each one.

Gender and political capital have been shown to have an immense influence on the type of community formed. As explained in chapter seven, this influence begins with the initial layout of the place. Even when their power figure lacks the legal status to register land acquisition with the government, leaders are in fact given power and official recognition in the eyes of the residents. This makes them figures of respect and knowledge, the impact of which will be discussed later in chapter eight, in the section dealing with the social cohesion of the communities.

Chapter 7 Spatial Analysis

Places are spatial entities. When occupied by people, they become imbedded with meaning as the space is appropriated by residents. As explained in chapter three, places have an original 'natural' meaning, that, over time, gets either disrupted or complemented by the type of occupation. In the case of informal settlements, this occupation is characterised by different approaches; and those different approaches depend on the type of leadership, as shown in chapter six.

With the aim of understanding and defining the influence of the leader on the spatial layout, and exploring whether that layout also influences the social relationships and development in the settlements, this chapter presents the influence of leadership on the social and physical development of a community and follows a more focused urban study that analyses place attachment in informal settlements, based on the work of Lombard (2009, 2013), Lomnitz (1977), Brown (2007, 2015), Gilbert and Varley (1991), and Karimi (2012) and informed by the theory of Relph (1976), Schneekloth and Shibley (1995) and Franz and Wiener (2008).

This chapter presents, firstly, the initial layout of each of the eight case studies, to underline the impact of leadership on the design of the settlement and on the location of the residents; secondly, both the leader's and the government's plans are compared in two of the eight settlements (one planned and one unplanned), to visualize the influence of the leader functioning as an urban developer, and the possible social implications of this influence on each settlement during the regularization process. Thirdly, within this urban context, an analysis of the settlement's location regarding two aspects: satisfaction of

basic needs (work, recreation, health) which defines the physical dependence on the site; and, after considering the results from interviews, the emotional dependence to the site itself. Then, through an adapted 3D space syntax analysis, the settlement's characteristics are compared to analyse the extent to which their physical features promote or hinder the development of social ties. Finally, a specific analysis of only three settlements lists the type of ties developed in each type of settlement, based on leadership and the layout of houses.

7.1 Comparative analysis of layouts

Within the urban limits of cities, when people look for a place to live, characteristics such as location, type of neighbours, type of land, accessibility of transportation and access to public services and infrastructure are the main things that people look for prior to deciding where to settle. Prior to labelling a site as a residential area, urban layout design is carefully analysed before building structures that fulfil the above-mentioned criteria. However, in cities where land destined to be designated as residential is not sufficient for an ever-growing population and/or is unaffordable for most of the population of the city, informal residential areas tend to develop outside the legal urban framework of the government. Leaders, as described in the previous chapter, tend to become land developers and also urban designers to fulfil that niche of the residential market in need of a home.

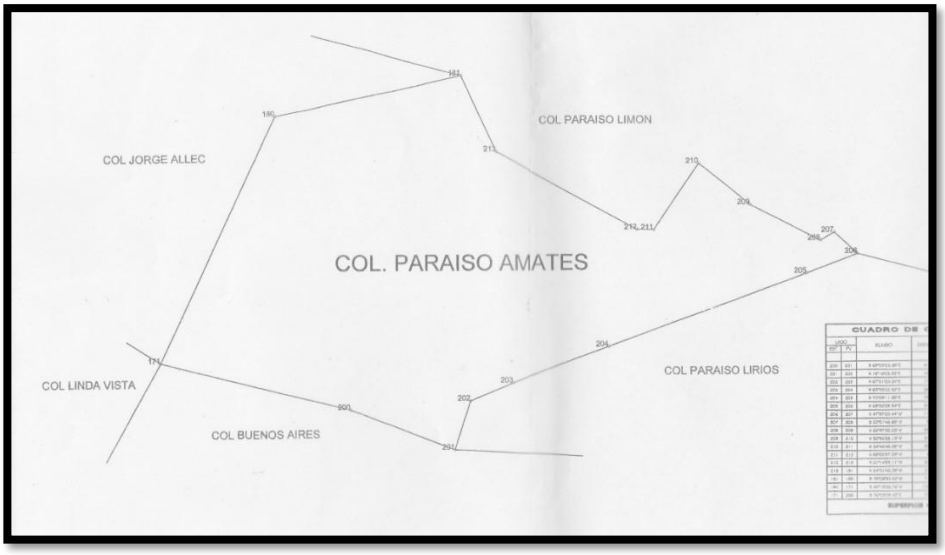
The following issues were described in the chapter on informal settlements: (i) the development of the regularization process in Mexico, (ii) arguments, both legal and historical for existing legalization concerning informal settlements and (iii) the impossibility, in the near future, of terminating the process of creating additional informal settlements. Now, the relationship and influence that leaders have on this process starts precisely with the existence or non-existence of a designed layout prior to the occupancy of the site. In the previous chapter it was observed that half of the case studies had a designed layout, an 'organized' occupancy of the place, while the other four were occupied as per

each resident's best intentions. This section explains the layout designs of the eight case studies; moving onto comparing three settlements (each one exhibiting a form of governance as defined in the previous chapter), by analysing the process of relocating families, demonstrating how infrastructure is provided, and indicating the location of the site.

7.1.1 Non- designed settlements.

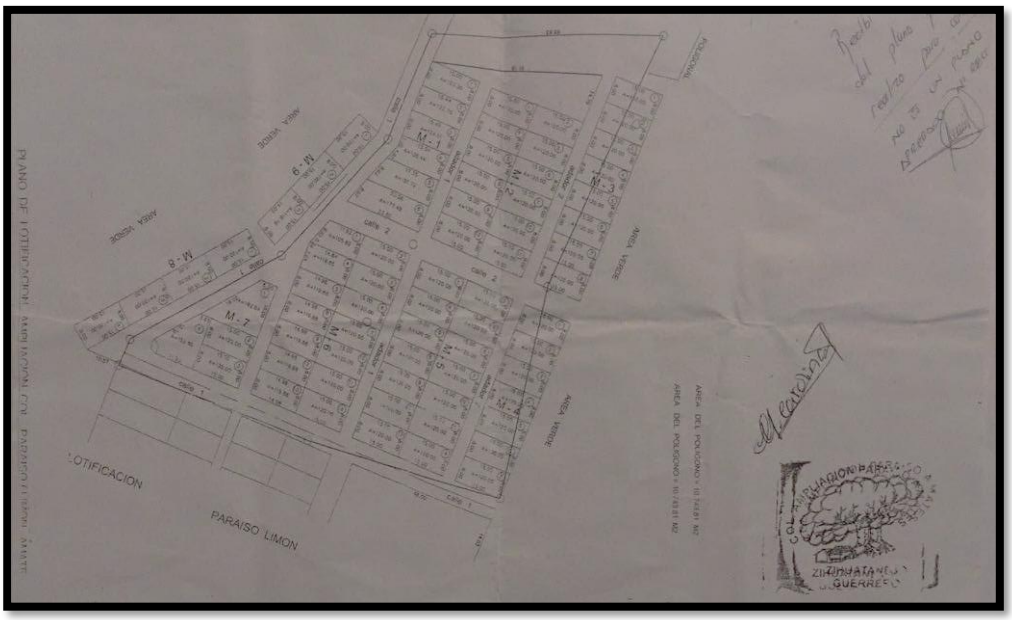
Paraiso Amate Limon

In the case of the settlement of Paraiso Amate Limon, a dispute between the two registered leaders produced two different boundaries for the settlement. An initial layout of 65 family plots was made by an architect who charged £18 per plot. At the time, the layout provided sufficient space for the 48 existing families as well as space for additional limited growth. This layout was disregarded because the houses were located in an irregular fashion according to the anomalies of the site's topography. Leader A did not locate the people, but rather let them choose; and so, did Leader B, who only suggested places occupying the few vacant spaces of the settlement. There were no measurements, which resulted in a very tight, messy layout, with narrow walkways.



Map 7-1 Initial boundaries defined by Leader A and officialised by FIBAZI as per occupied space. FIBAZI 2005.

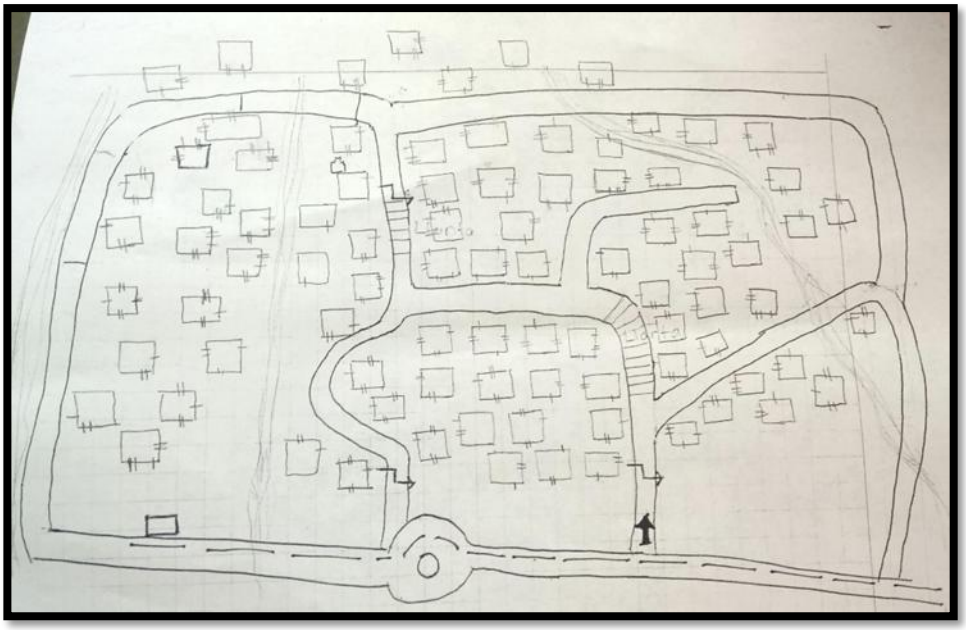
The boundaries of the settlement, showed on Map 7.1, represent the original area taken by Leader A with the 48 families. The boundaries shown on Map 7.2 mark the area occupied at the time of the research by the 170 families; the layout of the plots, were proposed by a private company in 2014, originally hired by the government to work for regularization purposes when the new Urban Development Plan was being made. According to both leaders, out of the 170 plots occupied by families, only 71 had officially approved measurements. This meant that 99 families would have to be relocated elsewhere. Even though Leader B had more work done with the authorities and had reached the possibility of regularizing the settlement, the layout was not free. The layout had to be bought from the private company, at a cost of approximately £45.50 per family. This situation impacted negatively on Leader B's relationship with Leader A because, previously money (unaccounted for) had supposedly already been paid for plot access (explained in Chapter six). Only 18 families paid the money, all of them belonging to the group that still followed Leader B. It is important to clarify that the plans made by the private company were originally required by the municipality in order to engage in the regularization process for the new Urban Plan campaign. The plans however, were never paid for by the authorities. Consequently, leaders took on the job of acquiring those plans to speed the regularization process. At the time that this research was being conducted, FIBAZI's official plan was still being designed. In an interview, the Director of FIBAZI explained that the final version of the official plan would be given for free to the leaders. This confusing situation was misunderstood by some leaders, including Leader A which was under the impression that Leader B wanted the money to purchase FIBAZI's official plan.



Map 7-2 Layout designed by private company, 2014.

Diamante

In the case of this settlement, the present leader did not design the layout; no one did. The leader at the time 'sold' as many plots as he could, not being interested in the layout at all, and stacking as many houses as possible. As a member of the first group of residents who arrived ten years ago, the current leader, following the practice of others, simply selected plausible pieces of land and just took them. This situation accounts for the fact that the layout corresponds to no order, other than the topographic restrictions of the site; no green area, no open spaces feasible for social gatherings, and no proper walkways and alleys (see Map 7-3).



Map 7-3 Layout sketch of Diamante as per Google Maps and site visits, author's work.

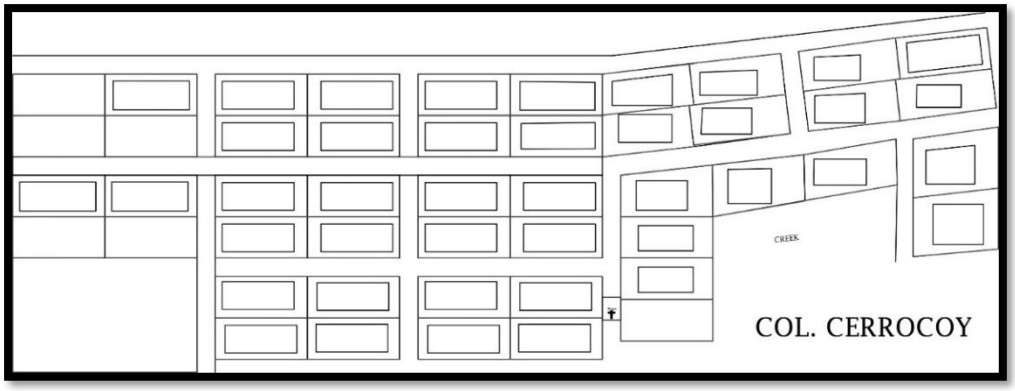
The present leader has been in the position for only eight years, and by the time she became leader, 83% of the population was already on the site, placed in a disorderly manner. The present layout contains 120 households.

7.1.2 Predesigned Settlements

Cerrocoy

Having the experience of 'creating' informal settlements as a background, the leader knew it was important to have a plan for it before welcoming the people. The leader designed the layout himself, considering a rectangular arrangement of plots and walkways as the defining variable for an organized place[114] (Map 7-5). The leader mentioned that he did consider the vagaries of the topography; nevertheless, walkways are steep, and some houses are located over landfill.

[114] Taking the reference of the city's downtown urban disposition, he mentioned.



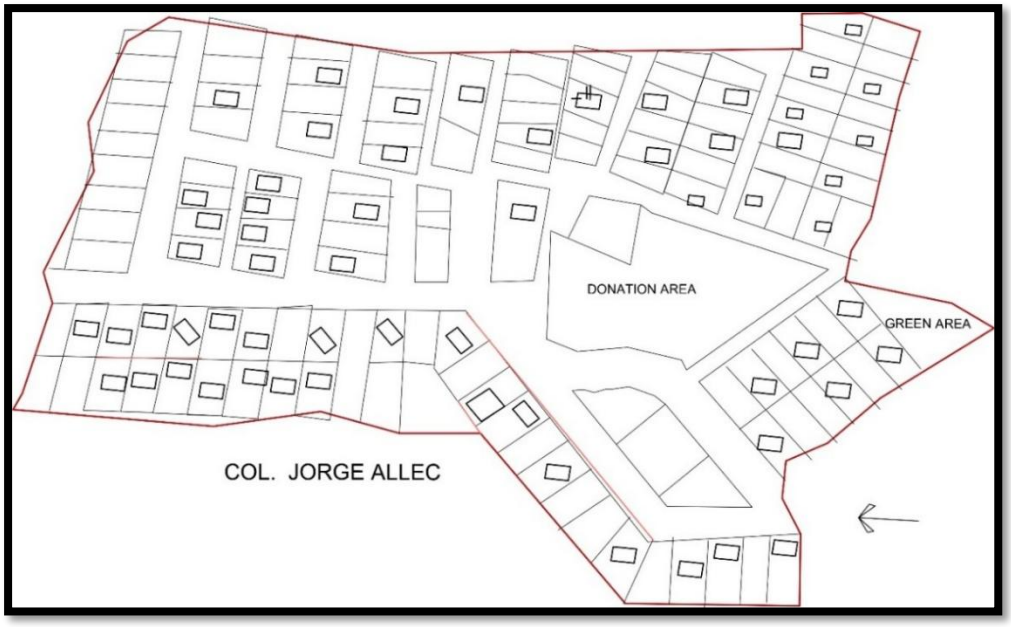
Map 7-4 Layout designed by leader.

The settlement is located over a small area of approximately 1 Ha., a portion of the original deserted area which was divided between this leader and another leader who also wanted to take over. Based on the area available, the leader allocated 60 plots, each around 100 msq and included in the settlement a 10% of donation[115] area and a green space.

Jorge Allec

A surveyor was hired by the leader to measure and delineate the boundaries of the settlement, divide the plots with proper measurements, define streets, and so on. The leader then assigned the plots to each of the families that were living there at the time. Also considered, were petitions which asked that, whenever possible, members of the same family could be located close to each other (Map 7-7); green spaces and donation areas for recreation were also considered. The donation area that was marked on the plan, however, is actually a very steep hill. Consequently, it could only be designated as a green area and left as such. The designed layout includes 140 households. For the location of the houses, there was an attempt to follow the layout so as to keep the settlement orderly.

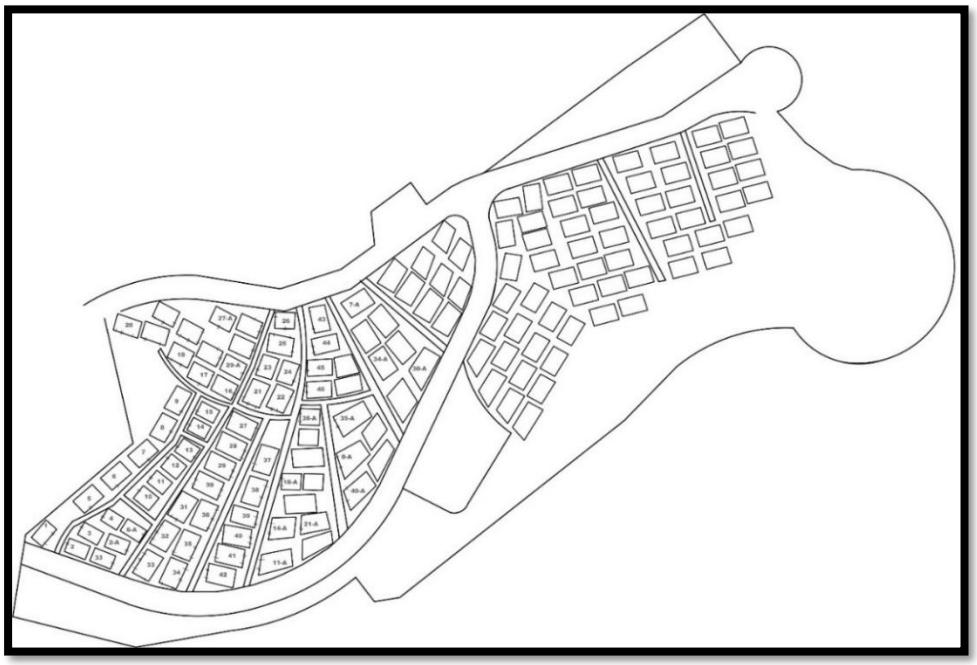
[115] Donation areas, are considered in the Neighbourhood Law in Mexico, as 'The area of land that the developer transmits to the Municipality, destined for urban equipment and green areas of the developments, according to the percentages established in the Law and in these Regulations, in addition to the roads' (Periodico Oficial del Gobierno del Estado, 2015).



Map 7-5 Layout as designed by surveyor, 2013.

Out of the 140 plots however, there are around 20 to 22 plots that remain vacant. Some residents had to leave for personal reasons. According to the Committee of the settlement, the leader plans to use the space as a playground area for children and also as a new location for people who, although they already live in the settlement, currently live in a risky area.

Amp. Las Joyas



Map 7-6 Layout designed by founder leaders

This plan shows the present layout of the settlement, designed by the leaders based on their previous experience; two main streets and very defined walkways can be seen. However, it can be noted that the left side of the settlement has more defined spaces and plot numbers, than the right side. This, as the leader explained, is because during the first part of the invasion, the leader had more time to define and accommodate the plots so that they would have an order; it was an organized invasion layout. The second side of the settlement, the newer one, was designed quicker because of the urgent requirements of an imminent regularization process a few years back, (the process of regularization never happened). This incident had a large impact on the residents. With little direction from the leader, people in need of a home took it upon themselves to take a plot. For the most part, people trying their best to act in an orderly fashion, just took a piece of land that they considered satisfactory.

The settlement has a total of 157 plots; only seven of them were abandoned. The topography of the place was considered, and the location of walkways and plots near creeks[116] was avoided as much as possible. Areas for recreation and commerce were assigned.



Figure 7-1- Commercial area in Amp. Las Joyas.

[116] The plots are so well located, that the government risk assessment study made on 2015 came out as land 100% safe for residential area.



Figure 7-2 Recreation area in Amp. Las Joyas

Walkways and alleys are spacious, and there is plenty of open space between houses (Fig 7-3, 7-4 and 7-5).



Figure 7-3- Spacious alleys in Amp. Las Joyas



Figure 7-4- Nice and big walkways in Amp. Las Joyas

There is a Catholic Chapel, and room for growth, as the leader mentioned. Although the plots were assigned based on an empirical planned layout, residents were made aware of the possible relocation of their official plot once the regularization process started.

Linda Vista

For the layout of this settlement, the leader was instructed about 'designing' settlements, by another experienced leader. It was suggested to him that if he decided to take the land, he would well advised to hire a specialist to measure appropriate plots and streets and make them consistent with the topography of the site.

A surveyor, who charged then £15.40 per plot was hired. There were some people who refused to pay. The leader explained, however, that if the survey process was completed at the beginning of the invasion, they would not be forced to move whenever regularization took place. Residents agreed to pay, as the most valuable thing residents of informal settlements have is their house. Each plot has approximately 100 sqm, which is just above the 90 sqm that the law requires as a minimal for a residential plot (Estado, 1994). The original plan had accommodated 150 plots (Map 7-8); at the time of the research, however, there were 175 plots on the site, including around 40 abandoned/unused ones (Map 7-9). The leader said that the 'owners' of these abandoned plots already have either a proper house in the city and, in order to save a spot, only have a shack (with a live-in caretaker) in the settlement. Some people have already taken two or three plots for themselves, arguing that the plots will be given to their family members when they grow older.



Map 7-7 Original plan of Linda Vista done by surveyor



Map 7-8 Layout of Linda Vista done by surveyor showing the actual location and occupancy of houses/plots.

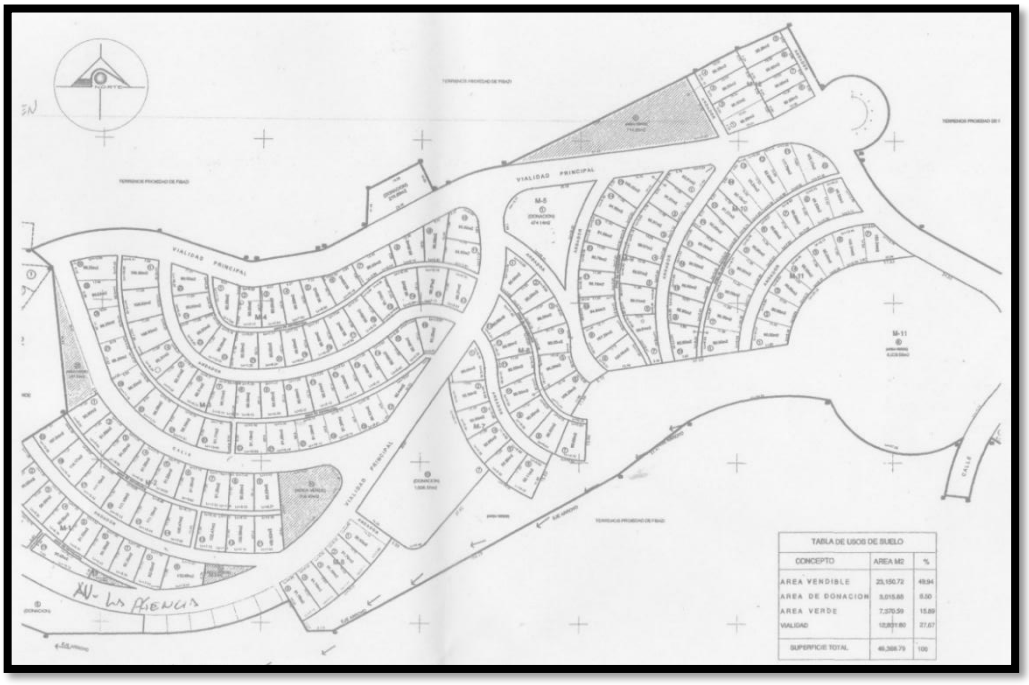
The plan designed by FIBAZI[117] however, considers only 165 plots, ten fewer than the existing ones. The leader has resolved this issue mentioning to FIBAZI that there are forty unused plots (including the ten), and that he would allocate the plots to the people that have been living there for a long time. He would assign them as caretakers of abandoned houses. As for the remaining space, (aside from the official areas provided by FIBAZI), he would designate areas for commercial and religious use and for green space. The leader has taken upon himself the role of a planner; his action is justified because he is taking care of his people, the very people who, since the beginning, had been struggling and working for the settlement. The leader will not allow anyone from another settlement to demand a plot of regularized land, or to settle there. He will not include in the official survey anyone who has been there for less than three months and has not let him know.

7.2 Official plans for regularisation and their impacts on the existing spatial layout

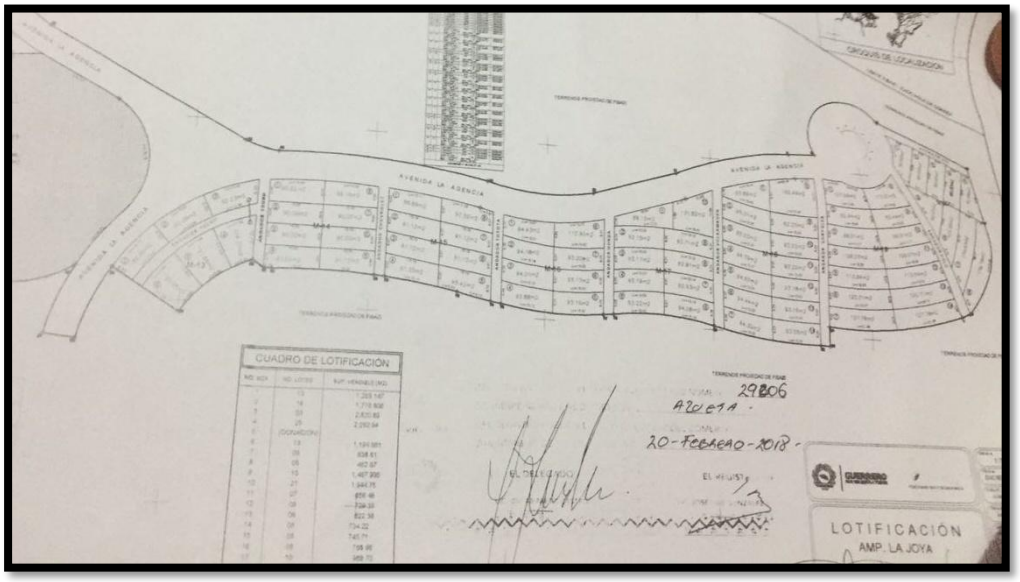
This section compares two settlements, one designed and one not designed, with the final and official plans of the government for each settlement. Settlement Amp. Las Joyas and settlement Diamante were selected for this detailed analysis for two reasons: firstly, each one is a very definite example of a planned or unplanned settlement; secondly, the official plans were ready and available at the time of this research.

[117] FIBAZI, Zihuatanejo Bay Trust, is the 'manager' of land in Zihuatanejo.

Amp. Las Joyas.



Map 7-9 Official plan of Amp. Las Joyas, from the Government first section, Gobierno Municipal, 2017



Map 7-10 Extension of the layout of the present settlement, Gobierno Municipal, 2017.

The official plan from the Government shown above in two sections, consists of a total of 280 plots. This plan was based on an approved extension located on available semi-flat land as well as a very spacious layout that had previously

been designed by the leaders. The government then plans to use those available additional residential plots to relocate people from other settlements whose houses are located in very high-risk areas.

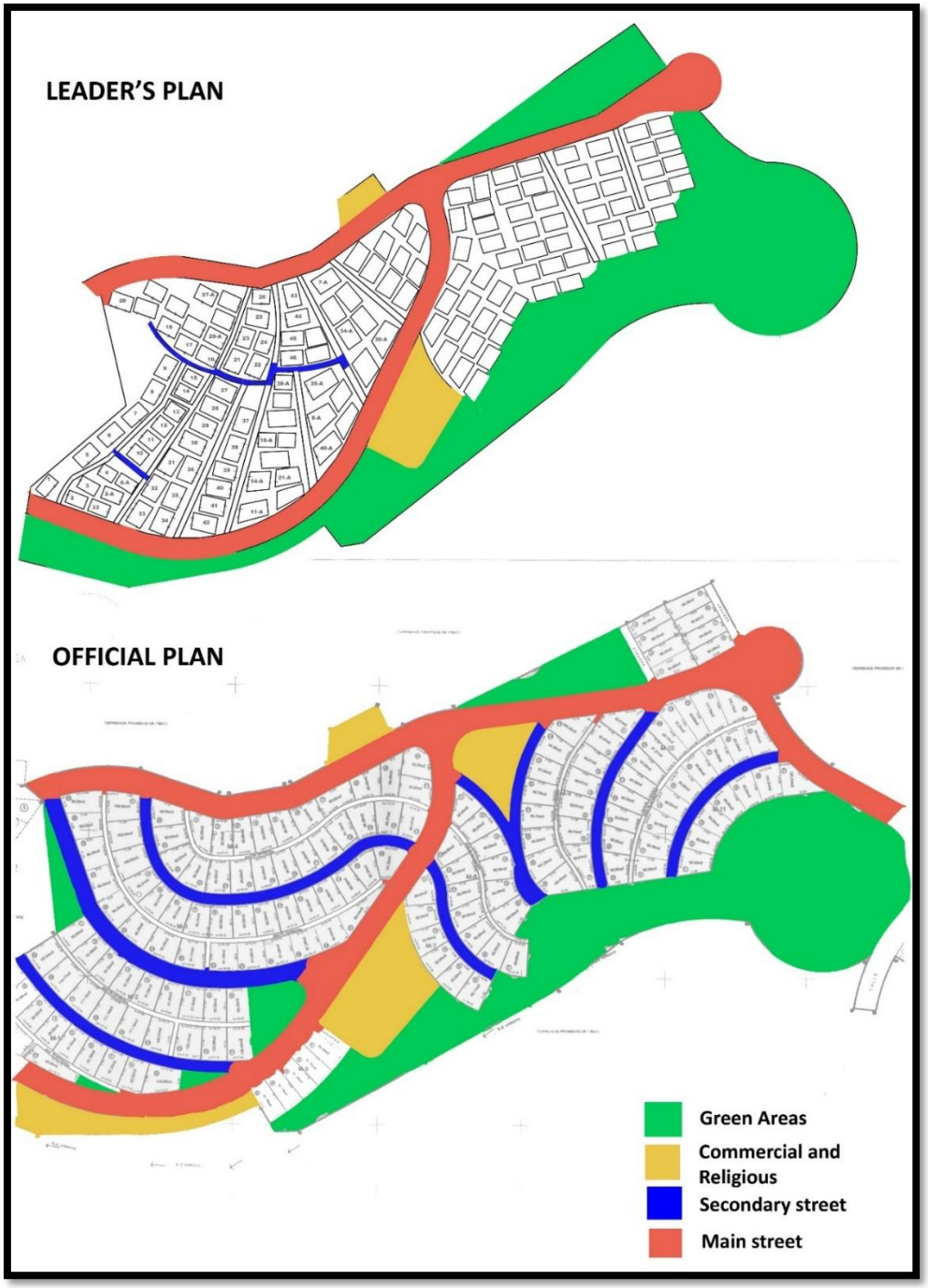
Shown below are the exact locations of the houses on the site, compared to the allocation of plots on the official plan. During informal chats, the leader mentioned that he would be allocating plots to the residents and would try to keep them as close to their original location as possible. He would also give priority to the current residents to stay where they had originally settled. It can be observed on the plan that existing plots are not scattered all over the terrain, but rather tend to follow the layout. Again, the work of the leader can be reflected in this example.



Map 7-11 Real location of plots marked over the official plans of the Municipality. Gobierno Municipal, 2017

Comparing these layouts emphasizes the role of the leader not only as a builder of a community who advocates for a group of people who wish to remain living together, but also, as an urban developer as well. Map 7-14 compares the allocation of streets, plots and services of the settlement. As it can be noted, FIBAZI has taken the layout of the leader as the basis for their design. The streets designed by the leader somewhat considered the topographic conditions of the site, and the main flow of vehicles within the settlement. Measurements of the main streets were maintained as originally designed. The

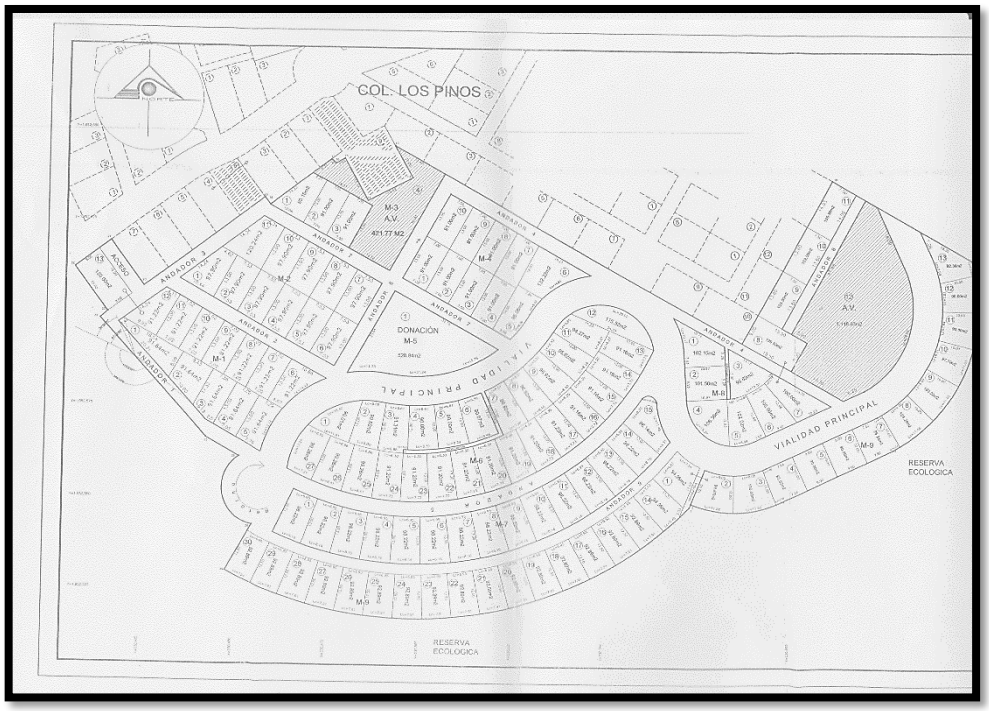
number of green areas had to be reduced to accommodate the correct measurements for the number of plots and to lodge some commercial areas. The recreation area and the Chapel were left in exactly the same place (Map 7-12).



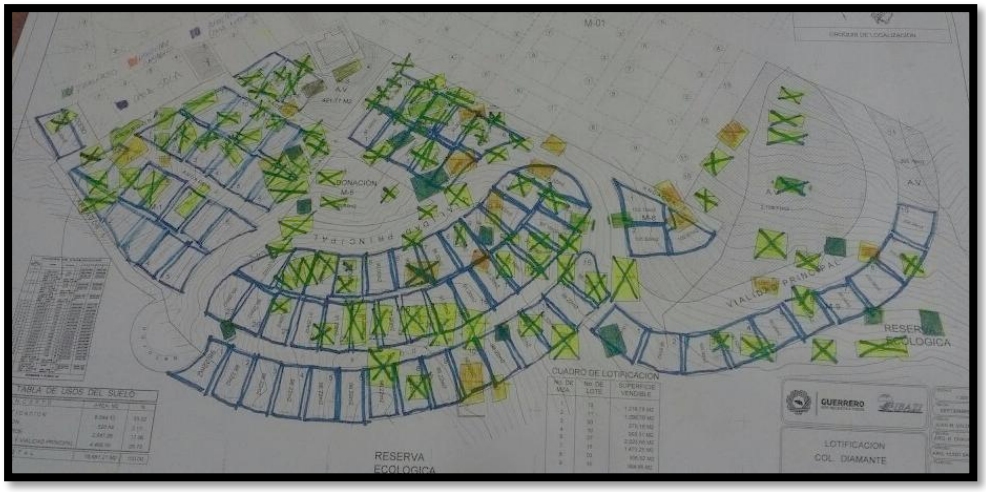
Map 7-12 Comparative layouts: Leader´s and Municipality's. Settlement Amp. Las Joyas

Diamante

The plan made by FIBAZI (Map 7-13) consists of 145 plots, with green spaces and donation areas for recreation. It is clearly obvious that all the houses will have to be moved around the settlement. This reality, however, does not bother the residents as they acknowledge that they knew it would happen with regularization. The residents admit that there was no order in the placement of their houses, because they did not know how to do it. According to them, the leader had further advised them not to invest too much in the construction of the house, as they would rather save their money to pay for the land once it is regulated.



Map 7-13 Official plan of settlement Diamante made by FIBAZI, 2017

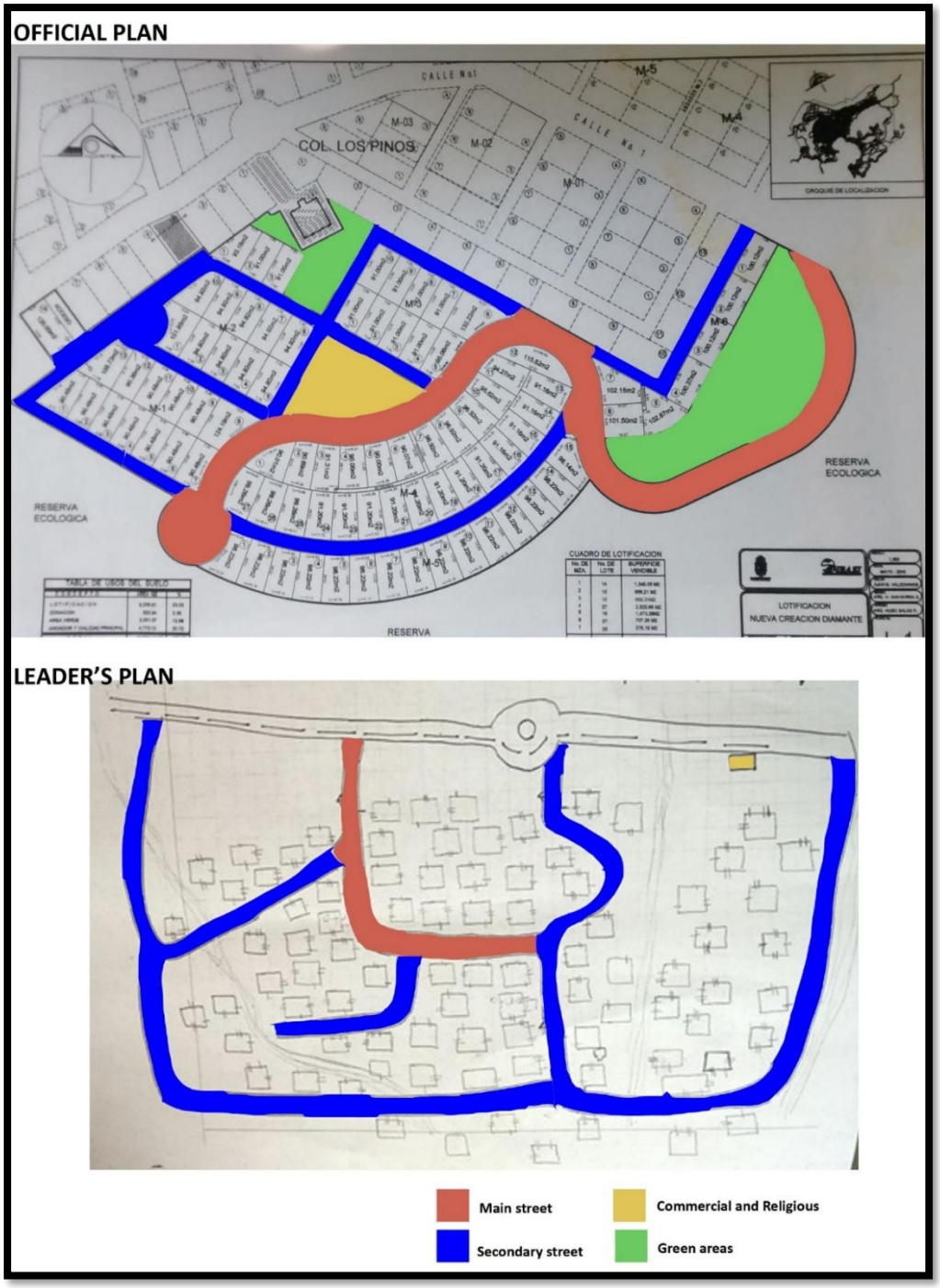


Map 7-14 Location of existing houses (yellow green and orange) superimposed on official layout (blue). Settlement Diamante, Gobierno Municipal, 2017.

The final assignation of plots is to be done by FIBAZI. However, input from the leader about these allocations was permitted. In order to minimize the impact on residents at the beginning of the relocation process, she focused her suggestions on the present location of each house.

Since this settlement did not have any design prior to the invasion, there were huge alterations to be made to the existing layout. In this case, as a benefit to the overall improvement of the settlement, there were many re-allocations of plots of land, as seen in the comparison below (Map 7-17).

The official layout now provides proper green and commercial areas, vehicle access and official boundaries.



Map 7-15 Comparative layouts: Leader´s and FIBAZI's. Settlement Diamante

7.2.3 Redesign, reallocation, vacancy and transferring – roles of the community leader and the municipality.

Vacant plots and transferring activities also affect the final allocation of plots to residents. Keeping track of plots is also the responsibility of the leader, as he/she determines who is allowed to stay and where; some leaders even design the layout with room to grow, to allow growing families to locate nearby. As

residents of settlement Jorge Allec mentioned: "*I have an 18-year-old boy, who might get married soon and have a family, so I want a plot for him*". Also, the irregular state of the tenancy of the land allows for the transfer and illegal resale of taken plots, as well as the abandonment of some at any moment. This constant changing of occupancy of plots is generally noted by the leader, who then re-assigns the vacant plots to groups of families that live on only one plot.

However, the main problem arises in some settlements when dealing with reallocation of plots during the regularization processes. FIBAZI looks upon settlements as a single issue to be dealt with, and most of the time, does not bother to consult the leader about available plots of land for people in need. For example, in settlements Jorge Allec and Linda Vista, FIBAZI plans to use all the unoccupied plots to relocate people in risk areas, whether they come from the same settlement or a different one. The leader of settlement Linda Vista mentioned that if FIBAZI tries to relocate people from other informal settlements, he will raise a commotion with the authorities; while the residents of settlement Jorge Allec do not agree with people from other settlements being relocated in their settlement.

Unlike other settlements during the design meeting for the regularization process, the leader of settlement Amp. Las Joyas was allowed to participate in the final and official design of the settlement. He was allowed to comment on the agreement that they had made together. He provided his input about the future of the settlement and what features should be included and where. He, for example, urged the inclusion of a multi-sports court and the retention of the chapel where it was. The extended area shown on Map 7-10 above represents, as previously discussed, an agreement about the allocation to other settlements of residents living in risk areas.

Table 7-1 Tracks empty or abandoned plots per each of the eight case studies.

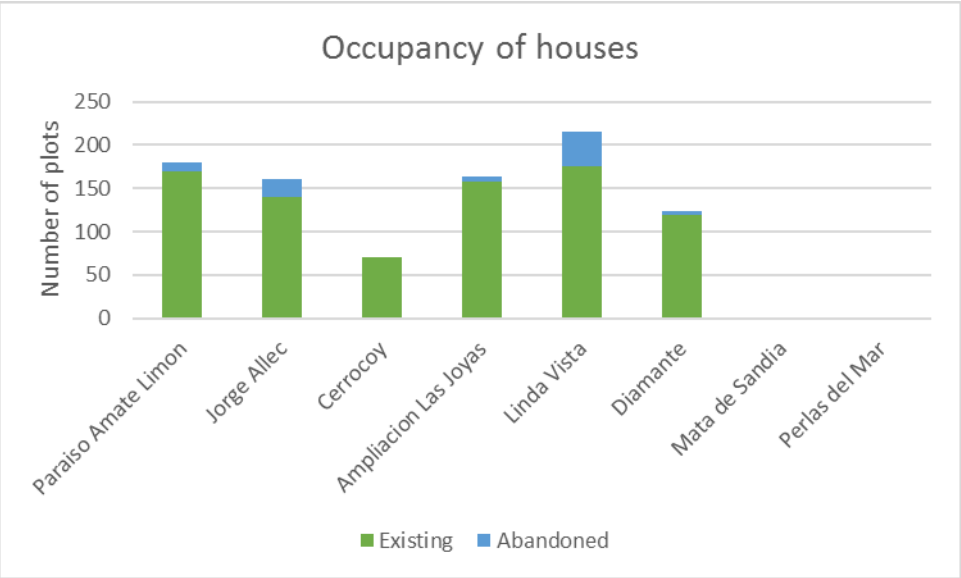


Table 7-1 Occupancy of plots

Leaders of the settlements Perlas del Mar and Mata de Sandia did not have a record of the exact number of houses occupied or vacant; the main reason being that these settlements were not yet part of the official process of regularization. As mentioned before, Mata de Sandia is an old settlement that exists as a small village and does not aspire to be included within the city boundaries. The leader of Perlas del Mar is apparently in no hurry to regularize the place, as residents mention: "*we still have to pay her monthly*".

The final intention of any illegal settlement is to get legalized. A decision to predesign invaded land prior to settling residents may seem obvious. The reality is that not all settlements are worth the same, as not every settlement has access to the unique talent for planning and organization that the leader provides. The leader has value. The leader allows the community that has been formed to remain as it is when regularization happens. The priceless contribution of the leader eases the work of the municipality, speeds up the process of regularization and reaches the final goal of attaining land tenancy for the residents.

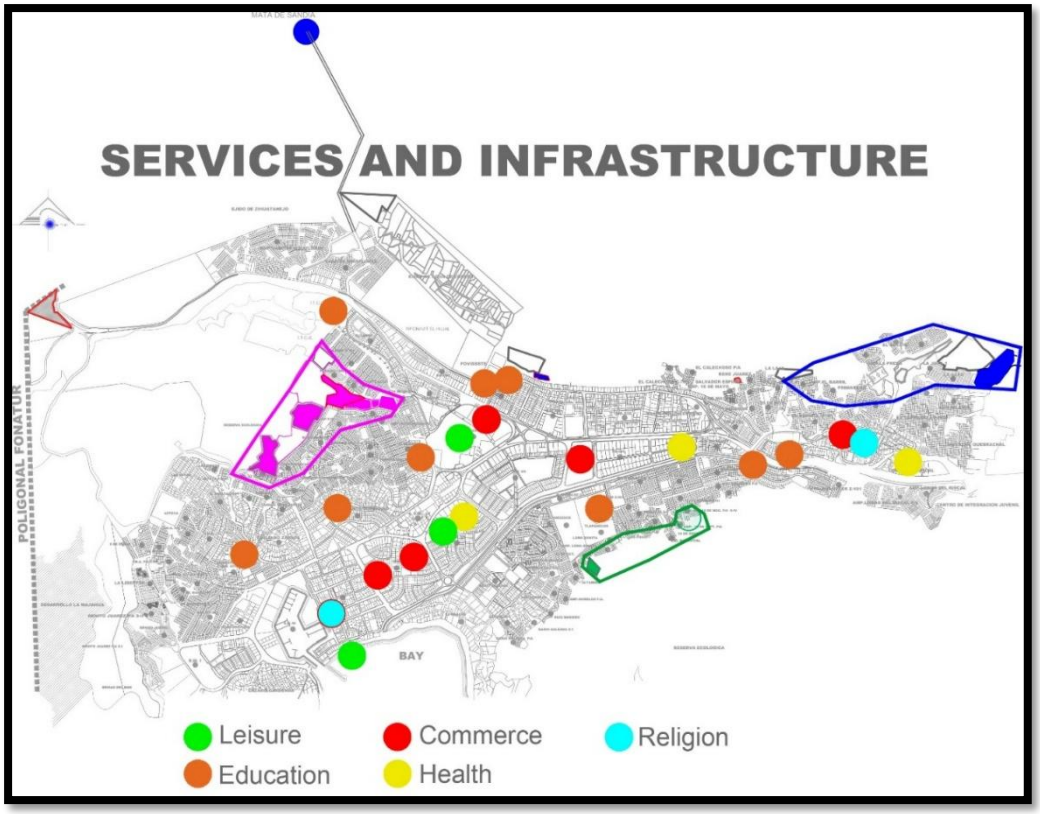
7.3 Socio – Spatial Implications (City Scale)

When analysing place attachment, the variable of dependence often refers to the location of the place in reference to its ability to satisfy people's needs (Stokols & Shumaker, 1981). Place dependence is one of the two variables that are usually quantified to measure the degree of place attachment (Williams & Vaske, 2003). On the physical side, depending on the scale of measurement[118], this variable analyses the intensity of the relationship that the inhabitant has with the city or the settlement, regarding the satisfaction of their necessities such as work, food and leisure. In this section, city scale was quantified to find out how dependent residents are on being close to the town centre. Based on their degree of attachment to the place and their sense of dependence on that attachment, the results could be used to infer whether or not residents would be willing to relocate.

As part of the research to determine the actual dependence of the sites in relation to the location of the city, a workshop with residents of six case studies[119] focused on identifying their workplaces, and the locations of their leisure activities and other social relationships. Known as Participatory Mapping Technique, mapping and measuring distances to the places they visit the most outside the settlement, and mapping place attachment to find graphic ways to express and quantify the variables, has been used by numerous researchers (see Brown, Raymond, & Corcoran, 2015; Raymond, Brown, & Weber, 2010). Distance, rather than area, was then measured and analysed to find the mean for each variable. Establishing, under the concept of 'home range' (Brown, et al., 2015), that the shorter the distance from home to the city, the more dependent they are on it.

[118] Dependence to Home, Neighbourhood or City are the scales normally measured according to studies from Brown, Raymond & Corcoran (2015).

[119] Since Mata de Sandia and Perlas del Mar leaders were hard to find, there was not much access to their settlements, so workshops and informal interviews were just done with Amp. Las Joyas, Linda Vista, Diamante, Jorge Allec, Cerrocoy and Paraiso Amate Limon.



Map 7-16 Location of services and infrastructure in the city in relation to the location of informal settlements.

The map 7-18 above shows the location of main available services and infrastructure of the city, and the three sections in town where informal settlements are mostly placed. From the north-west part of town (settlements Linda Vista, Cerrocoy, Paraiso Amate Limon, and Jorge Allec), going into the city, 1.5 km away, takes around nine minutes by car, 20 by public transportation, and 22 by foot[120]; which, to avoid expense, is a very common option taken by the residents on their way downtown, Fig.7-5.

The researcher personally did walk down from the settlement into town.

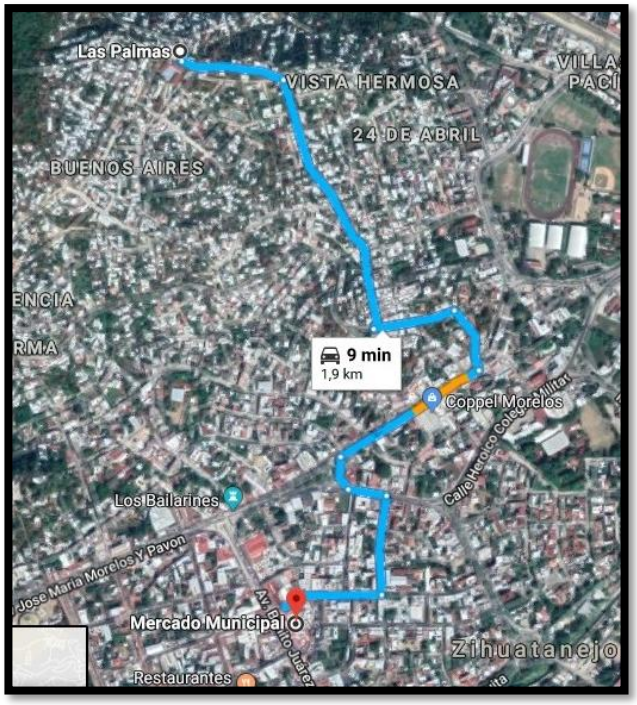


Figure 7-5 Distance to town centre from the north west of town.

From the south-east part of town Fig. 7-6 (Diamante, Perlas del Mar), going into the city, 2.5 km away, takes around 10 minutes by car, 20 by public transportation, and 30 by foot; residents of these settlements rarely walk to the city centre as it is perceived as too far; however, as it can be seen on Map 7-16 above, facilities for health, education and commerce are closer; hence the lesser need to get to the main town centre.



Figure 7-6 Distance to town centre from the south east of town

From the north-east part of town Fig. 7-7 (Amp. Las Joyas), going into the city, 5.6 km away, takes around 18 minutes ride by car, 30 by public transportation, and an hour by foot; residents of these settlements never walk to the city centre; as can be seen on Map 7-16 above, facilities for health, education, religion and commerce are closer to that area, hence the lesser need to get to the main town centre.

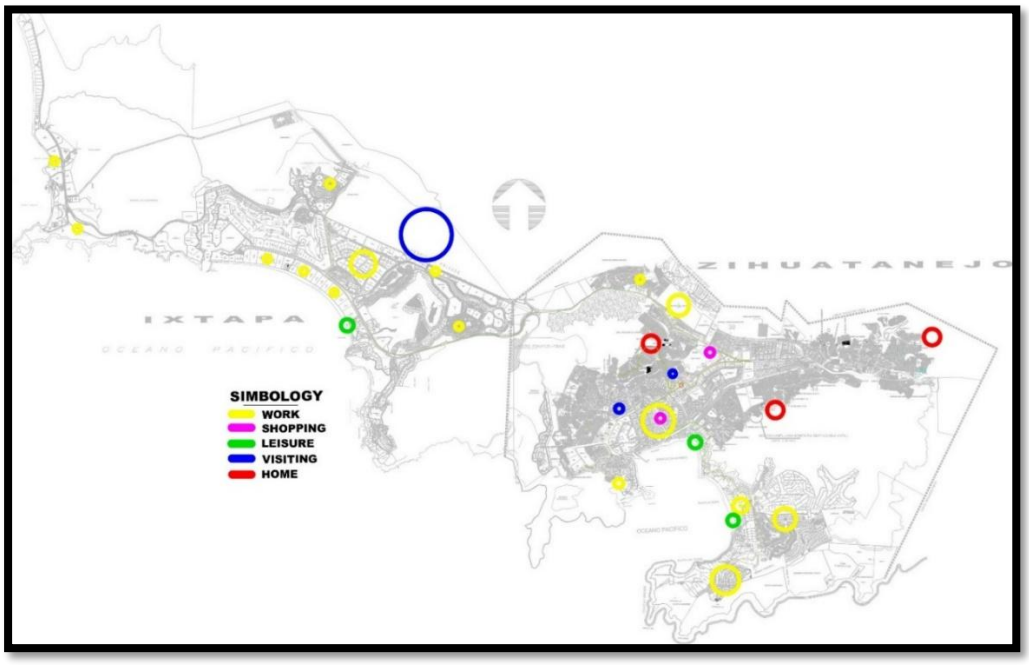


Figure 7-7 Distance to town centre from the north east of town

Perceived distance was also accounted for through informal interviews with focus groups. This was only done in the three selected settlements (one of each type of governance as previously explained in chapter six). To fully understand the range of dependence that residents have on the settlement, it was important to acknowledge the way each resident experiences the location of their settlement in relation to their satisfaction with the meeting of their basic necessities. Residents mentioned that work, school and shopping were their main connections with the city. However, as explained in Chapter 5, Zihuatanejo, along with Ixtapa are tourist destinations; most of the residents work in tourism and more than 50% of that activity is done in Ixtapa (Map 7-17), whose town centre is around eight kilometres from the town centre of Zihuatanejo. Distances to work places vary from seven to fourteen kilometres, depending on the settlement. For these residents, public transportation is the only option. It is precisely due to the availability of public transportation that

residents from Amp. Las Joyas mentioned that they perceived that the settlement was close to the city centre.

Even so, some residents did perceive the settlements as being distant, mainly because of the specific location of their houses within the settlement itself (the top vs the bottom of the hill). Here again, layout and the leader's influence can affect the final attachment to the site.

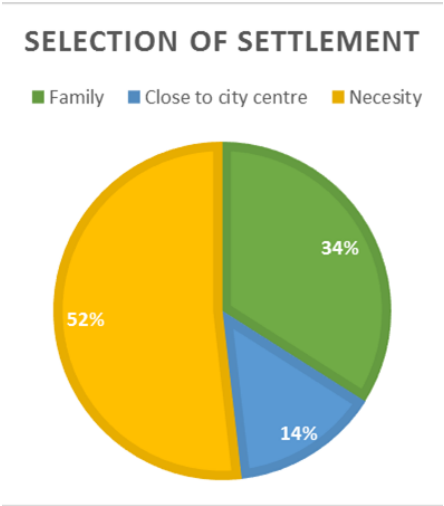


Map 7-17 Location of work, leisure, shopping and visiting places in town, in relation to each settlement.

7.3.1 Settlement selection preferences.

In informal settlements, the particular variable that was revealed from the surveys of all eight case studies as the main reason for choosing to live in an informal settlement was the need for a home (Graph 7-1); and not necessarily being close to the city centre as a place where the basic living needs are satisfied, or close to family, as it would be presumed to be. During informal chats, when asked about the possibility of relocation, either within the same settlement or in another part of town, 60% of residents, primarily those whose bonds to the community are weak (further explained in chapter eight),

mentioned that they would not be opposed to relocation as long as they were given a place to live.



Graph 7-1 Reasons for selecting a settlement.

Expressed on the graph 7-1 above, there are three main reasons for choosing to live in an informal settlement. Place dependence in informal settlements is not limited only to work, food and leisure. Informal settlements, more than formal settlements, are embedded within a socio-economic context. The 14% and 52% shown on the graph 7-1 relate mainly to income, a variable that was found in the pilot projects to have a major impact on the measurement of place attachment in informal settlements. The longer the distance they must travel to work, the more they pay in transportation fares; so being close to the work place when income is scarce loads the place with high residential value.

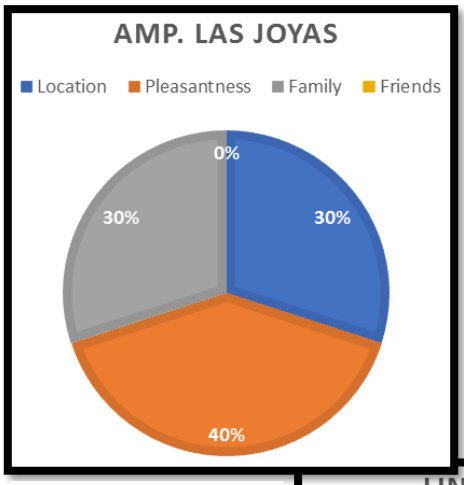
Zihuatanejo currently has around ten informal settlements that were created around the same time (approximately ten years). Even when everyone shares the main reason for 'choosing' to live in informality (necessity); this research has tried to understand the reasons beyond that; by focusing specifically on the selection of one settlement over the other, as an additional physical predictor of dependence.

For some residents more than others, living close by, able to satisfy specific personal needs was the key variable for their attachment to the place. As one resident mentioned, she would not accept being relocated unless the school for

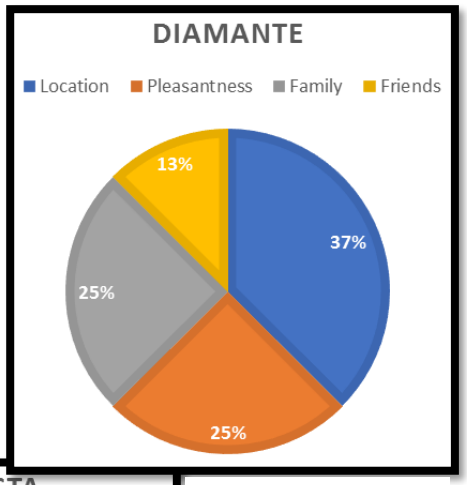
her special needs' daughter was still close by. Others would not accept relocation because of all the work already invested in their home, or simply because their address was known to other people. Below are comparative charts of three settlements as per the results from the informal interviews.

Mentioned in Chapter three, places have a 'natural spirit', a special atmosphere of the place itself due to its given natural characteristics; so, for all the participants who responded that they chose a settlement because it was pretty or seemed very tranquil, that natural spirit played an important role in attracting residents to the place

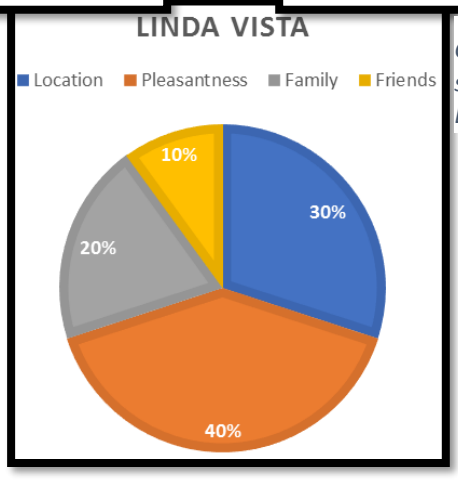
Graphs of Amp. Las Joyas (7-3) and Linda Vista (7-4), show that pleasantness played an important role as a variable of choice for the residents, meaning that they considered that these places have a natural beauty; while location did not seem to be a defining variable for the selection of these two settlements, in comparison with the settlement Diamante, where location was indeed a defining variable.



Graph 7-3 Reasons of selection for settlement Amp. Las Joyas



Graph 7-4 Reasons of selection for settlement Diamante



Graph 7-2 Reasons of selection for settlement Linda Vista

This dynamic and the intangible character of the place as perceived by residents, was also to be reflected in the naming of the site and streets, as will be further explained in chapter eight. Therefore, the selection of each settlement was a response not only to a need for a home and the need to be close to the city centre, but it was also a way to seize the opportunity of being close to their families and friends as shown in graphs 7-2, 7-3, and 7-4; where family and friends account for 30% of the reason for choosing a settlement.

The city has grown mainly because of families of people who came into Zihuatanejo during the economic boom of the 1980's. Informal settlements, as narrated in Chapter five, have grown due to the need of the descendants of those families to have a home. The descendants of the displaced owners of ejido land, and also those who still come in from other towns in search for work, generally already have family members living in the town. Table 7-2 shows the origins of the residents of these eight case studies, exemplifying the reality that people want to be located close to their family; over 60% of the residents of the case studies were already residents in Zihuatanejo[121] and only 40% are 'new' immigrants[122] in town. These data support the theory of Mangin and Turner (1968) regarding the origins of some informal settlements.

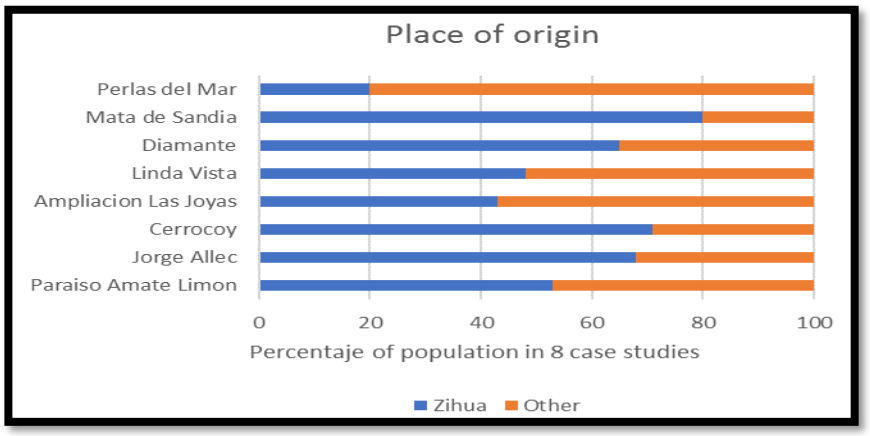


Table 7-2 Place of origin of residents of 8 informal settlements

[121] Participants considered themselves as being from Zihuatanejo if they were born in Zihuatanejo.

[122] New immigrants, as participants considered themselves, are people who moved to Zihuatanejo as grownups.

The history of growth of Zihuatanejo, then, has had an impact on the way that groups of families created and amalgamated informal settlements. We can also see what ejido land in Mexico once was like. As explained in chapter two, ejido lands were large tracts of property, where families lived together.

7.4 Socio - Spatial Analysis (Settlement scale)

Interviews and surveys were conducted to determine the effect that the urban/spatial layout has on social development. Questions explored the type of leadership, the physical characteristics of the place and the development of social relations within the place. A mixed type methodology was pursued to gather and compare data for validity. Documentary evidence such as official governmental plans and reports was gathered. The observation process took place as a structured observation was due mostly to two reasons: (1) the restrains of time assigned for the research and (2) researcher's safety.

Weather conditions were good by tropical standards, as the temperature was approximately 30 – 32 °C (winter) with clear skies for all the days that the sites were visited. Although temperatures in summer fluctuated between 30 – 38°C, with heavy rain and wind, visits during the summer avoided the days with these conditions, as they would have been risky for the research team and the researcher. The timing of each visit varied, as one of the main objectives was to capture the vitality of the place, for the whole week (including the weekend).

In order to understand the socio – spatial relationships in the informal settlements, an adapted Space syntax analysis was used as a format to understand qualitatively the way that spatial layout of the settlement affects or benefits the development of social relationships within it.

Spatial arrangements in informal settlements have been considered disorderly due to the rapid occupancy of the land. Occupancy is improvised and illegal, so it must be done quickly. ''*The simulation of dwellings -paroi, ranchos, shacks- arranged everywhere have this transcendental mission. Ranches arise without responding to any established order, no matter where or how*'' (Garcia de

Hernandez, 2006). Although relevant to most informal settlements, it is, however, not universally applicable as found in these case studies. Spatial arrangement depends enormously on the type of leadership or lack of it, as it was shown previously. This has significant implications on the social life of the settlement, as will be explained with the following analysis.

7.4.1 Adapted Space syntax analysis

Explained in the Methodology chapter, the adaptation of space syntax consists of integrating a tri-dimensional variable to the analysis of visibility and connectedness of the settlement. Rather than use sophisticated software to analyse connectivity, it was used as a factor to highlight the connection between connectivity and care of place.

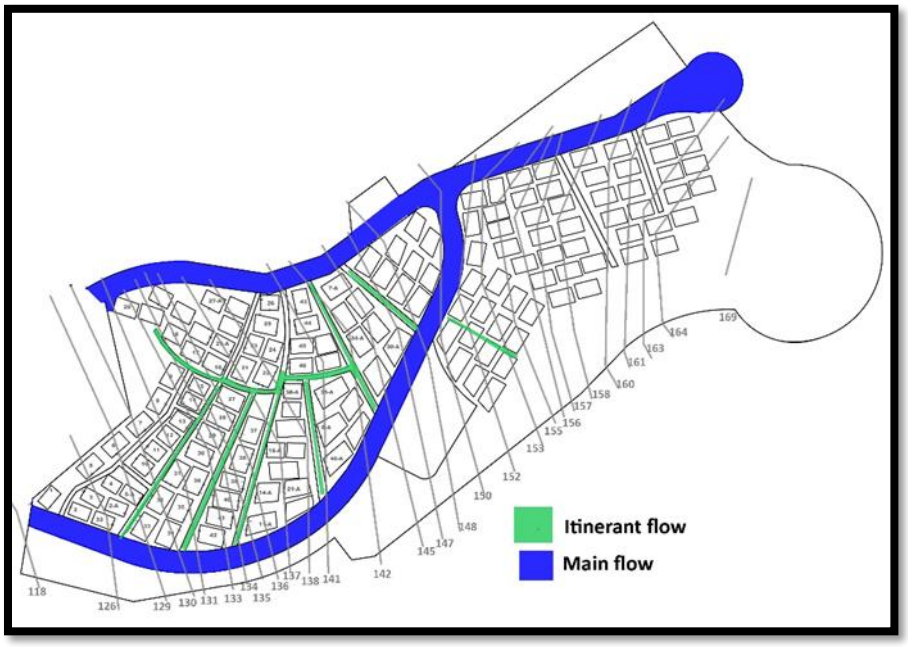
Movement patterns

Movement patterns were traced based on walks and observations made by the researcher during the site visits.

Having pre-designed layouts in the settlements Linda Vista (Map 7-20) and Amp. Las Joyas (Map 7-21), has made orderly movement patterns possible.



Map 7-18 Pedestrian transit paths, settlement Linda Vista



Map 7-19 Pedestrian transit paths, settlement Amp. Las Joyas

These patterns mostly follow the topography of the site, defining routes up and down the settlement.

While settlement Diamante (Map 7-22) reflects an unplanned layout, movement patterns are the reason for the actual location of plots and main transit routes.



Map 7-20 Pedestrian transit paths, settlement Diamante

Movement patterns can indicate the frequency of use of a specific place within the settlement; they can also show the connection between a well-cared for walkway and relationships among neighbours. As mentioned earlier, the settlements are located on steep hills; this restricts or rather defines the main movement patterns as up and down the hill. In most of the settlements, the hill has become their *de facto* main street, having nearby connections to public transportation. In the majority of cases, these main streets are used or are to be used as a vehicle access, so they tend to follow topographic curves as much as possible. People prefer to walk on them even if they take longer because they are safer than the steep walkways. The secondary movement patterns are then each resident's access path to their own home. Even though this might seem obvious, the constant flow of people keeps the neighbouring houses in the lower part connected to those neighbours on the top of the hill. A constant 'hello' and 'good day' is heard all day as people go to work, school or shopping.

Contrary to what the topography would suggest in terms of movement inside any settlement, it was observed, narrated and experienced during the site visits, that residents move towards the access point that connects with public transportation, either uphill or downhill depending on the geographical location of the settlement. The choice of routes within the settlements differ according to the location of each resident's home, and/or age group. Clearer, safer and faster routes are not the same for every resident, even in the same settlement (further exemplified by the sketch maps shown in Chapter eight).

Connectivity

Connectivity is considered in space syntax as a static measure of integration (Hillier, 1996). The case study sites should be considered as compact areas as all have clearly defined boundaries which take the form of a creek, a neighbouring settlement, a main city street or a river.

Although typical Space Syntax analysis does not consider the type of material from which streets are made; in the case of informal settlements, this variable can either add to or subtract from the measure of connectivity of the place. As was observed from the main transit paths referred above, residents prefer to

walk the safer paths rather than venture out on only compacted dirt ones. Especially during the rainy season, as one resident narrated, sometimes it gets so dangerous to walk out of the house that people stay trapped inside, until the paths are safe to walk again.

Properly built paths can enhance fluidity of movement. Dangerous and risky walkways can impede, delay and even prevent easy transit flow. Figure 7-8 shows the different types of material from which the paths of the settlements are made. The materials used in creating pathways is an important variable when analysing the connectivity of a place. This has social implications.

Disregarding evident level differences, this connectivity then relates to the



Figure 7-8- Materials commonly used on paths

topological steps between paths and entrances to houses as shown in Figure 7-11. The obvious topographical implication of the location of the houses in this example, which was not a designed layout, does not necessarily affect the depth of the topological measures. Most of the entrances to the households are directly connected to the walkways, and only some have used a vacant plot or a friend's/family's plot to access their home; others have located their house further back from the main path to gain privacy. Although, in this case and due to the topographical implications of the land, having just one topological depth

does not mean that it has high constitutedness, as can be shown in the Figure 7-9 (which is applicable to most informal settlement on the site). Here, the lack of visibility is due to the height differences of the terrain, and does not allow for a ʻsafer, lively and intervisible placeʼ as Shu (2000) mentions.

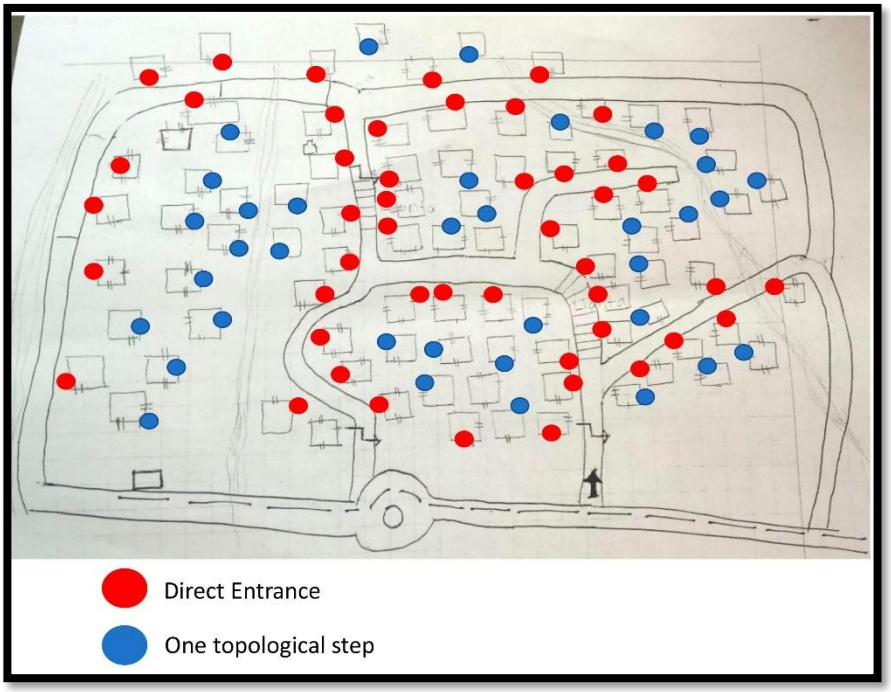


Figure 7-9 Topological depth of houses, example of settlement Diamante.

Topologically[123] speaking, since the settlements are embedded in steep terrain, connectedness can be a difficult issue to analyse in a two-dimensional study.

Connectedness in this case is directly related to topographical conditions as observed during the research on site. Level differences of the terrain determine the connectedness of the whole. The section shown in figure 7-10 illustrates an example of the typical topographical conditions of the case studies, where topography indeed is an important variable influencing the possible development of social relations.

[123] Topology, from the Greek ΤΟΠΟς, place, and λόγος, study.

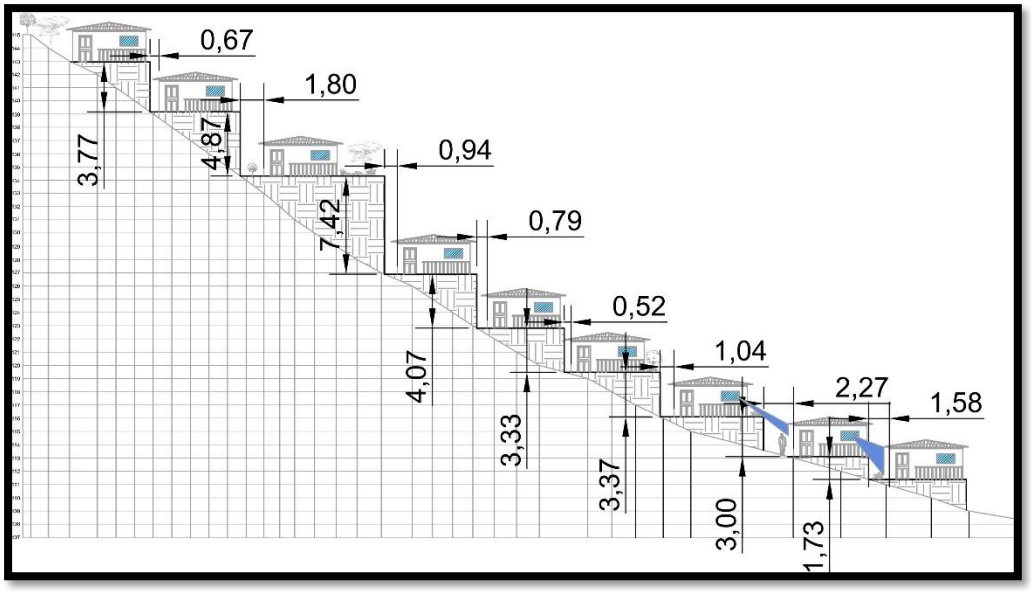


Figure 7-10 Topographical implications for visibility. Example of settlement Diamante.

Proportions to visibility

Segment	Height	Distance	Ratio	Connectedness
1	1.73	1.58	0.91	GOOD
2	3.00	2.27	0.76	MODERATE
3	3.37	1.04	0.31	NONE
4	3.33	0.52	0.16	NONE
5	7.42	0.94	0.13	NONE
6	4.87	1.80	0.37	NONE
7	3.77	0.67	0.18	NONE

Table 7-3 Visibility proportions, settlement Diamante

As the ratio of height and distance between houses increases from 1, the connectedness decreases; hence, a lively sense of community as well as possible social connections among neighbours are less likely to be the case. Then again, as will be further explained in the next chapter, the influence that the leader has on the community can increase social interaction.

Segment Connectivity

Segment Connectivity analysis is often used for criminology studies, as to where 'escape routes for criminals' are located within a plan. It was mentioned before that informal settlements are commonly used by criminals as 'stake out' areas due to their high location and overview of the city. It is not only location that criminals are looking for. As the layouts of some of the locations are ill defined, there are few opportunities for much segment connectivity. Due to the lack of proper planning and combined with difficult access paths, confusing layouts are created. The three-dimensional study of segment connectivity in this research, shows that topography is an important variable to account for in space syntax studies, as a Z dimension that also is a viable living space. In this case, empty plots and houses, narrow alleys, creeks and steep topography, create the perfect hideout for drug dealers. It was observed and narrated by neighbours of the unplanned settlements that drug dealers live in their settlements and that people have been killed and found dead two or three days later. Burglars are common; but they do not necessarily rob neighbours. The lack of properly connecting paths further facilitates these types of activities.



Figure 7-11 Pictures illustrating the narrowness of paths, settlement Diamante.

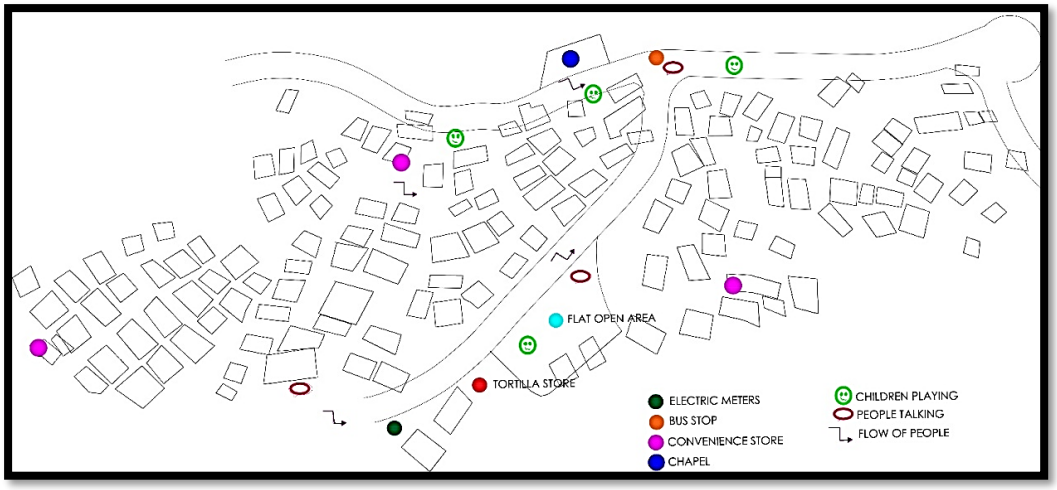
7.4.2 Use of Place

Place-making theory postulates that people make places their own. For this research, I am taking the opposite approach (explained in the methodology

chapter). Socio- spatial implications were analysed not as space being a reflection of who people are (Cooper Marcus, 1995), but as people being and acting as a reflection of what the space/place gives them.

Each settlement layout has a direct relationship with the type of leadership: the development, improvement, and the presence of services and infrastructure specified on chapter six. This section analyses the use of the place in three settlements as per the categories proposed in that chapter. Based on the location of infrastructure, and the impact of services in the everyday life of the residents of Amp. Las Joyas, Diamante, and Linda Vista, the aim is to develop a more objective visualization of layout and to compare the impact of the type of leadership on layout and the development of social relationships.

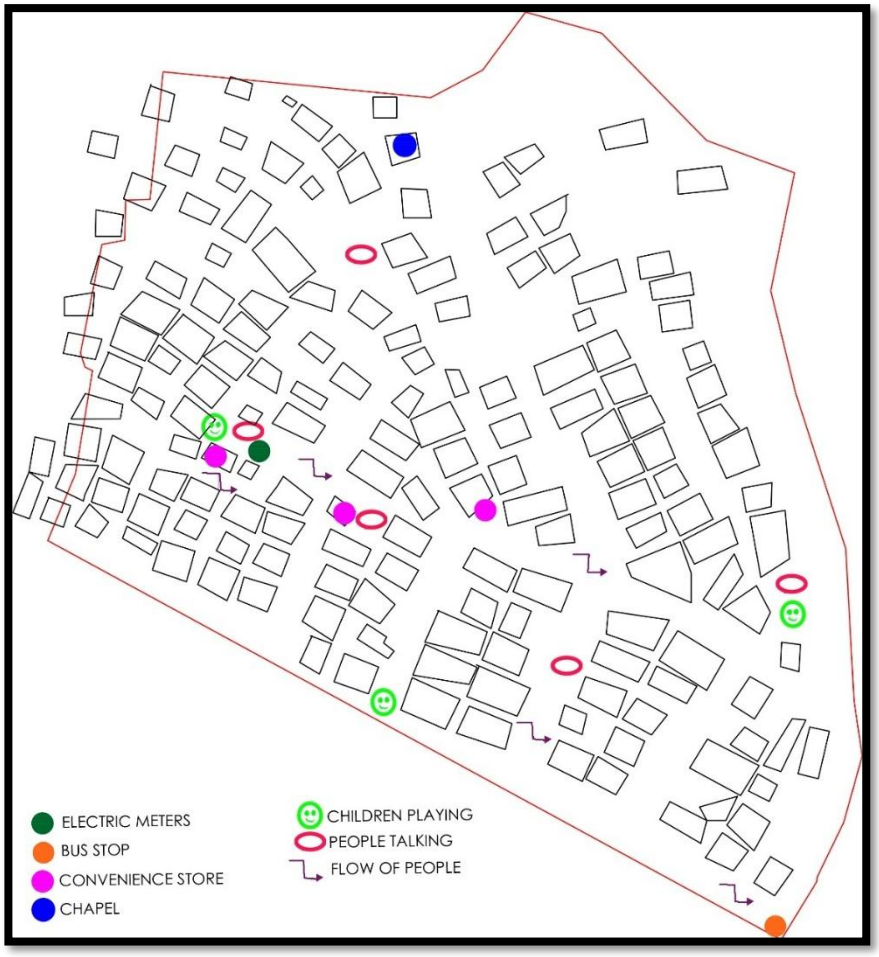
As observed during the site visits, the two most visited areas are the convenience store and the chapel, (the latter less so). As most of the transit paths are made of compacted dirt, all the pathways are intended for pedestrian use except for the main road in the settlement of Ampliacion Las Joyas. As explained by several interviewees, the location of these pathways allows (or forces) social interaction on an everyday basis. As they go to work or to school activities, people need to pass through stretches of land between houses. These repeated actions also develop a 'sense of (and for) place' (Wunderlich, 2018). The maps below show the actual location of the plots of land and the boundaries of the settlements and they indicate the location of services and infrastructure in the three settlements. In addition, as observed on site by the researcher, the maps indicate the location of the busiest or most frequented places in each settlement.



Map 7-21 Services and used places. Settlement Ampliacion las Joyas



Map 7-22 Services and used places. Settlement Diamante



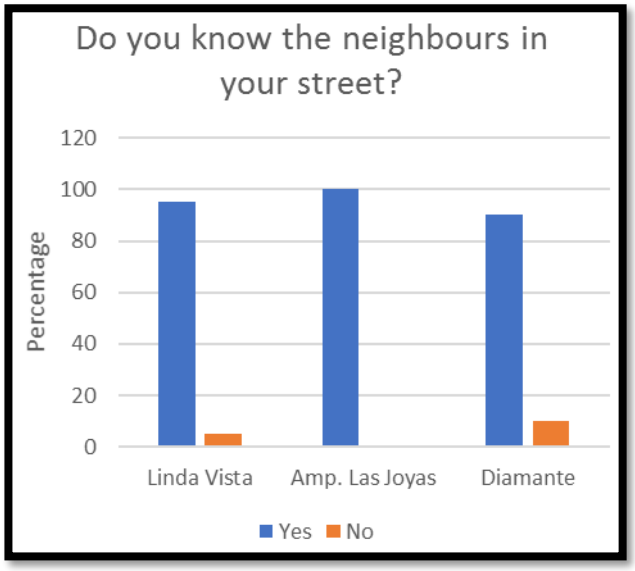
Map 7-23 Services and used places. Settlement Linda Vista

The most used areas in all three settlements are reasonably similar: the convenience store, the bus stop and the chapel (for those who have one). It can also be observed that in settlement Ampliacion las Joyas, the flat open area also allows for people to congregate, while, contrastingly, in settlement Diamante, there was barely any outside social interaction observed.

7.4.3 Socializing with neighbours

Size matters (Kasarda & Janowitz, 1974), and residents of the eight studied settlements all know each other. The settlements are relatively small (the largest has up to 170 families), 90% of the residents responded they did know their neighbours, even the ones who rarely do community work or those who live where the layout is highly irregular. The graph 7-5 shows the survey results from the three settlements related to the question "*Do you know the neighbours on your street?"* These findings do not mean that there is a strong

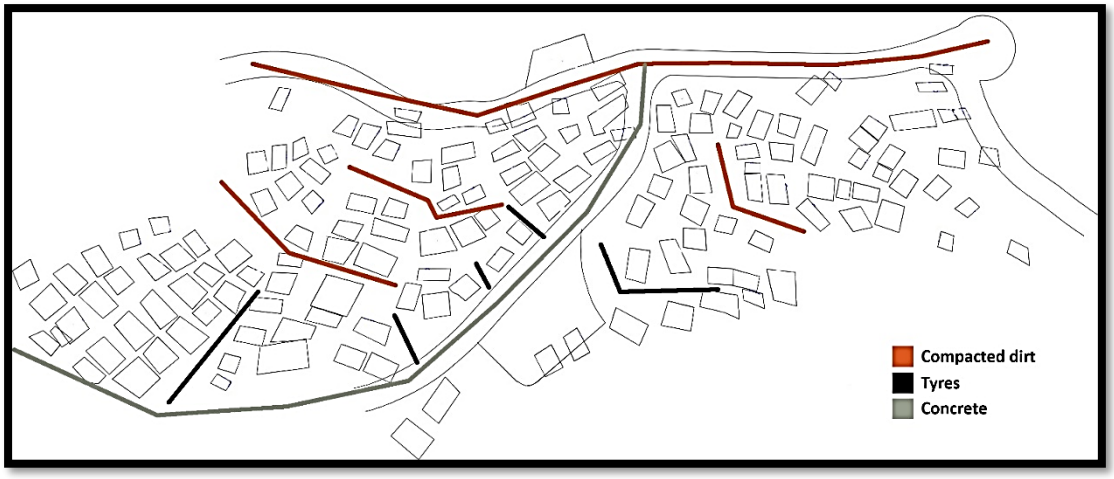
community bond, they just show how the size of the population facilitates familiarity of faces and names among residents, even with an irregular layout and hard topography.



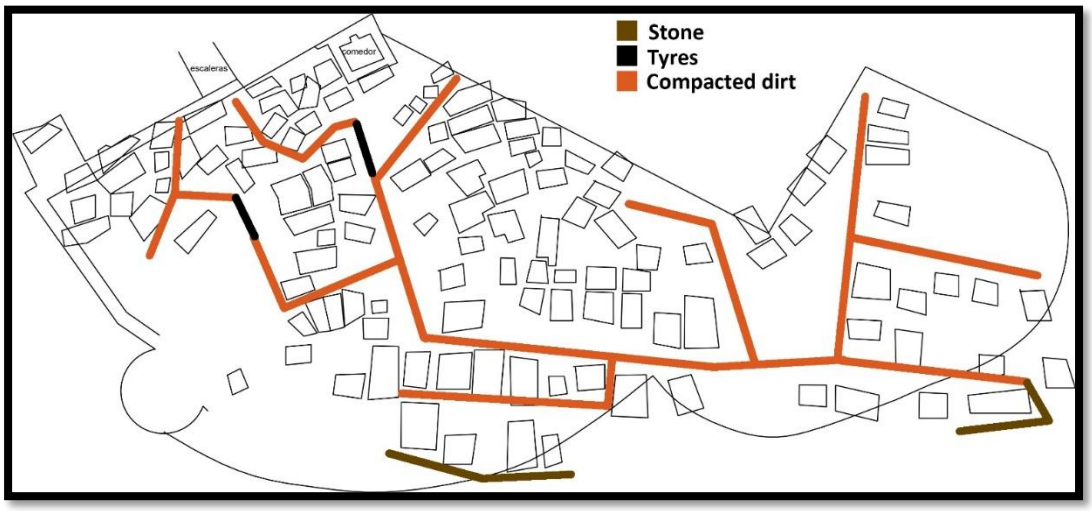
Graph 7-5 Percentage of acquaintances acknowledgment in settlements Diamante, Linda Vista, Amp Las Joyas. Responses to the question "do you know the neighbours on your street?"

7.4.4 Care and maintenance of the settlement

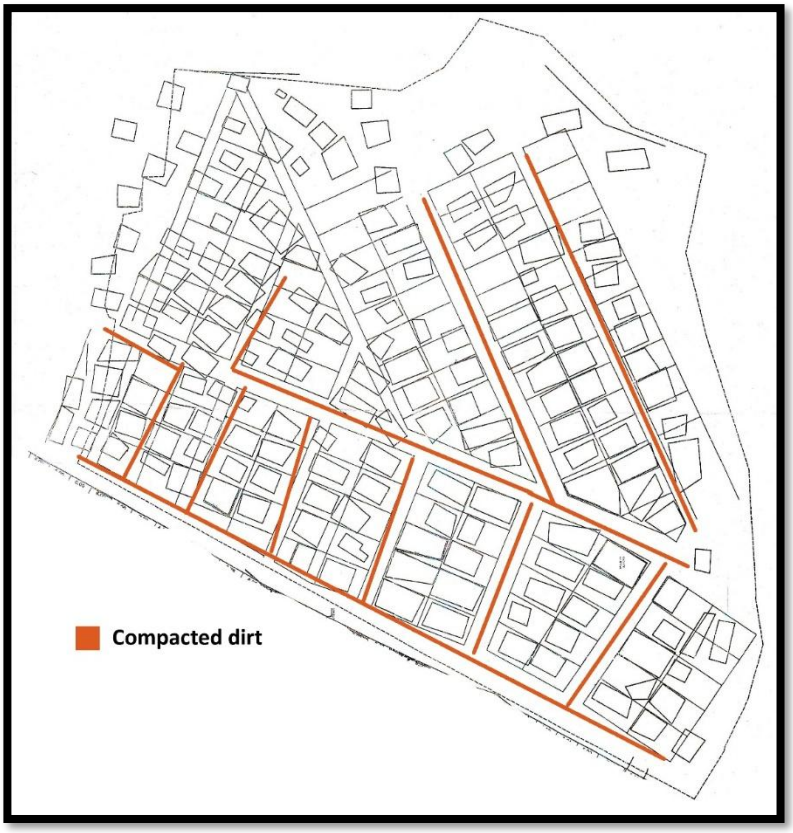
The amount of commitment put into improving the settlement, can indicate closeness and development of social ties. It was mentioned previously that the paths in the settlements vary according to the type of material used. This can be best explained because of the presence or absence of social connections among neighbours. The type of leadership influences the quantity and quality of the work that is done in each settlement, and the way residents get organized to make improvements. Figures 7-26, 7-27, 7-28 show examples of this analysis. For most leaders, organizing residents to work on walkways is the preferred way to gather the community together. This research looks at three selected settlements and analyses them according to the quality of maintenance, the type of material used and the state they are in; thus, introducing a concept that connects good quality with good social relations, as found in all these eight case studies.



Map 7-24 Material quality in walkways. Settlement Amp. las Joyas



Map 7-25 Material quality in walkways. Settlement Diamante



Map 7-26 Material quality in walkways. Settlement Linda Vista

Although most walkways are made from compacted dirt, the existence of tyre-built stairs on some of them shows the commitment of neighbouring houses to keeping their place safe. During the research on site, while chatting with a lady at her home in settlement Diamante, her son, who also lives in the settlement, arrived carrying his little daughter, who had a terrible bruise on her leg. When asked about it, the man mentioned that the girl had fallen down the path towards their house because it was in very bad condition; and then added: "*but it is all our fault, because we didn't get organized to fix it*".

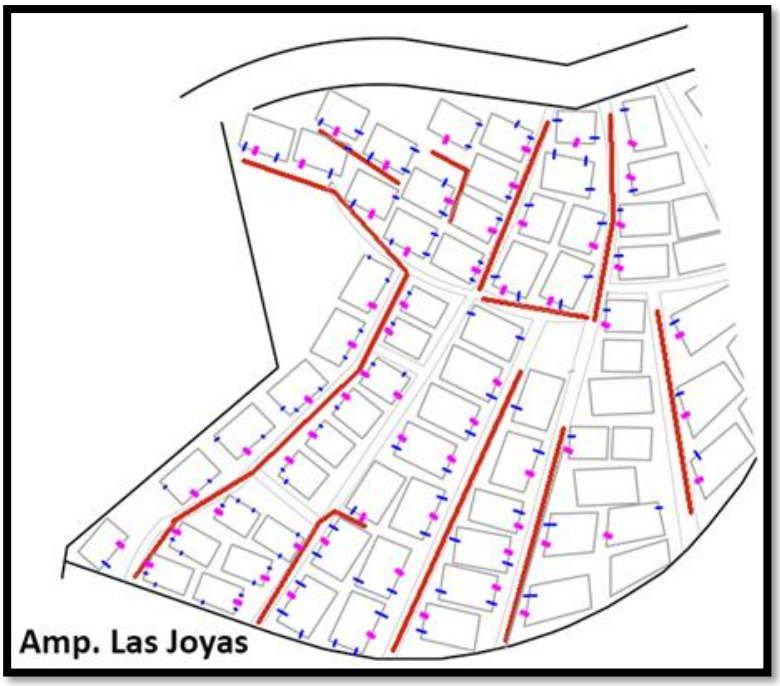
In settlement Amp. Las Joyas (Map 7-26), the leader enhances community relations through work and festivities[124]. The location of the houses has not restricted social bonding, which is reflected in the progress and maintenance made on paths and walkways. In settlement Linda Vista (Map 7-26), even when the leader manages to organize some work, the commitment of the neighbours

[124] Festivities, as key variable in the creation social relationship, are explained in the next chapter.

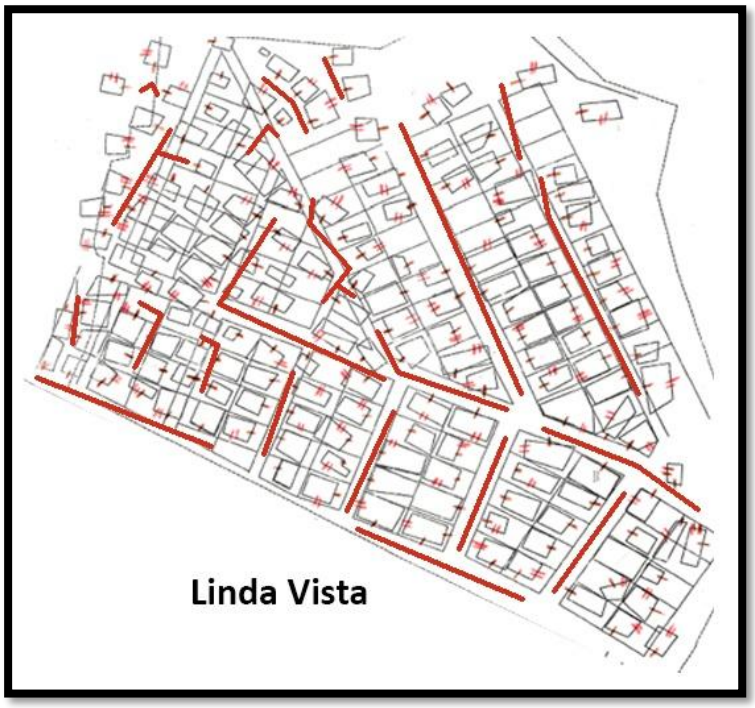
has only gone as far as having paths to get to their houses. The reason for this is that residents have not wanted to spend money and effort to improve their unregularized dwelling. Rather they are waiting for the government to do so. Finally, in settlement Diamante (Map 7-27), the impact of both the lack of festivities and community work, and the absence of a designed layout, stands out as the improvements to the paths of the settlement depend entirely on the will of neighbouring residents to do something. These variables are reflected in the mapped layouts above, showing a more committed community in settlement Amp. Las Joyas, than in settlement Linda Vista. Work related ties were also noted during informal interviews with focus groups of ten selected residents from each settlement, further described in chapter eight.

7.4.5 House location

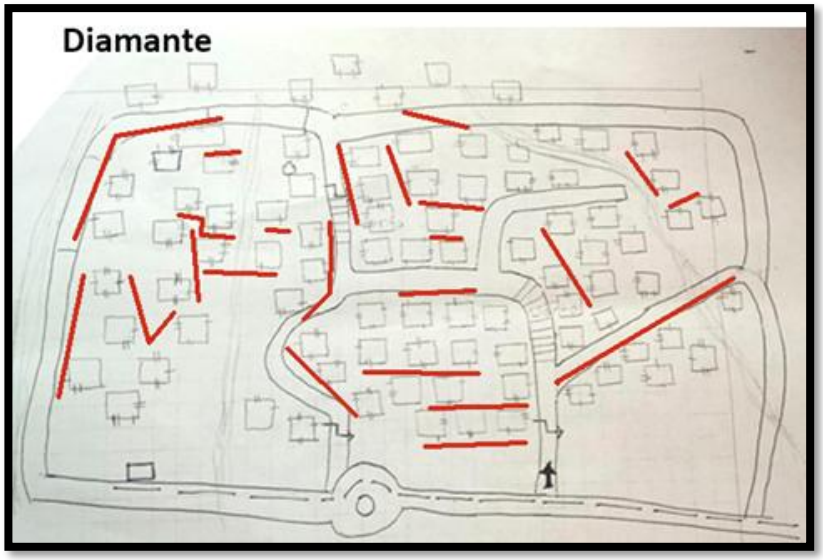
Another spatial-social relationship made during this research was the specific location of the house and the house's door and windows. Larissa Lomnitz (1977) suggests that the way these features are placed within the houses of the settlement can help identify the level of social interaction and the type of social ties that take place in the settlement. What Lomnitz says might apply to settlements that are located on either flat or semi flat land, where as she states, family groups tend to create small clusters. But, in most of these cases, topography prevents that from happening, as entrances and windows are placed wherever it is easiest to access the plot. It could be observed during the site visits, that the actual construction was sometimes located at the far end of the actual plot because it was the only viable firm area to build on. One resident mentioned that the reason why she located her house in the riskier area of the plot rather than on the safer firm ground was that she did not want the neighbour to see her every time she opened her door. Maps 7-29, 7-30 and 7-31 show the location of windows with a double line, and doors with a single line. Even though most doors are mostly placed facing the street (as shown marked in red), windows are installed to try to avoid immediate interaction with neighbours.



Map 7-27 Orientation of windows and doors in the settlement's houses. Settlement Linda Vista



Map 7-28 Orientation of windows and doors in the settlement's houses. Settlement Amp. las Joyas



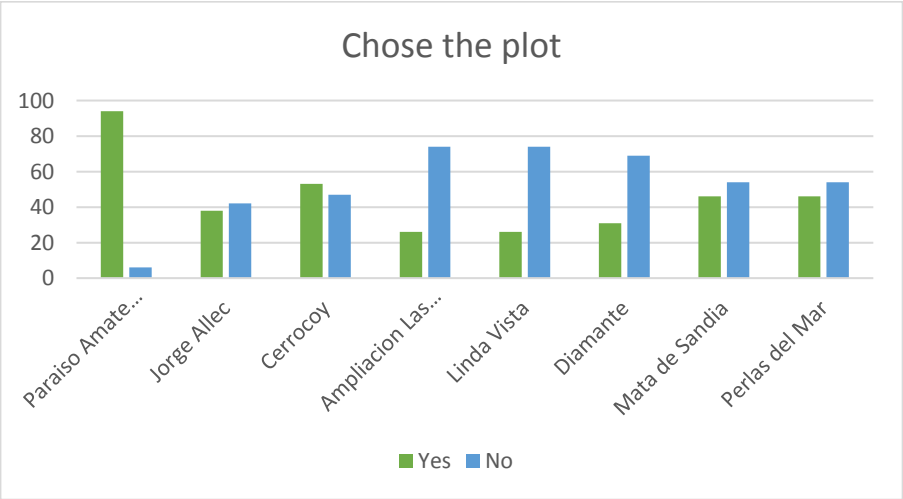
Map 7-29 Orientation of window and doors in the settlement's houses. Settlement Diamante

Topography also, plays an important role in the location and type of 'protective' walls that are needed by the residents: some are made of stone, sacks of sand or just compacted soil. In high-income residential places in Mexico, walls are not used for protection against natural elements but for protection against bandits. Settlements are similar in the sense that people are separated by boundaries that inhibit day to day social interactions. If and when family clusters are formed in the settlements (as will be further explained in the next chapter), the steep topography of the sites does not allow for the easy development of ties among neighbours. A physical element does place an emotional barrier as well. Residents would comment in the interviews, that even when they may have some family members in the settlement, because of the topography, they do not see each other very much: "*my aunt lives just a couple of houses below, but she never comes up, and I only go down when I need to take the public transportation to Ixtapa*".

7.4.6 Selection of plots – family influence.

Unlike Lomnitz's research, there is little association of houses based on family ties. Here, the leader and the topography decide the location, as was found in the responses of the residents to the question: "*Did you choose your parcel?" (Graph 7-6.).* Family considerations were selected (34%) as the reason for their

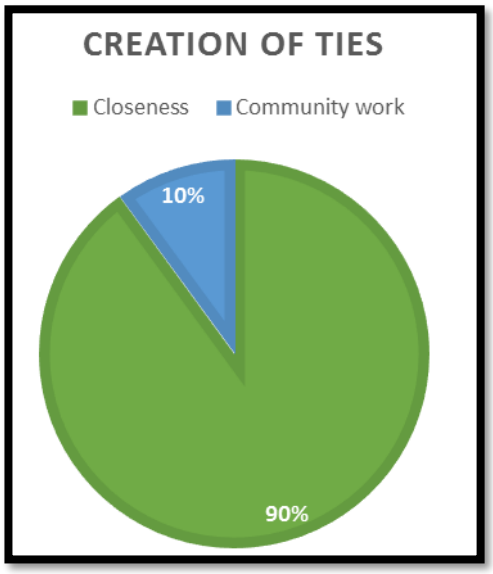
site selection. It was also family members, in some cases, who chose the parcel of land for other family members. This, as mentioned several times by residents, has caused dissatisfaction with the assigned plot: either for reasons of being far from the main entrance, or of being too close to an unfriendly person, or just because they did not have the liberty to choose. For example, the leader of the settlement Cerrocoy mentioned that, according to his previous experience, placing family members nearby can cause more conflict to the community. According to him, the proximity of relatives can exacerbate any personal problems that may arise. So, in this settlement, family members were deliberately placed far from each other; the leader argued that this has been a good strategy for keeping the whole community quieter. In contrast to this, in settlement Amp las Joyas, the leader did not object to families being located close to each other; although he did mention, that in the areas of the settlement where this happens, these families tend to avoid contact with the rest of the residents. With respect to community cohesion, family ties in informal settlements can work in two ways. Either the strength of those ties (bonds) is broken by deliberately separating family members in the settlement, or those ties become stronger by letting them live together, building deeper bonds between family members, but also isolating those families from the rest of the community.



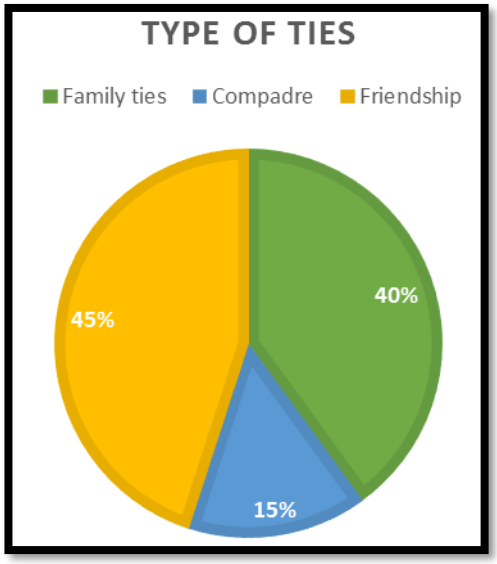
Graph 7-6 Percentage of residents who chose their plot

7.4.7 Close-by plots and the creation of social ties

Responses from a survey conducted in all eight case studies, focused on answering whether proximity to other people increased or decreased the creation of ties in informal settlements. 90% of the residents from all the settlements confirmed that the closer they were, the easier it was to create a social tie. The other 10% mentioned that they met their friends while working on improving the settlement. Of that 90%, 60% mentioned that they have made friends because of that proximity, they are accessible friends *per se*.



Graph 7-7 Reason for the creation of ties



Graph 7-8 Types of ties created by being close by

In general, surveys showed that 60% of friendships were born in the settlements, although family still accounts for a 40% of the social ties. This is important to observe since according to the literature, the process of creating an informal settlement starts with a strong united group of people who organize and invade land.

In informal settlements nowadays, even though they still follow the 'traditional' way of invasion, residents more frequently began as strangers and after a while, they forged bonds among themselves based on where they placed their house. Findings from the site work shows that the creation of social ties is, therefore, dependent on the way that the settlement was formed and organized.

Conclusions

This chapter has explored, compared and defined the spatial influence that community leaders have on the development of social ties. Blooming social relationships happen in places with open public spaces, where people interact face-to-face (Huang, 2006; Völker, et.al., 2007; in Kazmierczak 2013). Verticality in urban planning has affected these opportunities, as more and more people get to share the same land space but at different levels. Although 'forced' to interact when circulating through the escalators or elevators, people find that these social encounters are short and ephemeral. Such verticality is present in these type of settlements as a natural site characteristic, where there is also a lack of open public spaces for social interaction.

The alienation of neighbours varies and relates to the personality of each leader and to type of governance of the settlement, and as has been shown throughout this text, begins with the existence or absence of a designed layout. Although family ties are an important variable in the social structure of the informal settlements, the further development of social ties and networks are also directly affected by the type of layout, the availability of open spaces, the

allocation of plots and even the location of doors and windows in each house. Layout planned efficiently from the beginning, is also a variable that will either simplify or render more difficult the regularization process. The continuity or severing of existing social relationship is based on proximity of people to each other; as is the influence the leader, who decides the final allocation of plots of land and who is responsible for accepting the results of the transfer process. The leader, then, affects the social cohesion of the regularized community, as will be further addressed in the next chapter.

Although informal settlements tend to possess similar characteristics in terms of the economic level of the population, and the risky nature of the physical land; the choice, for each particular site, apart from the need for housing, is mostly based on its natural beauty rather than on the actual location of the place within the city. This concept of a place´s natural beauty is further analysed in the next chapter as a variable in the development of identity among residents and, a consequently, their deeper attachment to their settlement.

Chapter 8 Social and Identity relations

It was noted in Chapter three of the literature review, that place attachment is widely studied according to the dual elements of place dependence (analysed in chapter seven) and place identity (further described here). The third variable that contributes to place attachment, the social life of places which strengthens or weakens this attachment is the hardest variable to analyse in any context. This is particularly the case in informal settlements, since social relationships in informal settlements tend to be highly temporal, like the informality of the settlement itself. The uncertain timeframe of informal settlements may hinder the formation of lasting social bonds; or conversely, such uncertainty may oblige residents to forge ties with neighbours to work collectively toward the formalization of the place. However, this length of time can range from five years to more than ten years as is the case of the settlements studied. It is during this time of uncertainty that strong and permanent bonds are formed; it is that permanent living in an informal setting that gives the place an identity.

This chapter focuses on the development of social relationships and the achievement of social coherence and identity, paying particular attention to the influence of the leader on these factors. First, there is an analysis of the social relationships within the settlements of three of the eight case studies according to the following criteria: spatial characteristics, layout characteristics and governance characteristics. For each settlement previously described in earlier chapters, this analysis delineates the types of social bonds and ties within each settlement and the reasons for these ties. Second, there is an analysis of the way in which residents have developed an attachment to the place, for example by establishing physical ties to the site or by forming subjective and/or collective notions of place identity. Finally, this attachment, both social and

physical, will be compared among the three settlements, highlighting the influence that leadership has had on each settlement respectively.

Findings show that there is a direct relationship between the type of governance used by the leader and an either positive or negative development of community cohesion and identity, accordingly.

8.1 Social impacts of spatial layout in informal settlements.

Drawing upon the results of the analysis made in chapters six and seven, and further examining the perceived sensations of place that forge their identity and community cohesion, the social impact that leaders have on communities, is addressed as two items in this section. Firstly, the leader has a direct influence on his/her followers in terms of community work and the creation of social bonds. Second, the layout design of the leader either allows or hinders community events. Hence the leader has an indirect influence on the creation of social bonds.

8.1.1 Community work

Informal settlements always start with many shortcomings. Many of these shortcomings are resolved by the leaders, as explained in the previous chapters. In other cases, it is community members themselves who achieve ongoing improvements to the settlements. In each case, improvement is directly proportional to the communal work done by its residents, and the work done is proportional to the willingness of the residents and the organisation of the leader. For example, in settlement Amp. Las Joyas, where the leader has a friendly personality and was selected by the residents, the unity of the community is reflected by the cleanliness and organization of the settlement. It is also felt to be a safe and pleasant environment, as expressed by the 23% of the population of this settlement, and as shown in Chapter seven, p.304, where the reasons for selecting each settlement were explained.

During the site visits, walking through Amp. Las Joyas gave an impression of being inside a rural community rather than in a cast-out part of the city.

Residents of these settlements expressed this feeling during interviews[125] by stating they not only appreciated the site due to necessity, but because ‘‘*it is pretty*’’. Settlement Linda Vista on the other hand, was perceived during the site visits by the researcher as a cold and private community. This impression was corroborated later on in the interviews when residents expressed ‘‘*to each its own’’,* (See Chapter 6, for a discussion of the formation of the settlement, the organization of the layout and a culture of carelessness about cleanliness.) Finally, the settlement of Diamante was seen as a divided community. The lack of cohesive and organized community work, reflected on the poor physical conditions of the site and the lack of planned improvements as illustrated by the pictures in Chapter seven, pg. 316.

Even though the leaders are the ones who coordinate the work of regularization and maintenance, it was at the beginning of the take-over when community work was more efficient and robust. When asked about the process of occupying the land[126], residents from all three of the selected settlements narrated that they would take care of each other: work on the paths would be done by the men; cooking and child care would be done by the women. Each family then would work their plot to clean and prepare the land for construction; however, single women were helped by neighbouring residents to do that work. In settlements like Amp. Las Joyas help among neighbours was greater than in settlement Diamante, where the fight for ‘power’ had always been an issue among residents; while in settlement Linda Vista, each family worked on their own.

8.1.2 Festivities

The type of leadership and the design of the layout have allowed, hindered or prevented the celebration of festivities of any kind. The majority of residents in informal settlements, reflecting Mexico as a whole, are Catholic. As such, 80% of the celebrations held within settlements are of a religious nature: Pilgrimage (December 10 to 12), Virgin of Guadalupe Day (December 12) Christmas

[125] See Appendix 7
[126] See Appendix 8

Posadas (from December 15 to 23), the Three Kings Day (January 5-6), the Holy Cross (May 3), Day of the Dead (November 1 and 2). These festivities, although not always officially designated holidays, are occasions when residents spend more time together in friendly gatherings in their own settlement.

Leaders of the settlements with open flat spaces like Amp. Las Joyas organize big community parties on Mother's Day (10th May), Children's Day (30th April), Christmas Posadas, and the Three Kings Day. At these events, everyone cooperates by bringing either a dish to share, or sweets, or presents (Fig 8-1).



Figure 8-1 Festivities of Posadas during December 2017 in Amp. Las Joyas.

Other leaders, who are responsible for settlements where there is no open space but instead have a 'big' Chapel, organise a 40-day celebration prior to the Virgin of Guadalupe Day pilgrimage (December 12). At these events, families pray each day before the image of the Virgin, passing it among other participating families, and on December 12th, a great pilgrimage procession is made to the Parish church downtown.

The availability of appropriate shared space can affect whether such events are successful. For example, the leader of Diamante mentioned that she once tried to organize a social gathering with the residents to enhance community cohesion and celebrate Mother's Day. However, the space provided for the gathering was not big enough, and people got uncomfortable and started to



Figure 8-2 Toys donation at the Three Kings celebration on January 6th 2018 at settlement Diamante

leave; so she has not tried again. Lack of space is common among many settlements characterised by spatial irregularity, which is the case where leadership has not been exercised since the creation of the place and, especially, on sites with steep topography. Nevertheless, when support from the government or a non-profit organisation is given, the leader manages to gather people for a celebration, Fig. (8-2).

Settlement Linda Vista was perceived as a quieter community compared to Amp. Las Joyas and Diamante. Residents did not mention any community events other than the Sunday meetings to discuss regularization updates Fig (8-3). The settlement layout and steep topography does not allow for large gatherings to happen.



Figure 8-3 Community meeting at Linda Vista December 2017.

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8.2 Social attachment

Symbolic meaning of what a place signifies or stands for, may range from a personal perspective, to the shared public values. This is a variable that, according to Gustafson (2001), may influence the results of a typically bi-dimensional study (place identity – place dependence). Research on social attachment has found that social bonding requires greater consideration when measuring place attachment. Studies have found, that social connections developed among people over the course of their residence in a given place, had more influence on community attachment to the place (Perkins and Long, 2002; Kasarda and Janowitz, 1974; Brown, Perkins, & Brown, 2003; Hay, 1998; Hidalgo & Hernandez, 2001; Kyle & Chich, 2007). Social ties such as those of friendship and family create social networks that, after some time, form social bonds[127] among the residents of a place.

[127] Terminology as defined and used in social capital studies (Seraj & Toker, 2012; Hirschi, 1969; Panth, 2010).

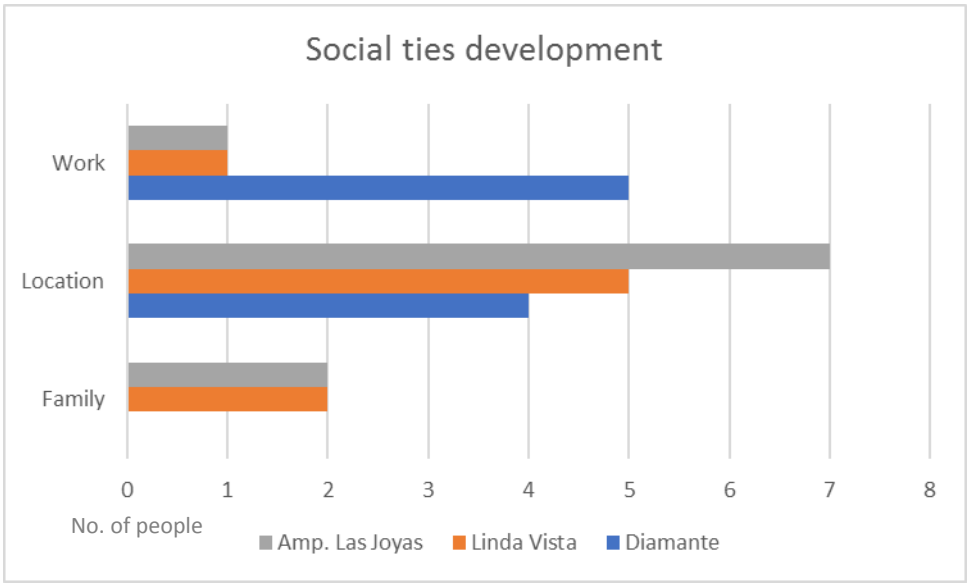
Informal settlements, as compacted natural spaces[128] could be assumed to allow for residents to interact with each other. It could also be hypothesised that the attachment to the place is high due to the nature of the development of the informal settlements (shared experience of struggle and solidarity to acquire a living space) as suggested by existing literature (Lund, 2002). To test this hypothesis, for this research, the layouts of three selected settlements (Linda Vista, Diamante, Amp. Las Joyas) were analysed and three variables related to social development and interactions were compared: (1) social ties due to work (suggested as THE defining factor in community cohesion (Lund, 2002)), (2) social ties because of the proximity and location of their houses (Lomnitz, 1977), and (3) the type of bonds.

The three selected settlements share characteristics that allow for a fair comparison among them, such as length of residency of participants and age of the settlement, challenging topography, economic level and being included in the process of regularization. The main differences among them are the type of leadership (see Chapter six) and the layout (Chapter seven), which are the variables studied in this research as the main impact on the development of place attachment.

8.2.1 Ties and Networks

Capturing the social ties constructed based on the work done was performed by informal interviews with focus groups of ten participants each; the participants were suggested by the leader of each community since leaders had to give access and permission to the researcher to work with the residents. Although most of the narratives had been already expressed in the previous chapters regarding the type of community work done in each settlement, these interviews allowed for a comparison among the three settlements, to better understand the influence of the layout on the development of social ties, based on the question: ‘‘*Have you met anyone through living here? How?*[129]*”.*

[128] Shown in the previous chapter through the Adapted Space Syntax Analysis
[129] See Appendix 7 – Construction of social networks.



Graph 8-1 Development of Social ties through living in the settlement

Graph 8-1 shows that the defining factor for the development of social ties is the location of the house and not community work as is typically suggested to be the bonding reason for community cohesion (solidarity) (Lund, 2002).

It can also be noted that in the two settlements in which the layout was designed, and plots were assigned by the leader, location is a stronger determinant of social ties; on the other hand, in settlement Diamante, which was not designed, work seems to be the strongest reason for the development of ties. (The reasons for this distinction are corroborated in the section where the work of the leader is explained in chapters six and seven.)

There are different types of ties that can develop among people, e.g.: family, friendship, acquaintance, and colleague. In the research 'Networks and marginality: life in a Mexican shantytown', Lomnitz (1977) observed that the strongest relationships among neighbours in informal settlements occurred between 'compadres[130]', a deeper tie than friendship. She also suggests that social networks are built upon the different types of ties among residents.

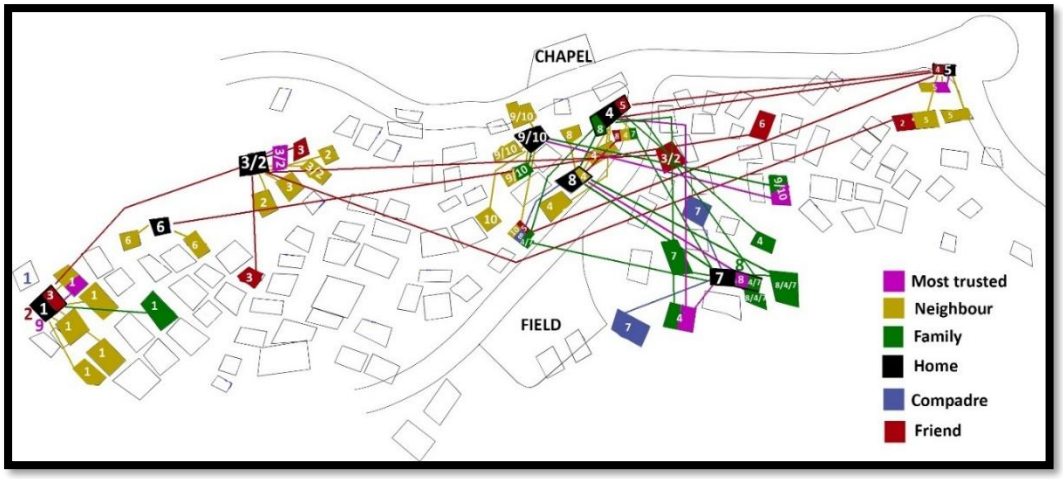
[130] 'In Spanish, a child's father and godfather are, to each other, "compadres" - that is, "co-fathers." In Mexico, a Compadre is a person that is almost as important as family, and in some cases, more important. "Compadre" is also a traditional term of reverence and friendship for a

To add to Lomnitz's research, to find out whether the location of the residents' houses had a relation with these ties, and to illustrate that new ties are formed based on the location of their house, social ties were mapped in the settlements using a very simple but effective technique called Image Geography (see Methodology chapter)and complemented by the questions: "*Would you say your closest friends/family live in your neighbourhood? Could you name them?" (Further explain in section 8.2.2)*; which involved asking residents to locate their relatives, friends and neighbours on a printed map of the settlement. Maps 8-1,8-2,8-3, show the results of the three settlements, which illustrates the actual influence that the site (topography) and the location of the house have on social networking. The people they interact with the most are the ones that live closest to them, but they are not necessarily the ones they have the strongest bond with; although it varies depending on the leadership.

To ensure the anonymity of participants, each was assigned a number to identify themselves in all the workshop exercises and in the interviews. To analyse the social networks and ties of all the participating residents on one map of each settlement, each participant's number was located on their 'Home' plot, and on each participant's Friend, Family, Neighbour, Compadre or Most trusted person's plot, differentiating these by colour. Lines were drawn joining each social relationship to each participant to better illustrate the networks built by these different types of ties. Numbers shown inside a plot without colour indicate a relationship mentioned during the informal interview but not mapped during the workshop[131].

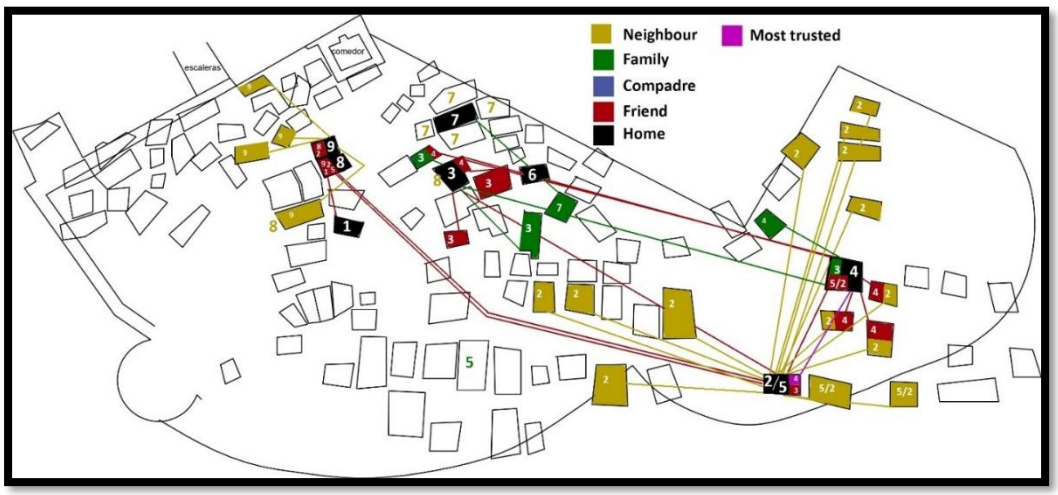
man. The equivalent feminine term in Spanish is Comadre (Merriam-Webster, n.d.). Synonyms to Compadre are: confidant, intimate, mate, familiar; suggesting a deeper type of tie than friendship. Although Compadre and Most Trusted person could potentially be the same person, the use of different terminology for those relations allows for the Most Trusted person to also be someone else.

[131] Several differences where noted from what participants mentioned in the interviews but omitted on the workshops, and viceversa; which enriched the understanding of the relationships as felt and as obligation.



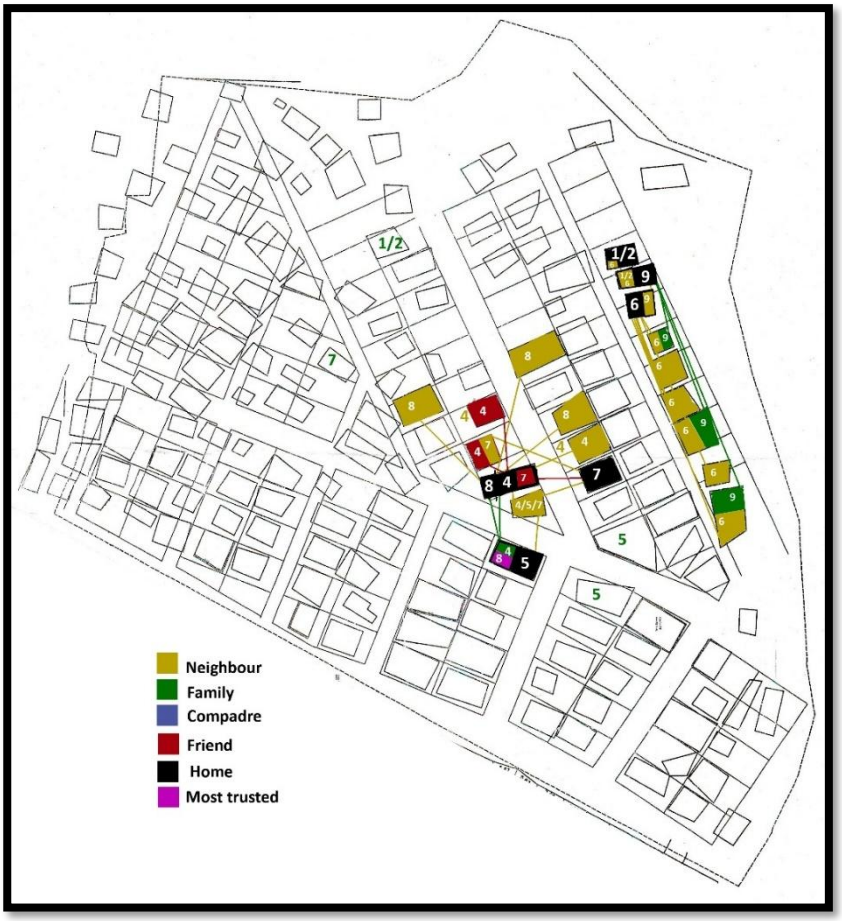
Map 8-1 Social Networks-settlement Amp. Las Joyas

Social relationships in settlement Amp. Las Joyas, as illustrated by the ten participants, extend all over the place, especially to join people considered as 'Friends'. A strong family cluster can be observed on the bottom right part of the settlement (the side non-planned by the leader); while mostly just 'neighbour' type developed by proximity of plots on the planned left side of the settlement.



Map 8-2 Social Networks-settlement Diamante

Network ties in settlement Diamante expand over the site, in this case because of the 'Neighbour' relationship. This settlement exemplifies that the term 'neighbour' as understood and used by the residents of this settlement, does not necessarily refer to the person's plot being adjacent to the participant's, but rather as a member of the settlement itself; a neighbour is seen as '*someone you know and have a social relationship with, who lives in the same settlement as you do*'[132]. This understanding may be compared to that of the settlement of Amp. Las Joyas, where neighbour was referred to as someone who lives near you.



Map 8-3 Social Networks-settlement Linda Vista

[132] This a very common use of the term 'Neighbour' in Mexican communities, which in a way replaces the term acquaintance.

The networks mapped on settlement Linda Vista illustrate the privacy and lack of community participation observed during the site visits [133] . Social relationships are limited to their home and street space.

The research sample of ten participants for Amp. Las Joyas, and nine participants for settlements Diamante and Linda Vista illustrates the network impact that a small portion of the settlement can develop. A total of 32 social relationships were mapped and expressed during the interviews in settlement Linda Vista, compared to 66 in Diamante and 74 in Amp. Las Joyas.

To complement the social interaction data, the question: "*On an average, how many contact with you in a typical day? (say hello, chat, talk or discuss matters with)"* (Fu, 2005) was also asked during the informal interviews to the same ten participants of each settlement. Responses varied. Social interaction depends more on the economic activity of each participant (illustrated in table 7-21), than on the availability of public spaces. As all of the informal settlement studied are located on hills, all residents need to walk down hill to access public transportation, Consequently, as most of the participants confirmed in their responses, it is during that walk down that they interact with other neighbours (apart from the ones that they considered to be in their social network).

The differences between the social composition of the settlements can be easily spotted on the maps above. In settlements Amp. Las Joyas and Diamante, although one was planned, and the other was not, social networks are extended throughout the entire community., Neither distance nor topography has affected the development of stronger bonds of friendship[134]. On the other hand, in settlement Linda Vista, networks do not extend beyond the street location of neighbours living close by. It can also be observed that the same words may mean different things to different residents. The same plot could be marked as that of a 'Friend' for one participant, and as that of a 'Neighbour' for another. The use of different words and the use of different scales to evaluate

[133] See chapter six and seven.

[134] Friendship, acquaintance and neighbor were somewhat used indistinctly by some participants during the mapping exercise but was later clarified during the interviews.

the level of closeness with another person implies that such variations may be based on shared experiences. Residents would not acknowledge all their neighbours as being part of their social network (hence marked or not, as 'neighbour') just because of the physical disposition of the plots, which hints that the term 'neighbour' was indeed understood as a person with whom you have a social relationship with, rather than just physical adjacency. This correlation between the physical layout and the social interaction will be further examined in the next chapter.

Even when all three settlements had a similar number of participating families, settlement Linda Vista showed the least expanded network of the three, reflecting the social cohesion of each settlement and corroborating the influence of available open areas and the work of the leaders in the construction of these relationships. Tables below show a comparison between the three settlements by mean, mode and range of number of relationships. Total number of social relationships as expressed on the interviews (table 8-1), and total number of social relationships as mapped above (table 8-2).

Social relationships expressed on interviews				
	Total	**Mean**	**Mode**	**Range**
Linda Vista	32	3.5	4	6
Diamante	66	7.3	5	14
Amp. Las Joyas	74	7.4	5	8

Table 8-1 Number of social relationships as per the results of the interview

Social relationships mapped				
	Total	**Mean**	**Mode**	**Range**
Linda Vista	32	3.5	4	6
Diamante	47	5.2	5	16
Amp. Las Joyas	63	6.3	6	8

Table 8-2 Number of social relationships as mapped by participants.

Although a very similar mode is observed on both the mapped relationships and the expressed ones of the three settlements, three things are noted from both tables: (1) settlement Amp. Las Joyas has a higher mean and mode than the other two settlements, although very similar to the mode of settlement Diamante (2) settlement Linda Vista has the exact same number of data on both exercises, and (3) the range variation of settlement Diamante is the highest.

These results indicate that settlement Amp. Las Joyas possesses the steadiest and more extended social network per person, as each participant has an average of 7 relationships, while the participants in settlement Linda Vista, also with a steady social network, have an average in between 3 to 4 relationships. Settlement Diamante, however, although having a similar mode and mean as settlement Amp. Las Joyas, has a range difference of 14 and 16 social relationships. These difference in mode and mean is the resultant of the answers of two participants (graphs 8-6 and 8-7 on pg. 273).

Two variables are important to acknowledge when interpreting the data above: (1) the participants were proposed by the leader and (2) some of the social relationships above mentioned and mapped are formed by the mutual relationship of the participants. From settlement Amp. Las Joyas, five participants did not have mutual relationships with the others, from settlement Diamante, one participant did not have mutual relationships with the others, while from settlement Linda Vista, all the participants expressed mutual relationships. The relation between point one and two illustrate the influence that leadership has, not only on the development of social ties, but also on the research process.

Coincidentally, the breakpoint on all three settlements for the mutual consideration of shared social ties was the figure of the leader and the leader's family. The importance or closeness that residents perceive from the leaders, and the way they perceive themselves within the community is shown by the type of relationship that was mentioned and mapped. Mostly because the leader is always willing to help, some residents would consider the leader as their most trusted person, or a friend. On the other hand, the leader would find

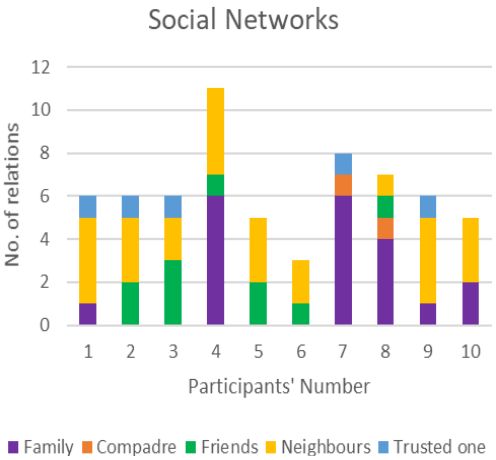
friendship in a different resident — a very common leader-follower dependent relationship as described in chapter two.

As described above, leaders did not necessarily reciprocate the relationship expressed by residents. And while these might be slightly biased results, (as the leaders proposed the participants) it comes to show the influence that leadership has on each settlement.

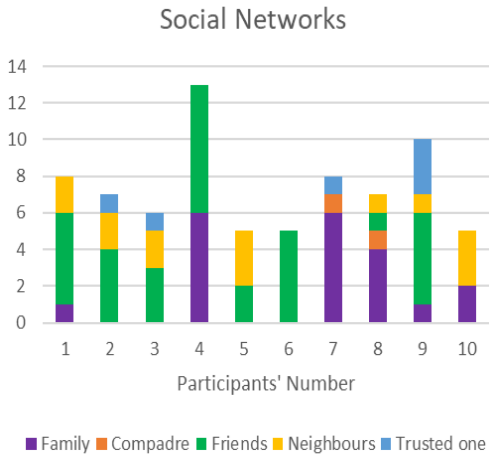
8.2.2 Strength of bonds

Family ties are considered the strongest type of relationship among people, representing the type of relationship that is most likely to generate deep bonds between their members (Bengtson, 2001). In the Mexican context, the figure of Compadre is considered as an extension of family bonding in Mexican society; friendship would be listed as a third bond, followed by neighbour (Ouweneed, 2015), and then acquaintance at the end. As the first stage of analysing the strength of bonding in the communities of the settlements studied, the mapped data above was compared to the results from the following interview questions made to the same participants of each settlement: "*How many friends do you have in the settlement?* and *Would you say your closest friends/family live in your neighbourhood? Could you name them?"*. This correlative analysis aims to highlight the different perceptions and ways in which people express the types of bonds they have with each other, and the real depth of the bond that they have.

Settlement Amp. Las Joyas



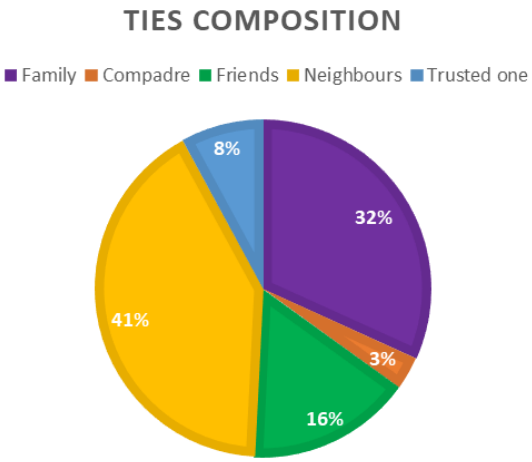
Graph 8-3 Social Networks composition of Amp. Las Joyas as results from mapping



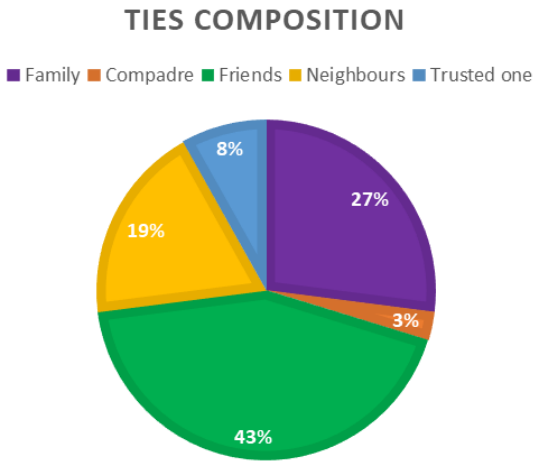
Graph 8-2 Social Networks composition of Amp. Las Joyas as results from interviews

Graphs above illustrate the shift between 'neighbour' and 'friend', from the mapping exercise (explained in section 8.2.1) to the results of the personal interviews[135], which also increased or decreased the total number of social relationships per participant. Family relations and Compadre are the only constant types on both results, showing the stability of those type of relationships since Compadre, is considered an extension of family bonding.

[135] Questions: How many friends do you have in the settlement? And Would you say your closest friends/family live in your neighbourhood? Could you name them? Were combined to acknowledge the number and type of relationships each participant had.



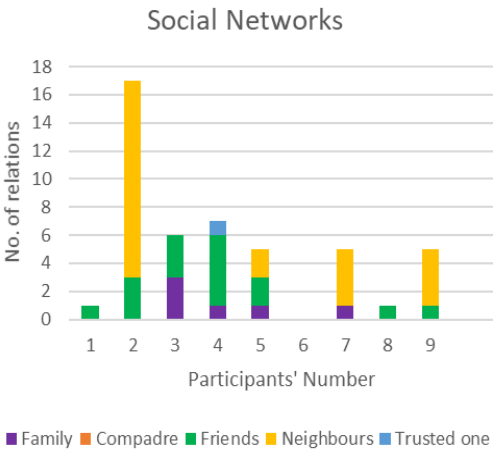
Graph 8-5 Social Ties composition of Amp. Las Joyas, as per results from mapping.



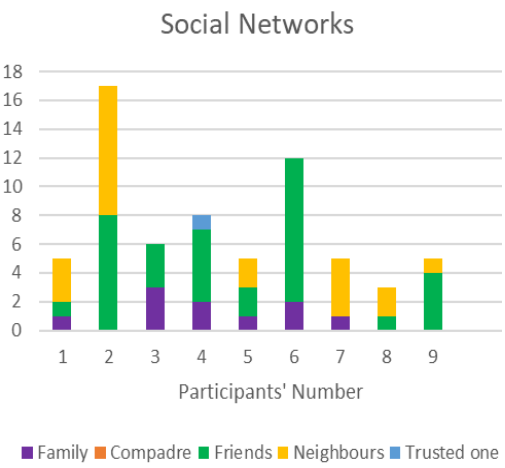
Graph 8-4 Social Ties composition of Amp. Las Joyas, as per results from interviews.

It can be seen in the graphs above that only the percentages of 'Compadre' and 'Trusted one' remained the same; which hints that these are the strong and steady relationships of the participants; whereas 'Neighbour' became 'Friend' during the interviews.

Settlement Diamante



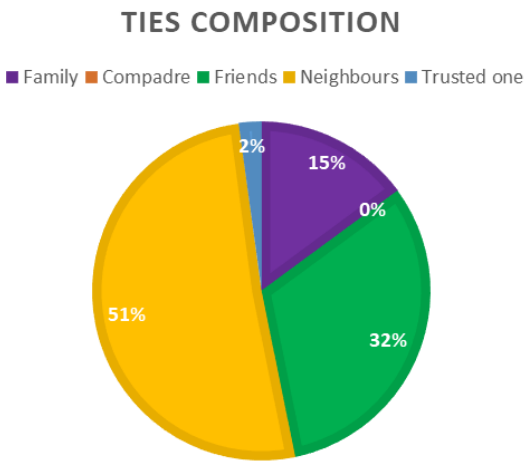
Graph 8-6 Social Networks composition of Diamante as results from mapping



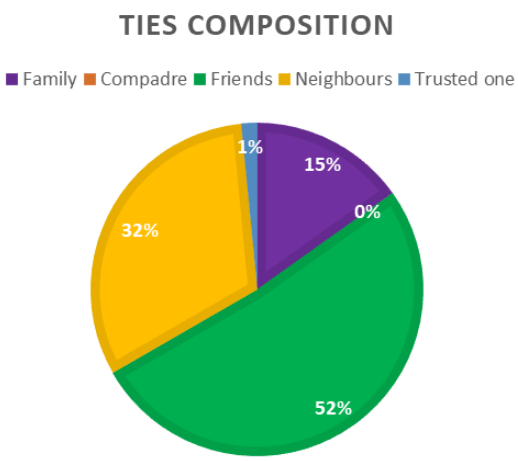
Graph 8-7 Social Networks composition of Diamante as results from interviews.

Graphs above show an increased number of social relationships per participant expressed during the interview, compared to the relationships mapped during the workshop. Of note is the observation that participant no. 6 drew no social

relationships on the mapping exercise but expressed many during the interview.



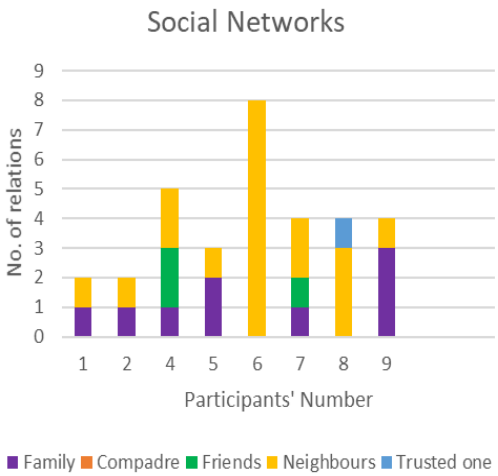
Graph 8-9 Social Ties composition of Diamante, as per results from mapping



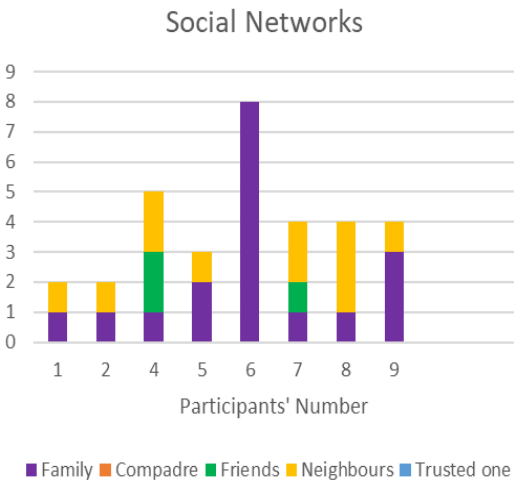
Graph 8-8 Social Ties composition of Diamante, as per results from interviews.

The percentage figure of 'Family' in this settlement, is the one that stays constant in both the mapping and the interviews, while again, 'Friends' and 'Neighbours' have a significant switch in percentage.

Linda Vista



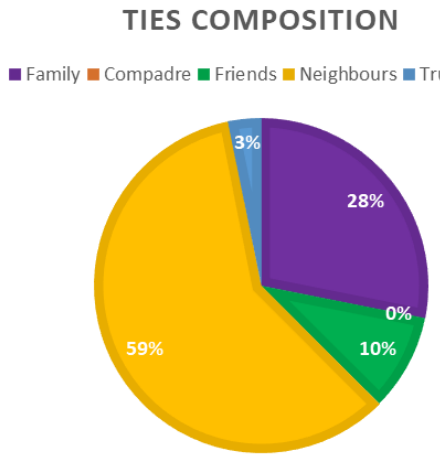
Graph 8-11 Social Networks composition of Linda Vista as results from mapping



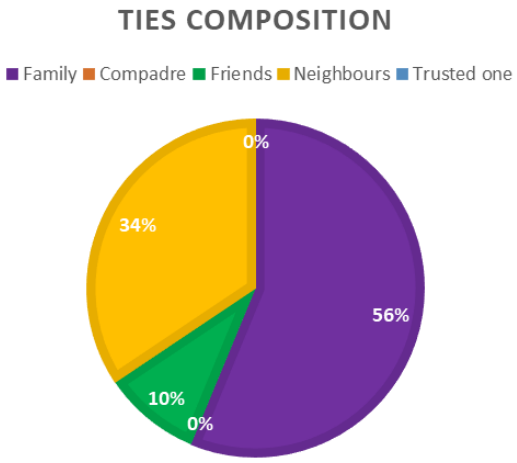
Graph 8-10 Social Networks composition of Linda Vista as results from interviews.

The almost lack of presence of the figure of 'Friends' is shown on the graphs. There is a peculiar constant in the total number and type of social relationships per participant (just two exceptions), and an odd identical change from

neighbours to family by one participant -explained further below-, not seen in the other two settlements.



Graph 8-12 Social Ties composition of Linda Vista, as per results from mapping.



Graph 8-13 Social Ties composition of Linda Vista, as per results from interviews

The switch in percentage on this settlement's ties composition is in between 'Family' and 'Neighbours'. This is mainly due to the impact of one participant's interview as can be observed on the graphs 8-14 and 8-13. If we disregard that participant for a more equitable comparison, the results show that the figure of Family on the mapping is 37%, while during the interview this rises to 42%. The figure of Neighbour goes from 46% on the mapping to 34% in the interviews. It is, however, a different shift than in the previous two settlements, where the exchangeable figures were 'Friends' and 'Neighbours'. It could be inferred that, for the residents of this settlement, Family is not a strong type of bond.

From the graphs above, it can be observed that the perception of neighbours, family and friends differed; the mapping exercises show fewer friends than

those commented on during the interviews. Table 8-3 summarises these findings.

SOCIAL PERCEPTIONS						
	Family	**Compadre**	**Friends**	**Neighbours**	**Trusted one**	
interviews	18	0	3	11	0	Linda Vista
mapping	9	0	3	19	1	
interviews	10	0	34	21	1	Diamante
mapping	7	0	15	24	1	
interviews	20	2	32	14	6	Amp. Las Joyas
mapping	20	2	10	26	5	

Table 8-3 Social Perceptions comparison between settlements

Although the mapping exercise was done with all the participants together, each one did it privately. This allows for a more unconsciously sincere response (as mapping exercises tend to be (Lynch, 1960)). Since they were conducted in the comfort of their own home, the informal chats might have triggered an emotional response or created an obligation to acknowledge their neighbours as their friends. As expressed during the interviews, only a thin line separates how residents consider a person to be a friend instead of a neighbour. Family relationships can also be perceived from the graphs above as being either healthy or forced. A lady in settlement Amp. Las Joyas, would not map a member of her family as her sister, but rather as just a neighbour. However, during the interview, she did mention her as part of her family. As explained during the interview, another participant in Linda Vista mapped her uncle as just a neighbour since she had just met him in the settlement. In-laws and extended family members were also sometimes mapped as either neighbours or friends, depending on the closeness of the relationship. Based on that example and the analysis of the comments during the interviews, it can be

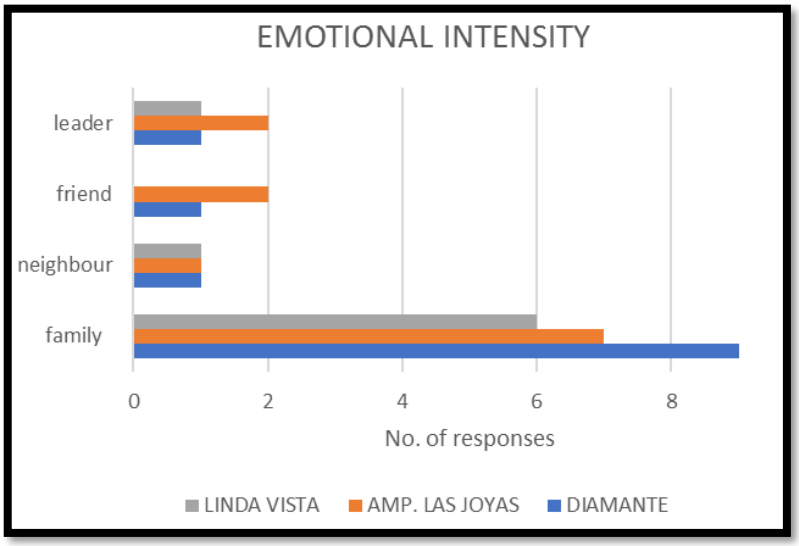
noted that genuine ties, which show the depth of bonds between residents (rather than only the type of ties [136]), are the ones that are mapped**.**

Two crucial relationships appear in the settlement of Amp. Las Joyas: Compadre and Trusted one. These relationships in the settlement of Diamante are scarce, and in Linda Vista almost nil. Lomnitz (1977) had suggested that the Compadre relationship symbolizes a deep bond. Also representing of a deep bond, the figure of the 'Trusted one' was explained to the residents as the one person to whom you would entrust your most valuable possessions or the one person in whom you could confide your more personal secrets.

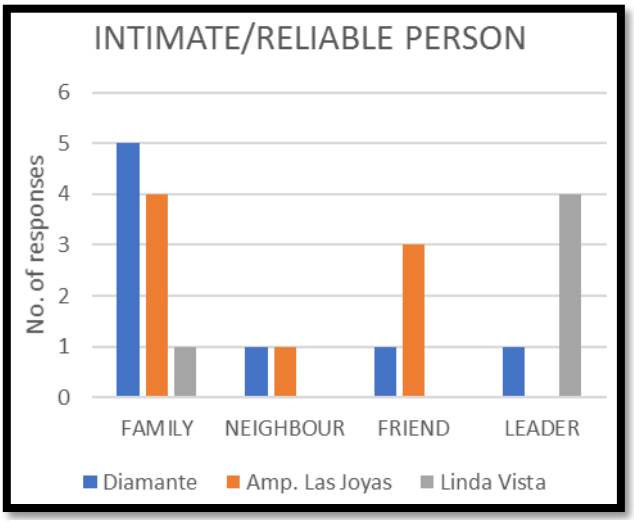
Summarizing the strength of bond per settlement as per the scale mentioned earlier, Amp Las Joyas shows the figures of Family, Compadre and Trusted ones as the most stable relationships with a total of 38% of the total types of relationships; settlement Diamante shows only Family and Trusted one as the stable relationships with a total of 16%; and for settlement Linda Vista stability lies on the figure of Friend with a total of 10%.

To further measure those bonds, the interviews then focused on recognising their depth through several questions: (1) "*During the last six months, whom did you discuss important matter with?"* (2) *"Of the people you said were your closest friends in the settlement, could you provide some personal details? (age, occupation, religion, income, sex, political party, race, kinship, etc.)"* (Burt, 1984). (3) "*Have you gone to their house? Have they come to yours?*" (4) *"To whom do you go to when you feel sick/sad? Why? Who comes to you?"* (5) "*Do you share things/lend money/babysit with your neighbours?"* Questions 1 and 2 acknowledge intimacy/reliability, question 3 measures the frequency of interactions; question 4 measures emotional intensity of the relationship, and question 5 measures reciprocal services.

[136] For example, mapping a family member (a type of tie) as only a neighbour illustrates the lack of depth of that relationship.

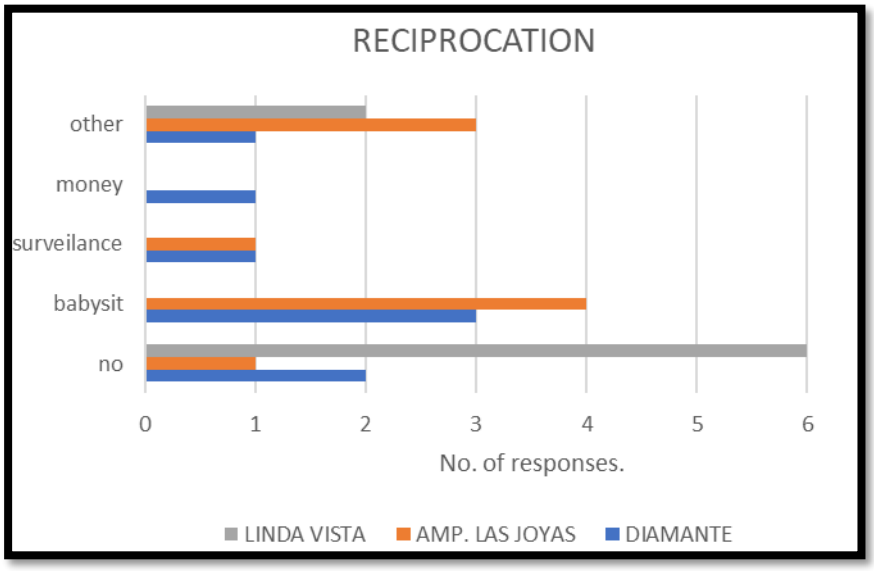


Graph 8-14 Comparison of the Emotional Intensity relations between residents on all three settlements.



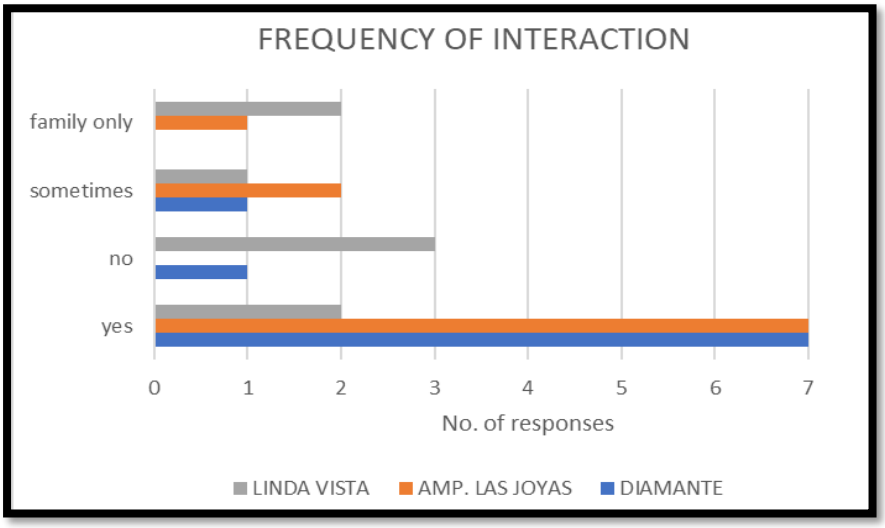
Graph 8-15 Comparison of Intimate/Reliable person in the three settlements as expressed in the interviews.

From the analysis of the data, responses to questions one and four mostly related to family, (graphs 8-14, 8-15); for settlements Amp. Las Joyas and Diamante, the deepest bond for the majority is with other family members; but for settlement Linda Vista, the leader is considered to be the person with whom residents discuss important (but not personal) matters, such as money issues, health problems, neighbour quarrels, etc.; emotional issues, however, are kept within the family as well.



Graph 8-17 Reciprocation between residents of each settlement

That, however, does not mean that family bonds are the only strong bonds among residents. Graphs 8-16 and 8-17 show the results from the responses to questions 3 and 5 respectively, which show the amount of personal social interaction that residents have with the people they acknowledged to be part of their social network (as mapped on the plans 8-1, 8-2, 8-3 pg. 266, 267).



Graph 8-16 Frequency of social interaction in each settlement

The scales 'family only', 'sometimes', 'yes' and 'no', respond to the answers given by the participating residents. Some residents would only interact with family; and others would just answer having no interaction with people in the settlement.

Again, the graphs show a difference in the results from settlements Amp. Las Joyas and Diamante, compared to settlement Linda Vista, which has more private family interaction than the other two, residents said; "*people are not that friendly, we keep to our own*". They also mentioned in the interviews, that they do not like to share/lend/borrow things or give favours to and accept favours from neighbours as they stated: "*each one has their own things*", and also: "*we have so little, so there is not much to share*".

Expressed as overall percentages, quantity of reliable people that each settlement's residents recognised to be (as graphed above), are Diamante = 62% family, 12.5% same for friend, neighbour and leader; Amp. Las Joyas = 50% family, 37% friends, 12.5% neighbour; Linda Vista = 20% family, 80% leader. Family bonds have already been established as strong within all three settlements; a result which is predictable given that family relationships tend to be strong within Mexican culture.

Leaders in informal settlements tend to be influential figures among residents, and this is because residents see the leader as a 'father' figure, a person who has helped them get a place to live and who 'fights' the battle with them. However, as was described in chapter five, each of the leaders of these informal settlements have very different personalities and ways to approach residents and authorities, with both positive and negative consequences on their settlements. Interestingly, each settlement also reflects the character of their leader, as it can be seen through this analysis. Residents of Linda Vista perceive their leader as an authoritarian figure who controls what, where and why things are done; hence, he is seen as a reliable person who solves problems. The leader of settlement Amp. Las Joyas is considered more of a team member, than as a 'bossy' figure. Therefore, he was not considered on the graphs above as 'leader' but more as 'friend' by some residents. Finally, in settlement Diamante, the leader is relaxed figure who is also a problem solver. She is not accepted by all, which is reflected on her being perceived as a reliable figure by only 12.5% of participants.

In order to further understand the impact that the leader, the layout and the social conditions have on the strength of bonds for the rest of the social network composition, the following question asked how well residents felt they knew their friends, as indicated by their knowledge of various personal details of the friends/neighbours only.

DEPTH KNOWLEDGE OF FRIENDSHIP			
	DIAMANTE	AMP. LAS JOYAS	LINDA VISTA
family information		31%	25%
full work information	70%	31%	
full name	10%	23%	
scarce work information			25%
few gral. Information		7%	12%
ery scarce work information			25%
none	20%	8%	13%

Table 8-4 Depth of knowledge of friendship in settlements

The first three rows are indicative of a strong knowledge of each other as friends; the middle two rows indicate a medium knowledge, and the last two little knowledge. From that, we conclude that settlement Diamante has 80% on the strong lines, settlement Amp. Las Joyas has 85%, and settlement Linda Vista only 25%. Conversely, Linda Vista shows the least knowledge of their friends/neighbours with a 38% total, Diamante 20% and Amp. Las Joyas only 8%. These percentages are reliable indicators of the depth of social ties developed in the settlement, and they can be compared as equal to each other since all three of the settlements have been in existence between eight and ten years. Residents in the focus groups have lived there for most of that time, having had time to develop and deepen those bonds (Table 8-5). Studies have found that social connections developed between people over the course of their residence in a given place, had more influence on community attachment to the place (Perkins and Long, 2002; Kasarda and Janowitz, 1974; Brown, Perkins, & Brown, 2003; Hay, 1998; Hidalgo & Hernandez, 2001; Kyle & Chich, 2007), which is not the case for this research.

TIME OF RESIDENCE			
	DIAMANTE	AMP. LAS JOYAS	LINDA VISTA
3 years			2
4 years	1		
5 years		2	
6 years			2
7 years	4	7	
8 years	4		2
9 years		1	
10 years			2

Table 8-5 Time of residency in settlements

Even when for all the three settlements, over 75% of the participants have lived there for more than six years, settlement Linda Vista has the lowest social interaction of the three. However, the type of lifestyle can also impact on the opportunity for social engagement with neighbours. Mentioned in Chapter six, settlements Amp. Las Joyas and Diamante have a higher percentage of monthly income (over £78 up to £307) than settlement Linda Vista, which was in fact, the settlement with the lowest income of all eight case studies researched. This has had an impact on the everyday activities of these residents. As related in the interviews[137], most of the participants must work all day, and that was one of the main reasons why there is not much interaction with other residents. The variable 'Working in the settlement' refers to residents who prepare food for sale or have a convenience store. Table 8-6 shows the summary of the everyday activity question[138] in all three settlements, as observed during site visits and gathered from the informal interviews.

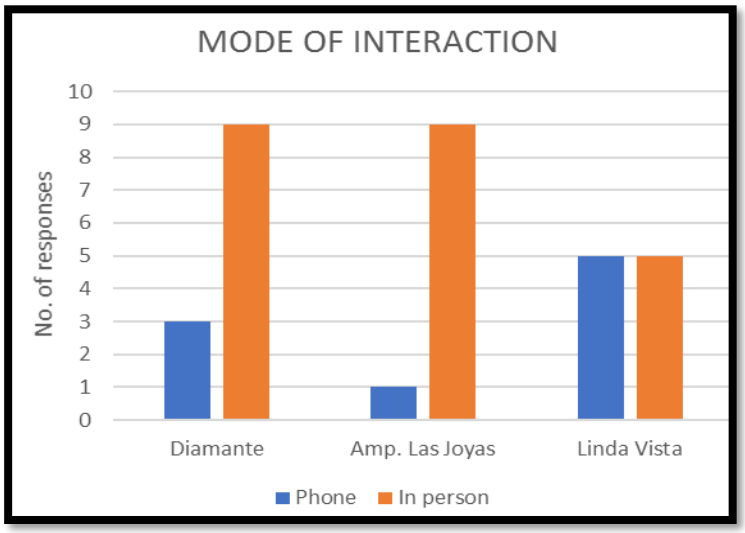
[137] Question: On an average, how many contact with you in a typical day? (say hello, chat, talk or discuss matters with) (Fu, 2005)

[138] Question: Can you describe a typical day for you? Example: I get up at 6 am, I prepare breakfast, I take the children to school and then I go to work (or do the shopping), I pick up the children at 1pm (or they arrive alone) and then I stay in the house, washing and feeding, while the children play outdoors (or watch telly).

ROUTINE ACTIVITIES			
	DIAMANTE	AMP. LAS JOYAS	LINDA VISTA
work in city	37%	30%	62%
house	50%	40%	38%
work in settlement	13%	30%	0%

Table 8-6 Routine activities in the informal settlements

Societies have changed a lot over time; social relationships are no longer limited to closeness; technology has blurred the boundaries of space. As Relph (1976) mentioned in his research, the non-place concept has affected social relationships, which can weaken the strength of a community; for better or for worse, stronger social bonds may no longer be between neighbours, as shown in this research. To understand the impact that technology has had on the social bonding in these settlements, the question: "*Is that contact face-to-face or by phone?"* was made during the interviews, with the following responses: residents of settlements Amp. Las Joyas and Diamante tend to have more face-to-face interaction than residents of settlement Linda Vista, as expressed in graph 8-21.



Graph 8-18 - Modes of interaction in the informal settlements.

Anderson, 1999; and Wilson, 1987, 1996, in Freeman (2001), mention that the level of poverty significantly impacts on the social resources found within a

settlement. They postulate that the lower the income, the fewer social bonds are formed. These responses have a direct relationship with the type of activity residents have in the settlements according to their income needs. Since 13% of Diamante, and 30% of Amp. Las Joyas work in the settlement, they have greater opportunities to interact face-to-face with other residents, increasing the scope of their networks and strengthening their bonds more than the residents of Linda Vista.

The above results reaffirm data gleaned from other mapping exercises and interviews about social activity: settlements with more space for interaction have a higher frequency of face-to-face encounters than those without such spaces.

Children play a significant role in developing the social cohesion of residents. Researchers identify the lack of children in a settlement as a variable affecting social cohesion (Riger & Lavrakas, 1981; Lomnitz, 1977). Having observed in the pilots the low impact that this variable had on the community; to capture this variable, the question: "*where do your children play?"* was included at the last minute in the field research. Responses varied as per the availability of open flat spaces for children to play safely. Most children play inside the house, for safety or health reasons (too much dirt). The few that play outside tend to play close to their home. Mothers who were interviewed said that children prefer to stay inside watching television or playing with their tablets, as it is too hot to play outside. In the settlements of Amp. Las Joyas and Diamante, stronger bonds have developed indirectly because of frequent babysitting activities among the residents. Even when all three settlements have a similar proportion of children in their population (Diamante 39%, Amp. Las Joyas 41%, Linda Vista 42%), that percentage, as in the pilot studies, has not had a meaningful impact on the present research.

Perkins and Long (2002) suggest social bonding as 'the emotional connections based on shared history, interest or concerns.' (Raymond, et al., 2010, p. 423). This shared history, in informal settlements, normally refers to the hard times they had to endure through the process of invasion. It was a process shared by

most of the residents of Amp. Las Joyas, thus tightening their community bonding. However, in settlement Diamante, the shared histories/anecdotes were more of a 'mystical' type: the devil walking around at night, or three mysterious ghost-like children asking for water; stories were impersonal, unrelated to the community life. Residents of settlement Linda Vista did not have any shared history, but rather shared concerns or complaints about services and infrastructure but tended not to discuss issues that would lead to the development of community solidarity.

Three different outcomes surface in the three settlements. These outcomes reflect both the type of leadership and the impact that the layout has on the development of social ties. Amp. Las Joyas, a settlement having a mild topography with a planned layout, has allowed festivities organized by the leader; the allocation of plots and the economic activity of residents has developed social networks; length of residency has only strengthened those ties. Settlement Linda Vista has a steeper topography with a planned layout, and residents with a similar length of residency as those in Amp. Las Joyas. Linda Vista has an authoritarian leader, which has had an impact on the lack of community cohesion. Finally, settlement Diamante fluctuates in between as the results show; this is a community with the steepest topography, a non-planned layout, and a leader who is not fully accepted by everyone.

8.3. Identity

Place identity is the other variable in the measurement of place attachment, that is mostly related to the human geography concept of 'sense of place' (Relph, 1976, 1997; Buttimer and Seamon, 1980; Tuan, 1997,1980). Place identity grows over time, as it is related to the feelings and symbolic connections to place that define who we are and gives meaning and purpose to life. These symbolic connections give value to places, with emotional and physical/functional bonds between an individual and a geographic locale. As mentioned by Manzo 2003, 2005 in Manzo & Perkins, 2006, who we are and where we feel we belong is influenced by gender, race, ethnicity and class. Also,

informal settlements have the 'fluctuating' factor added to the identity variable, a 'sense of time' (Bayat, 2004) with multiple temporalities that can either affect or benefit the attachment to the place. This sense of time comes directly related to the amount of time spent in the settlement, and the effort put forth into constructing the same (Lombard, 2013).

Several variables were analysed to acknowledge place identity and the resident's identity towards the place. Gathering of data was pursued for the three scales of: city, settlement and house; through the use of observation, mapping exercises, and informal interviews with focus groups of the same three informal settlements (Diamante, Amp. Las Joyas, and Linda Vista).

8.3.1 City scale

The place identity within the city scale was measured by two sources of data, one based on the interviews conducted with local authorities with the question: "*How do you deal with informal settlements? Would you consider them a problem to city planning?",* and the other based partly on the question done to participants: "*If you had to tell a friend how to get from the city centre to the settlement, and to your house, how would you describe it?"*

Outsiders views

The interviewed authorities consisted of (1) an architect and urban-regional planner of Implan[139], (2) the coordinator of one group of community leaders, (3) the Director of Urban Planning in FIBAZI[140], and (4) the Planning technical designer architect in FIBAZI. The aim was to capture the way in which informal settlements are perceived by 'outsiders', and later compare these perceptions to the ones expressed by the residents of the same.

Arch. Guerrero from Implan, has participated with the Habitat Program in Mexico, and was more aware of the situation of informal settlements, not only in the country but in the world. His responses were more focused on making the informal settlements' residents feel a part of the city by means of enhancing

[139] Municipal Planning Institute
[140] Zihuatanejo Bay Trust

participation programs towards an inclusive city planning. He mentioned that, even when informal settlements are 'outside the law', they form an important part of the city, including them would reduce the negative impact that they can have. He was surprised by how the leaders of these settlements know how to proceed politically towards regularization, how aware they are of the responsibilities that they acquire as leaders and how they pass onto the residents the commitment to adequately pay for the land in the process of regularization.

The coordinator had a more social view of the impact of the informal settlements. He accepted the fact of informal settlements as a 'problem' to the city, but also acknowledge the lack available housing. Explaining that his point of view had evolved from that of an outsider to that of an insider, he mentioned that informal settlements are the only way that low-income people have found to acquire a place to live. Leaders, he mentions, act as realtors, some with good intentions, some with bad, but they do solve the problem for those people. He insisted that governments need to provide housing options in order to prevent those types of settlements. He said the residents of informal settlements are aware of the illegality of their actions but have no choice.

The director of FIBAZI, during a discussion of the difficulties involved in regularizing informal settlements (further explained by designer Arch. below), mentioned that there are "*two cities in Zihuatanejo*". He referred to the informal settlements as the "*guts of the city*", referring to them as places that hardly anybody knows or has seen. In his view, they are not as unhealthy in Zihuatanejo as they are elsewhere. He went on to elaborate that because of the view and weather conditions, the town has provided an opportunity for them to live a pleasant and comfortable life compared with other informal settlements in Mexico City. He added that they have worked towards an agreement to prevent further invasions in order to protect what its left of Natural Reserve areas. Invasions, however, are sometimes impossible to control due to the political agendas of some authorities.

The designer architect has two views. The legal view is that informal settlements cause a significant drain on the finances of the administration during the process of regularization. The amount of money spent on regularization exceeds the amount recovered from the sale of the land. He also said that they have a vast negative visual impact on the city, and as Zihuatanejo is a tourist destination, they reduce the possibility of tourism. Dirt and garbage which come down from the informal settlements clog the sewer in the streets of the town centre. The other issue is a geometrical-political one, as informal settlements grow faster than they can be regularized; there is "*no getting ahead*" he stated.

Informal settlements then, as a summary of the above, are perceived by outsiders as a problem for the city, a 'cancer' that needs to be cured, both for the ones living in the settlements and for the ones in the city; in "[…] *almost every country, the middle and upper classes view squatters as outlaws*,[…]" (Neuwirth, 2007, p. 75). However, they are also an oasis for those who cannot afford a proper place. This is a constant process that happens due to the lack of political and economic stability.

Insiders views

A mapping activity asking residents to draw their way from the city to their settlement was also done to acknowledge the subconscious value that residents give to their settlement within the city[141]; two identity relationships were found in all three settlements. Some related the settlement directly to the city as the place where basic needs are satisfied (Fig. 8-4), and others related to the neighbouring settlement as the 'father' or origin for their own settlement (Fig. 8-6), an extended identity. This second identification value originates from the factors: (1) many of the residents used to live at the neighbouring settlement, paying rent or with a family member, (2) some heard from

[141] The mapping activity produced ten drawings per settlement (one of each participant). Only one drawing of each was selected to illustrate the dependence variable to the city, and two of each to illustrate the identifiers of the settlement in the next section. The selection was only based on the clarity and cleanliness of the drawing, (light coloured drawings did not scan properly).

neighbouring residents that the place was going to be taken, or were offered a plot by them. (See description in the history of each settlement in Chapter six).

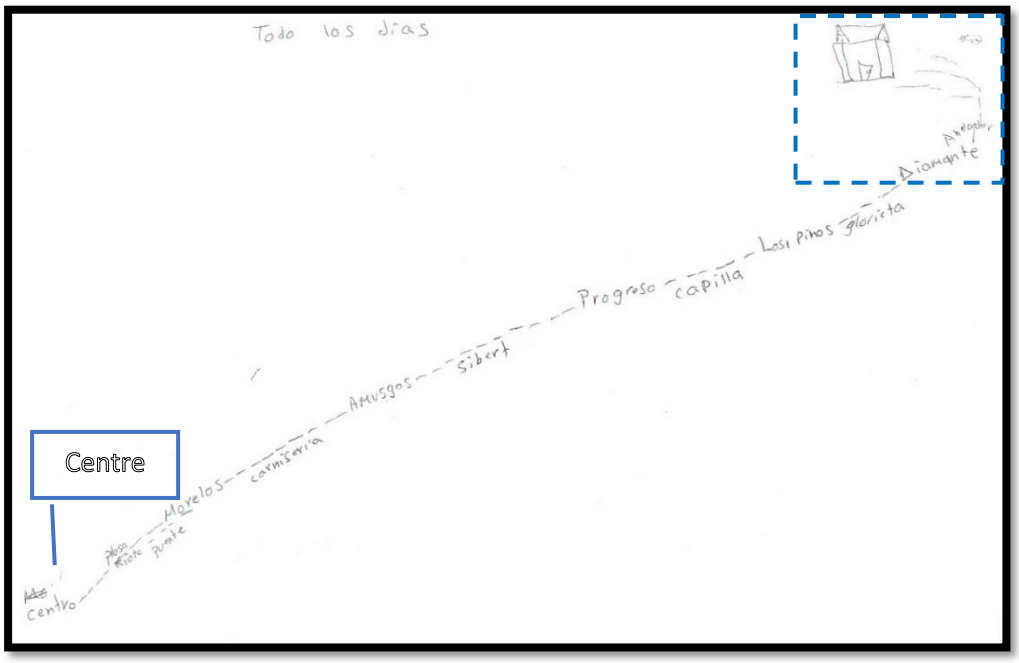


Figure 8-4 Settlement Diamante, single line directly from city centre to home.

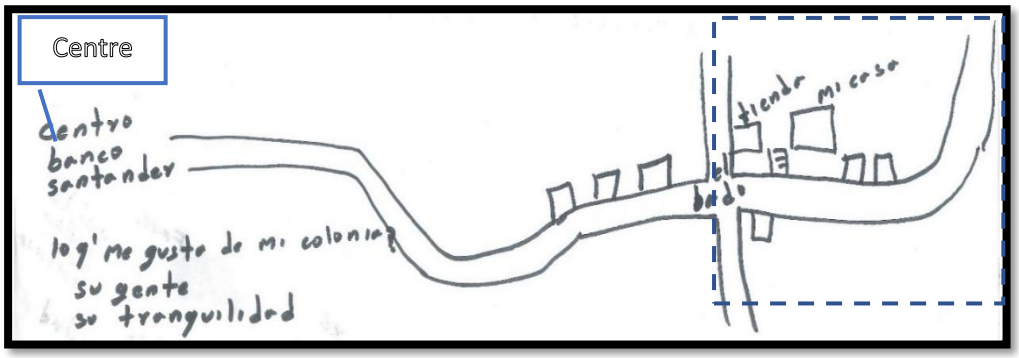


Figure 8-5 Settlement Amp. Las Joyas, the road from the city centre to home.



Figure 8-6 Settlement Linda Vista, the road with neighbouring settlements' landmarks

Even though the same instruction was given to all participants, results of the same exercise point out the drawn relational identity that inhabitants of each settlement feel that they have with the city, as shown from the images above. Graphs 8-19 and 8-20 compare the relationship to the city expressed by participants during the interviews[142] and the mapping results.



Graph 8-20 Relational Identity as per drawings

Graph 8-19 Described relational identity

[142] Question: If you had to tell a friend how to get from the city centre to the settlement, and to your house, how would you describe it?

The response to the interview allowed for a more detailed insight into the way residents identify with the city. The description again varied per settlement: (a) people in settlement Diamante maintained the 'extended' identity of the neighbouring settlement. All participants referred to the neighbouring settlement as a way to get to their house, with no specific indicators within their own settlement. They would refer to a big retail store down the street as a vague marker on the way to the city centre. (b) settlement Linda Vista also mostly made used of neighbouring landmarks, rather than connecting themselves with the city centre; references to the settlement were only directional. (c) settlement Amp. Las Joyas, even though it is the furthest one away from the city, did use the city as a reference point. People did specifically emphasize that the name of the bus should not be confused with the name of the neighbouring settlement (Las Joyas). In this way, they differentiated themselves consciously as an independent community. Few participants included the neighbouring suburb as a location reference. All made use of known landmarks in the settlement (further explained in the section below). The perceived distance that residents have of their settlements from the city can also be observed in the drawings. Even though the settlement of Amp. Las Joyas is the furthest from the city centre, it was not drawn as such.

8.3.2 Settlement scale

People identify with the place once they have made it home. This was reflected in this study by the care that people take of their own settlement, and by the way that people create a community by the means of, precisely, social interaction. Care of place was mentioned in chapter seven as a result of the type of governance, and the impact of community work. However, precinct

cleanliness is also a physical predictor of people's identity with the place, which is easily noticed by observational research, as illustrated below.



Figure 8-7- Precinct care and cleanliness Diamante.



Figure 8-8 - Precinct care and cleanliness Amp. Las Joyas.



Figure 8-9 - Precinct care and cleanliness Linda Vista

Of the three settlements studied, Amp. Las Joyas was identified as the cleanest, most spacious and best organised. Each settlement was perceived differently. Each one has a different 'spirit', based on physical location, natural characteristics, the view, the way people joined the community, and the type of leadership. All these variables were found to influence the identity of the place, and the way people relate to it.

In order to identify meaningful and significant places that the community perceives as important for the identification of the settlement (such as natural or build landmarks), two exercises were done. The first one was done through a composite sketch map during the focus groups workshops, and the second was the question: "If you had to tell a friend how to get from the city centre to the settlement, and to your house, how would you describe it?". The comparison of the answers to these two research tools helped acknowledge those elements/places/people that the residents perceive as landmarks or identifiers of the settlement.

Illustrated in graphs 8-21 and 8-22, responses to the above interview question varied from those expressed in the mapping activity (shown below). (a) For settlement Amp. Las Joyas, all references to the built landmarks were the same. The chapel and the bus stop were present in every answer. Participants particularly emphasized those places as the places which were products of their joint effort and that they were most proud of having in the settlement. The leader's house and the convenience store of Doña Juana were also present in some of the responses, which gives an idea of the importance those two people have in the community. Three participants went into detail about the colour of their houses, which represents an even deeper appropriation of the place and allocation of self-identity towards the small scale of place (further described in the next section). (b) For settlement Diamante, the place itself was not described as having any characteristics that could be used as a reference. Neighbours were only mentioned as verbal references to guide the way to the participants' homes. (c) For settlement Linda Vista, there were no common landmarks mentioned other than the construction material of the street that connects the settlement with the city, and the direction (uphill/downhill) of the roads.

Images below illustrate the identifiers perceived by participating residents during the mapping activity workshop. Areas outlined in red show the settlement's area, to compare the depth of identity perceived by the participants

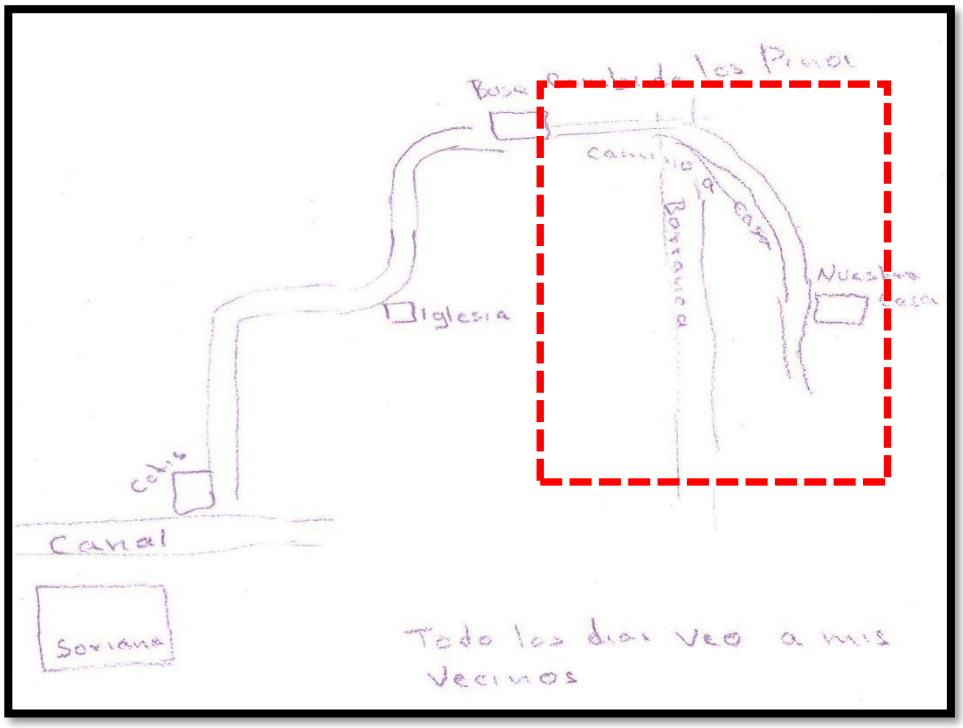


Figure 8-11 Settlement Diamante, creek location (Barranca)

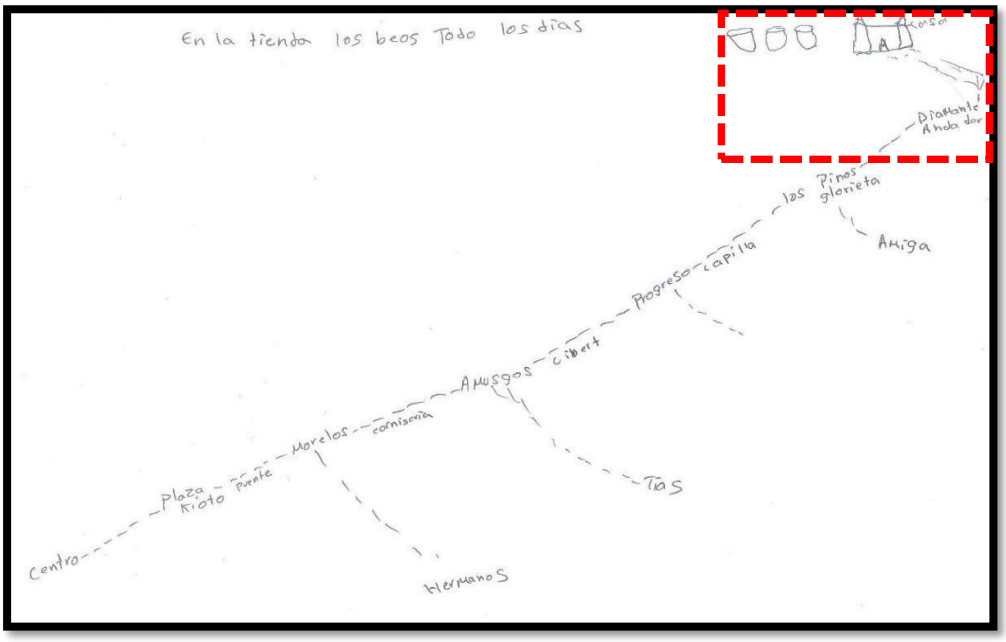


Figure 8-10 Settlement Diamante, friends and family located along the way from city to home

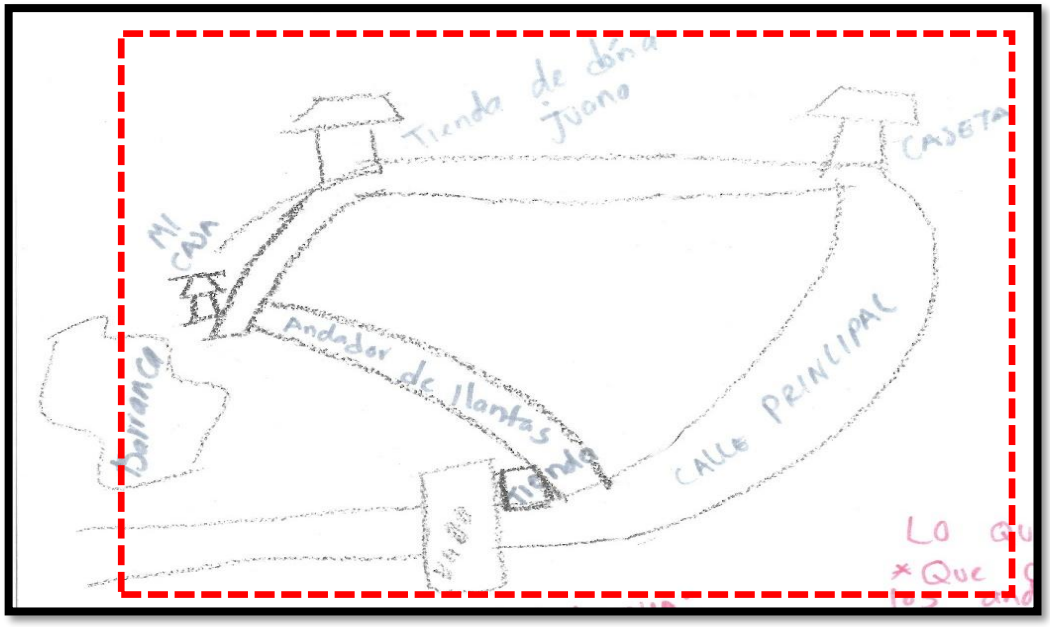


Figure 8-13 - Settlement Amp. Las Joyas; natural and built landmarks, from settlement's entrance to home

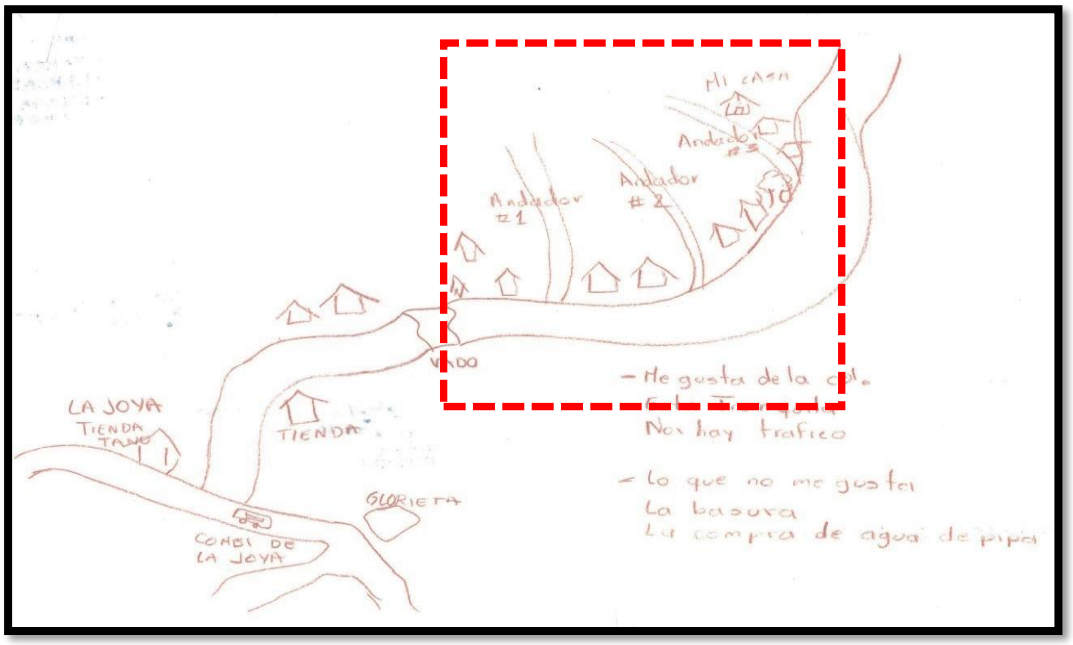


Figure 8-12 Settlement Amp. Las Joyas; social layout as guidance, from neighbouring settlement to home

Both drawings of settlement Diamante show little detail of the settlement itself, but rather its location in related to the city.

Drawings of settlement Amp. Las Joyas show much detail and outline the actual layout of the settlement.

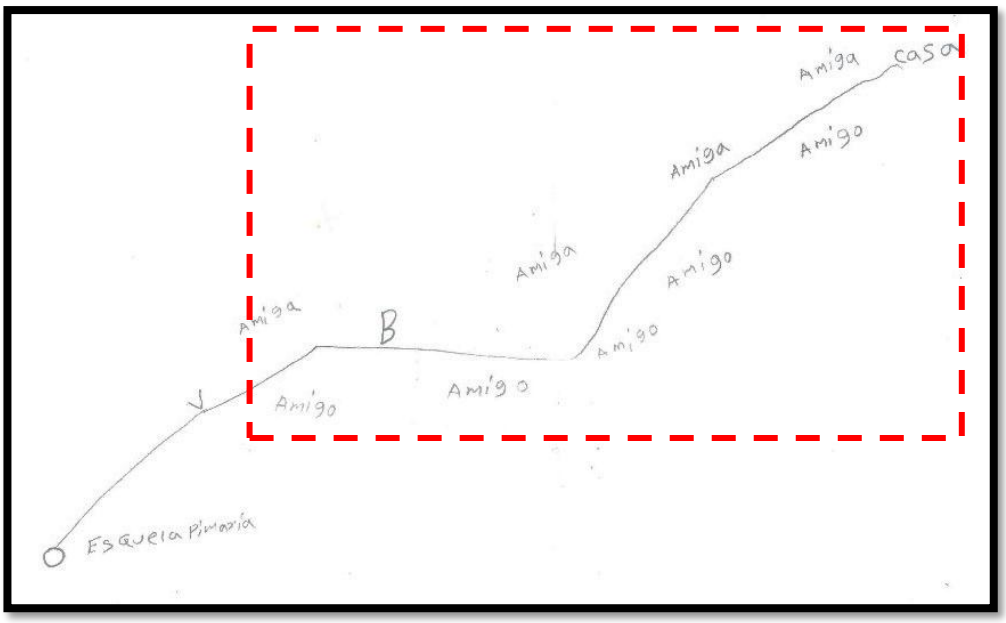


Figure 8-14 Settlement Linda Vista; social relations expressed

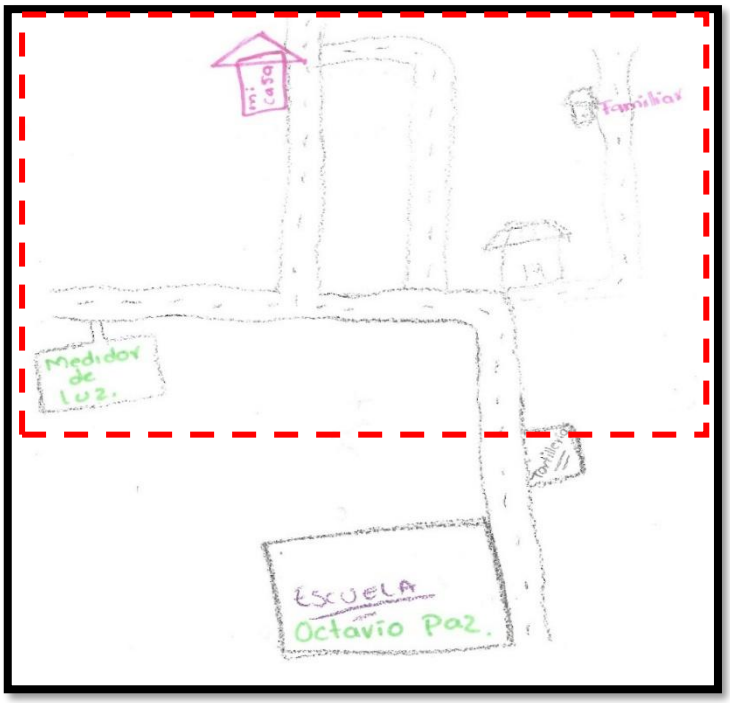
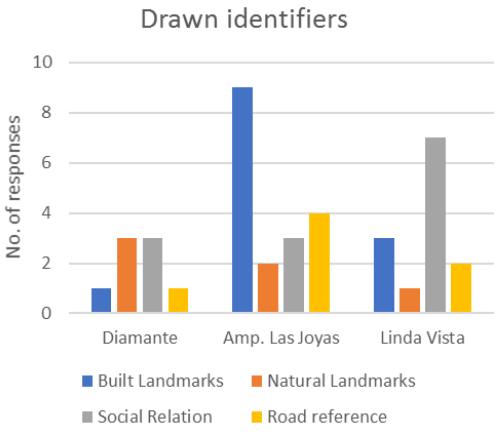


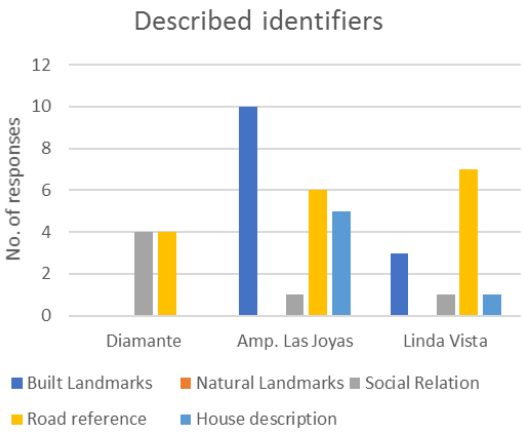
Figure 8-15 Settlement Linda Vista; social relations as perceived identity relations.

Linda Vista residents described their settlement more in relation to their social ties than to any landmarks. Although very different to each participant, it can be seen from the sketch maps that some gave more importance to the relationship of the settlement into the city (further explained in the section above); others just focused on the layout of the settlement. That itself speaks of the way in which residents perceive their settlement to be either part of the city or an isolated location.

Drawings by residents of settlement Diamante, for example, mostly consisted of a single line indicating the journey from the city centre to the settlement. There were few mentions of neighbours as possible verbal references. However, there were references to two natural settings indicating an awareness of risks (creek and canyon) Fig. 8-11. The drawings of settlement Linda Vista mostly indicated family relationships as indicators, using both single lines or more detailed images, Fig. 8-14 and 8-15. The drawings from Amp. Las Joyas were very detailed with signposts, landmarks and social relationships Fig. 8-12 and 8-13. Then again, a possible variable in the lack of detail in the drawings of settlement Diamante is due to the lack of a planned layout; the residents having no landmarks with which to express a relationship. For settlement Linda Vista, the possible it is possible that residents lack landmarks to be proud of.



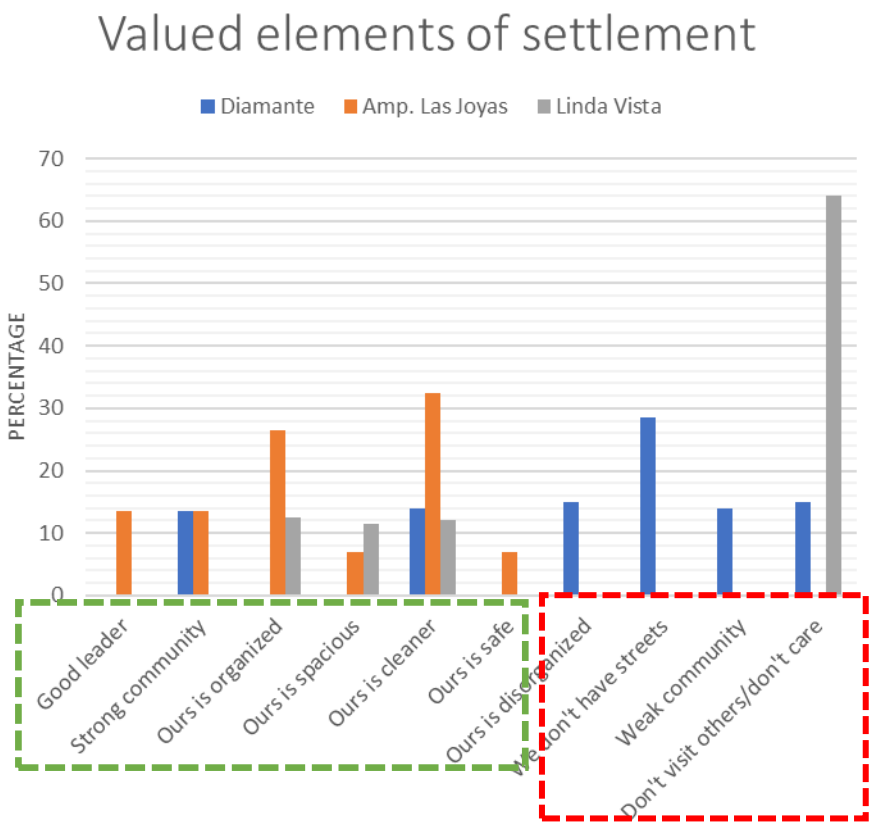
Graph 8-21 Drawn identifiers



Graph 8-22 Described identifiers

Graphs 8-21 and 8-22 above summarize the findings of the mapping activity and the results from the questions mentioned before: where a shift can again been seen from references made to road names to those indicating a social relationship ("*I live two houses up from the leader's*") in the settlements of Diamante and Linda Vista versus a stable reference to built landmarks in the settlement of Amp. Las Joyas.

Valued elements of place



Graph 8-23 Valued elements of each settlement (positive and negative).

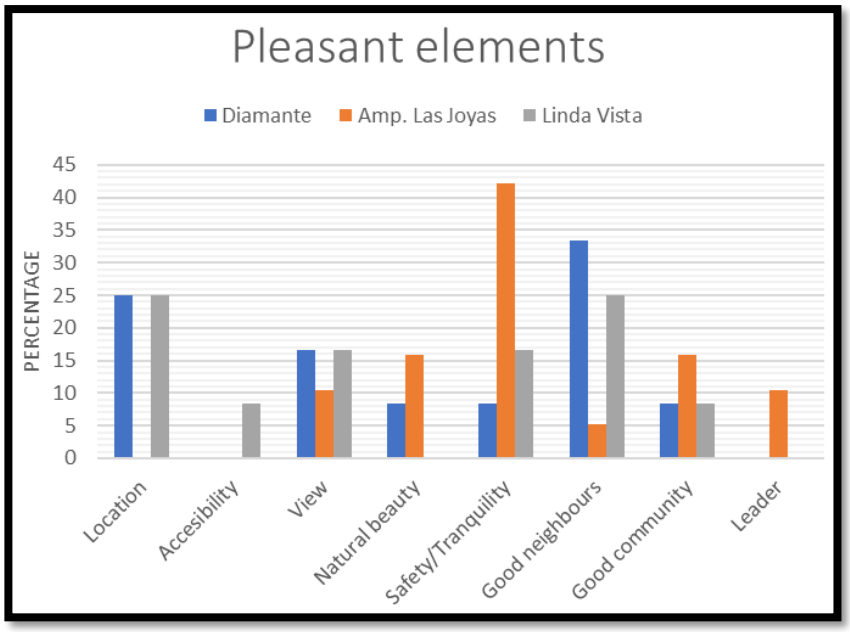
To further understand the value that residents ascribe to their own settlement in comparison to other places, the question "*When you visit other settlements, what do you notice different from yours?"* was asked through the informal interviews. Graph 8-23 above shows the compared responses of all three settlements.

This data reflects the perceptions that residents have of their settlement, which gives more insight than just saying it is pretty, or that they just like it (as would

be asked in a Likert scale). These results also allow us to see the elements that give the place a positive or negative value, a value that has been assigned to the place based on both physical and emotional characteristics produced and nourished by the residents over time. Indirectly, residents themselves are part of that identity, as the strength of a community is determined by participating individuals and is reflected in the care, development and uniqueness of the place itself. A pattern appearing in the results shown so far in this and in the previous chapter shows that settlement Amp. Las Joyas displays a higher percentage of positive values (green box), and settlements Diamante and Linda Vista show a higher percentage of negative values. Leadership again shows its influence; directly in the response of 'good leader' and implied in the organization, cleanliness and services which the settlements have or do not have.

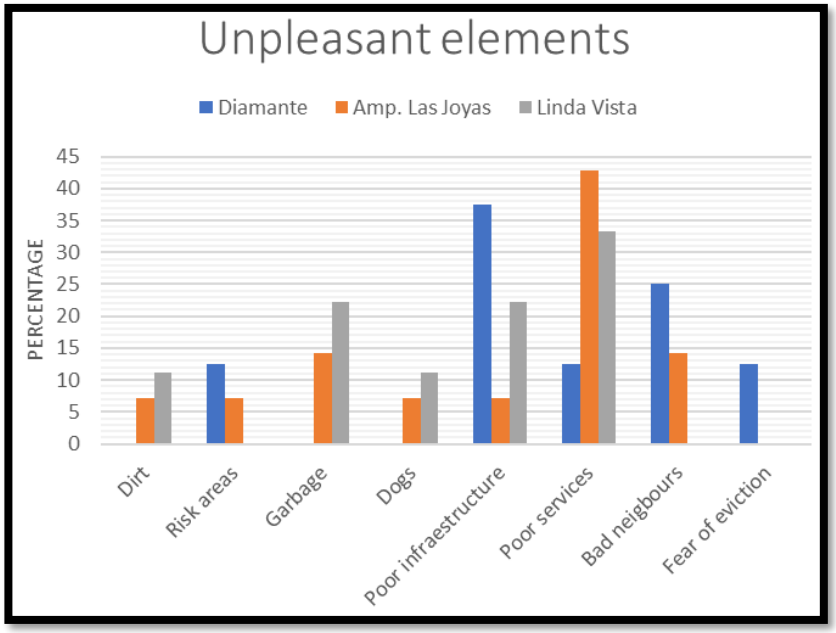
Likeability of place

The following questions regarding the likeability and distinctiveness of each settlement acknowledged the degree of pleasantness as another identity dimension (Félonneau, 2004): "*What do you like the most / What do you like the least of the settlement?".* Results are shown below.



Graph 8-24 Elements mentioned as pleasant by residents of the informal settlements.

Three types of elements were mentioned in the responses: physical dependence (location, accessibility), emotional response to the place (view, natural beauty, safety/tranquillity), and social cohesion (good neighbours, good community, good leader); all of them are expressed as variables of the identity of the place and with other residents. Moreover, although the three settlements possess most of them, it can be observed that residents of settlement Amp. Las Joyas expressed more emotional and community pleasantness than residents of Linda Vista and Diamante, who focused more on their physical dependence on the place.



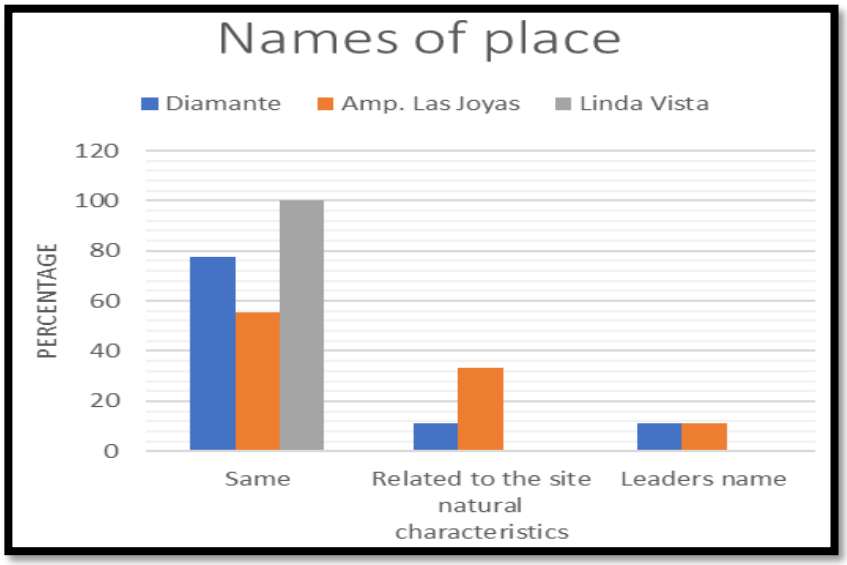
Graph 8-25 Elements mentioned as unpleasant by residents of the informal settlements

For the unpleasant elements, the results shown on the graph 8-25 above show surprising elements expressed by participants; for example, even when settlement Amp. Las Joyas is the most organised and with the best services (as explained in chapter six), residents still identified a big 'dislike' element. This, however, can be understood if the situation is compared on a larger scale; for example, first world countries do consider some cities as violent or dangerous (Jarram, 2018), whose scale of violence does not compare to crime existing in Mexico or Colombia. Applying this same logic to the responses of the

unpleasant elements mentioned by residents of Amp. Las Joyas, it would then be hard to fairly compare their development status with the other two settlements. However, as a general view, most of the unpleasant elements mentioned in all three settlements relate to their status of illegality with the government (poor infrastructure and services, fear of eviction), and only a few refer to the internal livelihood (garbage, dogs, bad neighbours) of the place.

Place naming

The perceived identity that residents have or give to the place (and unconsciously and indirectly to themselves) has been acknowledged in the previous paragraphs. To further understand that appropriation of the place, 'placemaking' theory is used as a research tool to gather data concerning self-identification with place, the following questions were asked: "*If you could name the settlement, what name would you choose and why?, If you could name the streets of the settlement, what names would you choose and why?".*



Graph 8-26 Reasons of preference to name the settlements

This particular question, naming the place, was not very well received by the participants. One factor that might have had an influence was that the regularization processes of the selected settlements were undertaken at the time of research. To elaborate, when participants were asked this question several replied: *"why would you change the name of the settlement if*

everybody already knows it?", and also *"don't change it! all my documents have this address already".* Such concerns can explain why the greater percentage of the participants said that they would keep the same name. Then again, even when they would not appropriate the place by naming it; the place name, initially chosen by the leader, was accepted. The original name was embraced because of its connotations at the time that the settlement was originally created.

The name of settlement Diamante evolved from the longer name Nueva Creacion Diamante. The name was assigned by the first leader just because he liked it. It was just before the regularization started that the present leader shortened it for reasons of practicality. Some of the participants did feel that the settlement's name should preferably be related to the topography (naming it 'The Hill'). Others thought that it would be fair to name it after the leader because of all the work she had done. Settlement Amp. Las Joyas (Amp. = short for Ampliacion, which means extension), gets its name for being an extension of the neighbouring settlement Las Joyas. Some residents also mentioned that relating the name to the topography or vegetation would have been a better reflection of the place. Others would rather name it after the leader's last name (La Rivera).

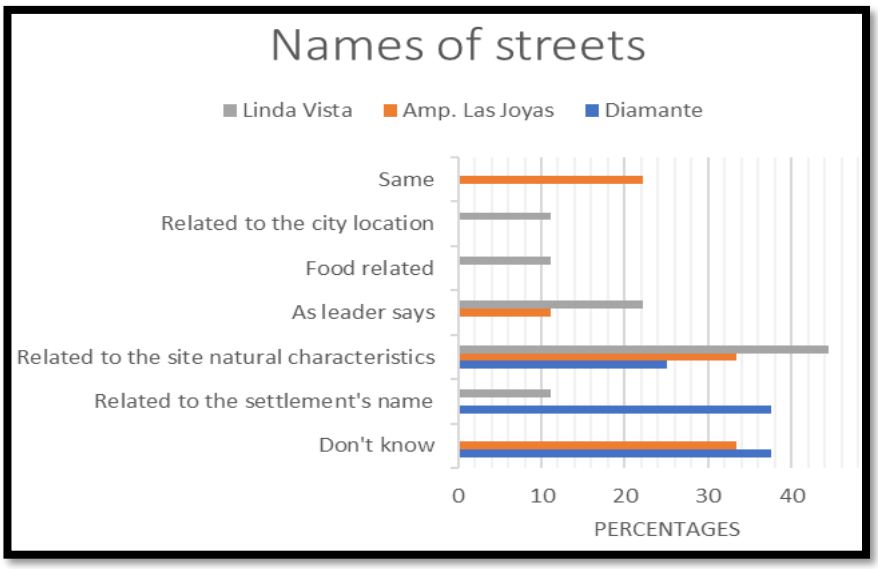
The name of settlement Linda Vista literally means Beautiful View. This name was chosen by the leader and was intended to reflect the original beauty of living all the way up the hill (Fig. 8-16); which is maybe why no one proposed to change it.



Figure 8-16 Views from settlement Linda Vista, January 2018.

Naming of streets

For the names of the streets, residents felt a little freer to make proposals, since none of the settlements have any official streets names other than 'walkway one, two, etc'. In settlement Amp. Las Joyas, the leader had proposed the names of the streets to the authorities; since the leader is a mechanic, the names proposed were car models/brands (illustrating another direct influence of the leader). Although the leader says that he chose those names not only because he likes cars, but also because he wanted to have different sorts of names on the streets of the settlement compared to the usual names that most of the streets in Zihuatanejo and nearby neighbourhoods have (most streets are either named after Mexican heroes or are nature related).



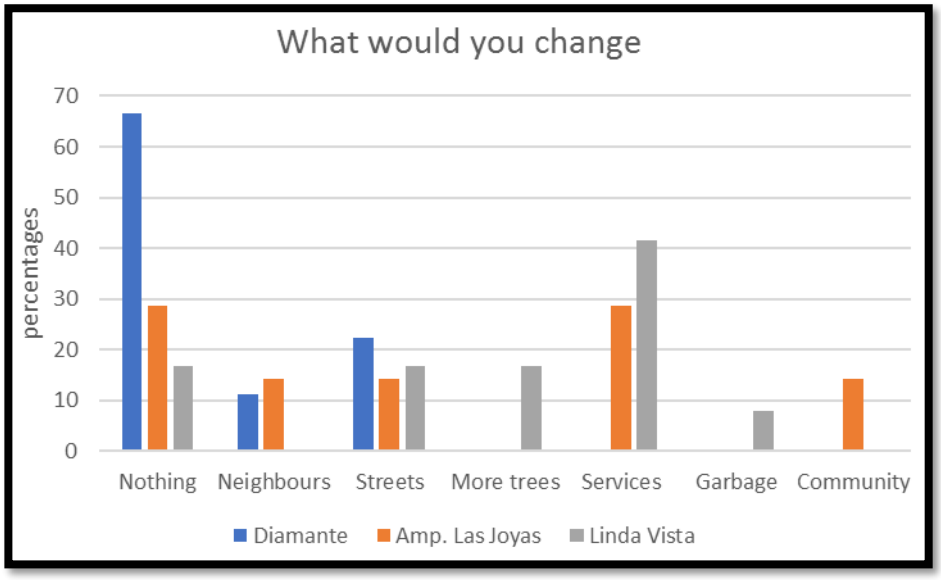
Graph 8-27 Reasons of preference to name the streets of the settlements

Even when 33% did agree to keep those proposed street names, other 33% said that car names were hard to remember, and they would prefer easier names; probably some that portrayed the harmony and safety of the place. The remaining third just mentioned that they did not know. In settlement Diamante (diamond in Spanish), the choice of street names mostly related to the name of the settlement rather than to the 'natural aura' of the site; so, the names of jewels were proposed by 38% of residents. In the settlement of Linda Vista, suggestions ran the gamut from the names of beaches to foods, to the site's natural characteristics, to asking the leader to decide.

Naming the streets gave a lot more insight into the possessiveness that they have about the place, as well as the way they feel about it, the strength of the feeling of belonging to the place, and even the influence of the leader. In Amp. Las Joyas, the place's aura was what they wanted reflected in the name; in settlement Diamante, it was more a sense of having continuity with the name of the place itself; and in Linda Vista, the wide range of responses with regard to name choices reflects a non-cohesive sense of community; nothing really has any symbolic meaning for them.

Value of the place

The question "*If you could change anything in the settlement, what would it be and why?"* was asked to acknowledge the value that residents give to this place, but also what they would be willing to do to improve it. Having noticed that the leader is perceived as having the authority to decide the road to take about the wellbeing of the residents and the settlement, the question was rephrased to: "*if you were the leader, what would you change and why?".*



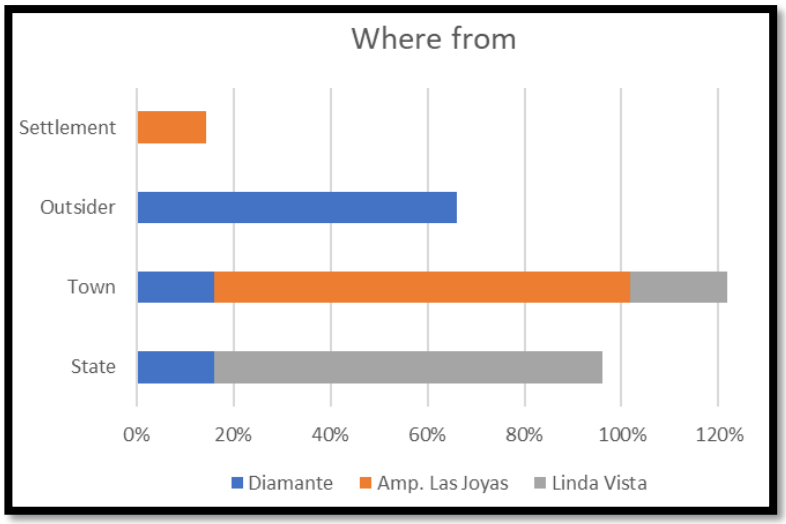
Graph 8-28 Elements of value or improvement in the settlements.

The rephrasing of the question had a significant impact on the way that residents felt towards the place. Giving them the imaginary power of the leader, made it possible for them to express what they would do. The answers

also reflected the real way that they perceive the work that the leader, without having to criticise him/her directly. Residents of settlements Amp. Las Joyas and Linda Vista mentioned services as the major thing that they would work on; although residents of Amp. Las Joyas included a 'proper playground' in the services needed to improve their community; while residents of Linda Vista mostly referred to water, electricity and sewage services. Residents of Diamante were mostly content with the settlement as it is, since, they mentioned, "*it is not worth doing anything anyway because we are going to be regularised and then we will have everything*". This has shown three things: Linda Vista's residents see the place as just a location to have a house, the residents of Amp. Las Joyas want the place where they live to be nice, and residents of Diamante feel no responsibility towards the place.

Place as an expression of self

Three more questions were asked to assess the degree of the place's identity as an expression of self (Williams, 2000); hence belonging to the place: (1) "*When asked where are you from? What do you say?" (2) "When asked where you live, what do you say?" (3) "Does living in an informal settlement mean anything to you? What?".* The responses are shown in the graphs below.

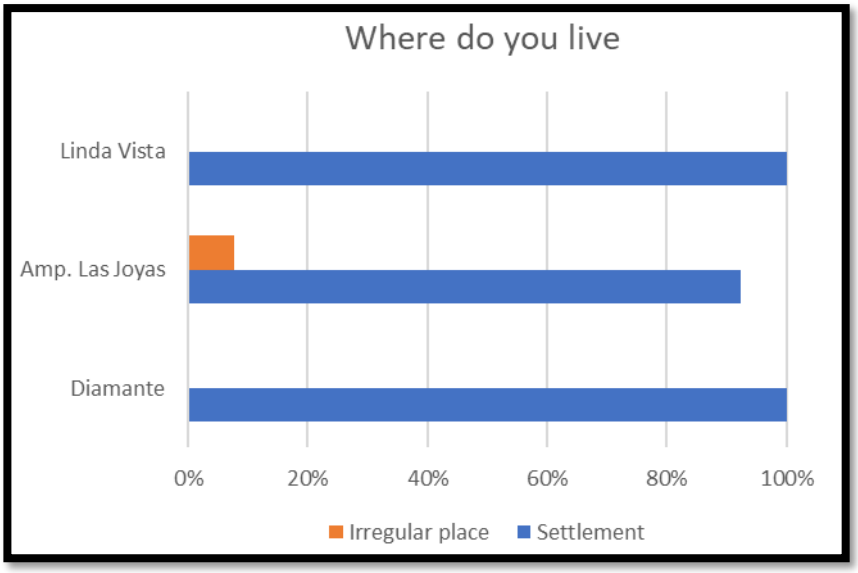


Graph 8-29 Acknowledgement of the place of origin as a reflection of the personal identity.

The "*where are you from?*" and "*where do you live?*" questions, although both refer to the "*where do you belong?"* concept, were deliberately asked as separate ideas in order to enquire more deeply about that sense of belonging on the different scales. You could feel you *are from* a place just because you were born there and living in a place might just be for practicality reasons. However, you could also feel you *are from* a place because you share the traditions, physical characteristics and love of the place, which could also be the place where you live (Varley, 2015). Time spent in a place, may or may not make users of the place feel a part of it.

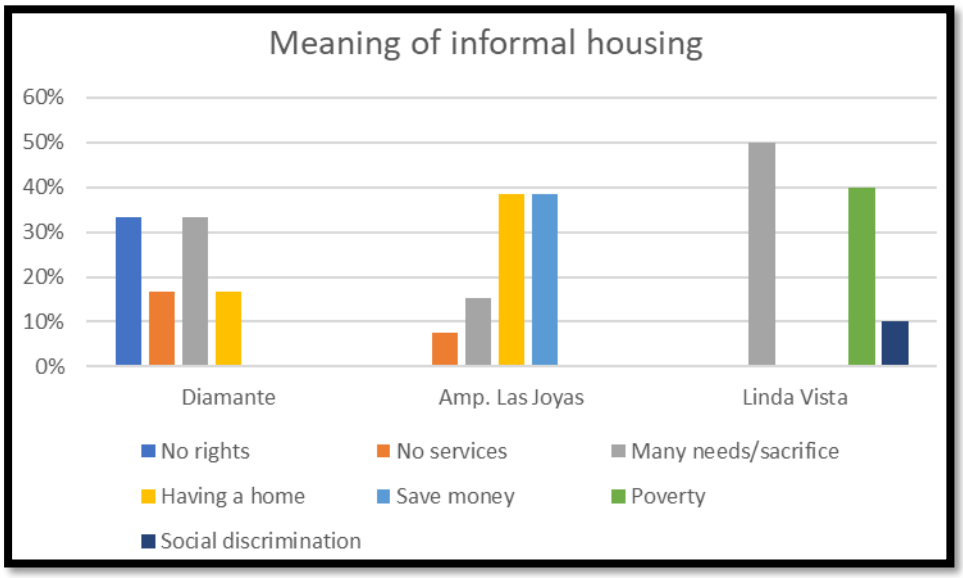
Interestingly, the graph 8-32 above reflects that sense of belonging in each settlement on three scales (local, regional, national), even when, as has been stated before, the time lived in these settlements has been the same. Residents of Amp. Las Joyas were the only ones that identified as being from the settlement itself (14%), though most residents saw themselves as being part of the town (Zihuatanejo). Residents of Linda Vista mostly saw themselves as citizens of the state (80%), without any particular relation to the town or to the settlement. Residents of Diamante referred to themselves as mostly as belonging to their place of birth (66%). Being identified as part of a place shows attachment towards it. In this case, it is clear that residents of Amp. Las Joyas experience a greater sense of belonging to their settlement than do the residents of Diamante and Linda Vista, where being in the settlement seems to be just for reasons of practicality without any formal attachment to it.

When asked the questions of "where do you live?", all three of the settlements' residents mentioned the name of their settlement; except for one participant of settlement Amp. Las Joyas with a strong attachment to the scale of 'house', who was very specific about living in a wooden shack in an informal settlement (Graph 8-30).



Graph 8-30 Acknowledgement of the place of residency as a reflection of the personal-place identity

Question #3 (*"Does living in an informal settlement mean anything to you? What?")* was asked to participants in order to further understand what 'living in an informal settlement' means to the residents. What outsiders think about informal settlements has already been explained in this text.



Graph 8-31 Perception of the meaning of living in informal housing

Answers can be separated into two groups: positive views and negative views. There was a wide range of negative answers going from bad (such as having no

proper services and having many needs) to terrible (living in poverty, having no rights and enduring social discrimination) and two positive ones (having their own home and saving money). When people are content with their lives (home, work, family), they will express fewer negative thoughts and complaints than people who are not content (Taylor & Brown, 1988). *"– if you are not happy at home, you are not happy anywhere else."* (Harmon, 2016). Applying these theories in order to understand the degree of 'happy belonging' as expressed through the answers regarding the meaning of place for the residents, we have observed that the settlement of Amp. Las Joyas expressed more positive views of what living in an informal settlement means. Rather than focusing on the cons of the irregular and illegal status of the place, the people of Amp. Las Joyas focused on the pros: their not having to pay more money for rent enabled them either to save money, or to have more money to spend on food. In addition, they now own a piece of property and their own house. At the other extreme, residents of Linda Vista expressed the most negative views (but probably the most realistic ones) about irregular housing: sacrifice, need, poverty and social discrimination; while residents of Diamante had a more balanced sense of the positives and the negatives. Even though informal housing does account for an essential amount of sacrifice and struggle, as 33% of all the participants mentioned, the illegal occupation of land has been the only way for the urban poor to access an affordable place to live, as mentioned by 32% of the participants.

Even in settlements with a good and positive community leader, direct attempts to gain an (albeit illegal) patrimony - a house, are offset by constant fear of eviction or relocation. Yet, constant fear of eviction or relocation despite hard-earned gains has not prevented inhabitants from building a community and assigning value to places other than their own home as Brown and Perkins (1992) cited in Manzo and Perkins (2006) suggested.

Conclusions

The literature review suggests that the variable of social relations, which strengthens or weakens place attachment is the hardest variable to analyse in any context. Having tested and researched in a broader context the variables of place attachment in informal settlements in the pilot studies and having found leadership to be the one crucial and feasible variable to impact any study affecting the social context; this chapter has pointed out the influence that community leaders have on the formation of the social community in informal settlements. This influence, created directly by means of community work and festivities and indirectly by means of the layout and assignation of plots, also builds the social networks and cohesion (Table 8-7), and the identity (Table 8-8) of the place and a community that identifies with it.

SOCIAL COHESION			
	Linda Vista	**Diamante**	**Amp. Las Joyas**
Social networks	Very localized to street physcial proximity.	Neigbour acknowledgement extended over the whole settlement.	Friends acknowledgment extended over the whole settlement.
Development of ties	Location	Community work	Location and community work
Leaders influence on social ties.	Fifty nine percent constructed by the leader	Seven percent of ties constructed by the leader.	Seven percent of ties constructed by the leader.
Stable ties	Friend	Family and Trusted one	Family, Compadre and Trusted
Social bonds	Family	Friends and Neighbours	Family, Friends and Neighbours
Depth of bonds	Residents know their friends personal information at about 25%	Residents know their friends personal information at about 80%	Residents know their friends personal information at about 85%
Strenght of bonds	Leader	Family	Family and Friends

Table 8-7 Comparison of variables of social cohesion for the three informal settlements.

Table 8-7 shows the most meaningful results from the analysis of the three settlements, which highlights the different community relations that exist in the settlements. While residents of settlement Amp. Las Joyas have developed a strong sense of community through both works coordinated by the leader and the allocation of their plots, which allowed the three strongest figures of social relations (Family, Compadre and Trusted one) to emerge and be

nurtured; the social community of Linda Vista is mostly built by the leader, both by the allocation of plots and the type of bonds created among them. Residents of settlement Diamante have managed to overcome the disorganised layout to form ties, to some extent, among themselves as neighbours while keeping the strength of the bonds among family members. From this, it could be presumed that the social cohesion in Amp. Las Joyas is high, in Diamante it is medium and in Linda Vista it is low.

The accumulation of shared stories and a history of invasion and struggle also strengthens the community of a place, as it was noted from informal chats with residents of Amp. Las Joyas. No such stories were presented or expressed as meaningful by residents of Diamante or Linda Vista, who focused more on impersonal stories or complaints.

Income and lifestyle impact on the availability of social interaction in the informal settlements, even more than the length of residence in the place as the literature suggests. The presence or absence of children also has had no critical impact on the social cohesion of these informal settlements.

Identity was analysed as a binary variable, understanding the personal identity built as a resident of a particular informal settlement, and the identity given to the place and perceived of the place.

IDENTITY			
	Linda Vista	**Diamante**	**Amp. Las Joyas**
Personal Identity	Belonging to the state	Belonging to their place of birth	Belonging to the settlement
Identity (place) as self-identification	Poverty and social discrimination	Poverty and owning a property	Owning a property
	Settlement just as a location to live	No responsibility towards the place	Care for the settlement
Place identity	Non symbolic nor cohesive sense of community	Just a location	Reflection of the place's natural aura
Identifiers of place	No services, disorganized, indifference	No services, no landmarks to be proud of	Community, leadership, pleasantness

Table 8-8 Comparison of variables of identity for the three informal settlements

Summarizing the tables from section 8.3, positive and negative values can be seen from table 8-8 when comparing the way in which the place is perceived

by their residents. Residents of Linda Vista show no 'love' for the place, nor a sense of belonging to it either. For residents of Diamante, although they value the possibility of gaining a piece of property, the place is just a means to an end; however, residents of Amp. Las Joyas show a deep connection to the place and demonstrate a proud sense of belonging to it.

The three settlements analysed in this chapter, show three different examples of the influence of community leadership on residents; sometimes directly in the form of community work and construction of social ties as in settlement Linda Vista, and others, indirectly, by the effect of the allocation of the plots and organisation of festivities as in settlement Amp. Las Joyas. The variables analysed, slowly start reflecting the attachment to the place that each settlement's residents have and will be further analysed in the next chapter.

Three different outcomes, ranging from deep social bonds to weak and loose social bonds, plus a strong sense of belonging, and identity, are reflected as a result of the layout and spatial arrangement of the houses, the community work coordinated by the leader, and the economic circumstances of informal housing. Findings from the site work show that the creation of social ties is dependent on the way the settlement was formed and organised. Social bonds develop and grow as per that environment and develop an identity. From this outline of variables and influences community leaders have on the development of social bonds and identity, the next chapter will build on the correlation of these findings with the relationships explored in chapters five and six.

Chapter 9 Leadership and its relation to Place Attachment

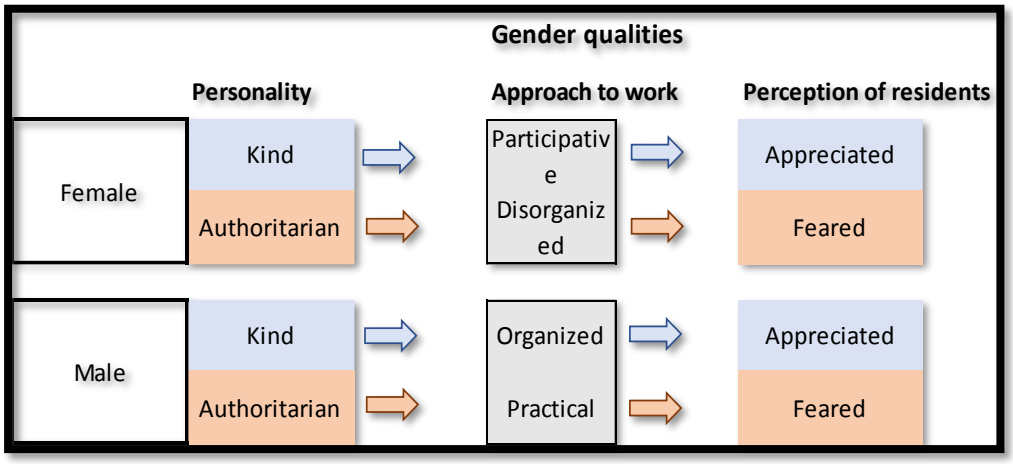
The trichotomy of place attachment (dependence, identity and social cohesion), from the case studies, was explored and analysed in chapters six, seven and eight, and has illuminated the variable extent to which place attachment is present in informal settlements in Mexico. The hypothesis presented in the introduction focused on the influence of the type of leadership as a main influence on the development of place attachment in informal settlements. This chapter synthesizes all the variables of place attachment with the main and central theme of the figure and influence of the leader. Whether leadership influences the type of community that is formed is the argument under discussion. Relationships connecting place attachment in informal settlements with leadership are presented as the sum of these variables.

The analysis is presented by theme, starting with the leaders' work both on the physical site and in the community, followed by the three variables of place attachment (dependence, social cohesion and identity). These variables are correlated to the type and personality of the leader, later cross compared in the next section with the results from the three variables of place attachment as studied in this work. The results show a direct relationship between the type of leadership and the attachment to the place.

9.1 Leadership variables and their influence on informal settlement development.

9.1.1 Personality

As mentioned in Chapter one, Community Leaders have rarely been studied from the point of view of personality and its potential influence on the communities they guide. Results from this study show that there are considerable differences among leaders in terms of personality (as perceived by the inhabitants) and gender, and that these differences appear to affect the way that residents perceive their leaders and hence their willingness or lack thereof to work with them. Of the eight leaders of informal settlements, three were women and five were men (see Chapter six, table 6.4).



Graph 9-1 Gender qualities comparison

The graph above shows the two types of perceptions that arose from the group of eight informal settlements studied: Appreciated and Feared, as per the results of the interviews regarding community work [143], to leaders and residents. It is obvious that a kinder approach to people is always welcome. Although a nurturing personality can indeed improve the work environment, the manner in which personality combines with the leader's approach to the

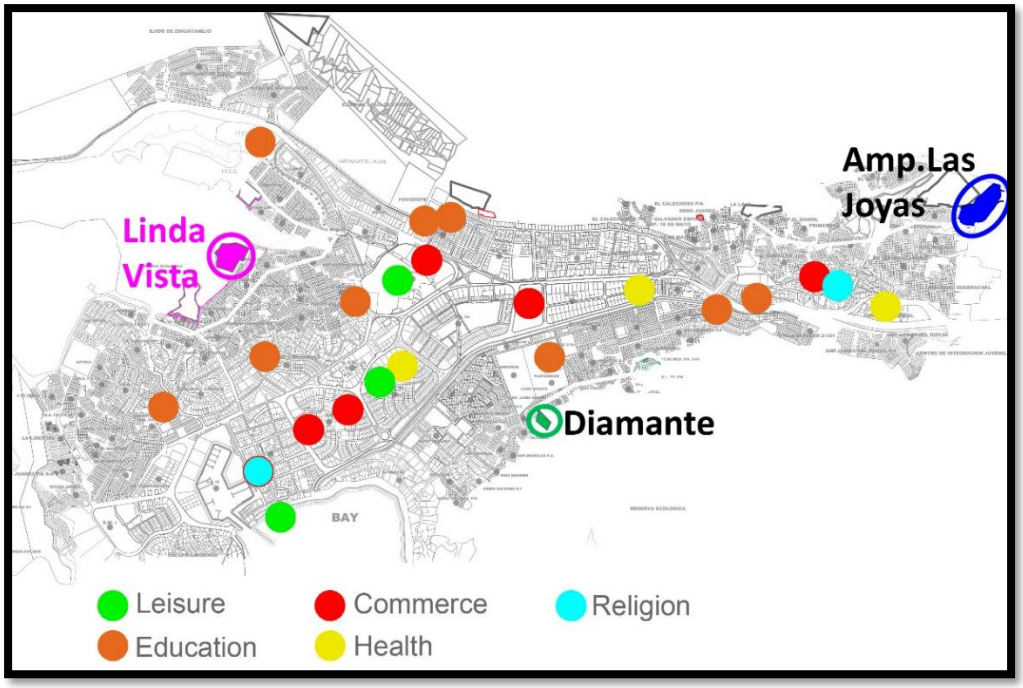
[143] Questions: Do you know the community leader, or committee? Have you spoken to him/her? How often and under what circumstances you see him/her? and How would you describe the leader?.

work to be done (organized / disorganized, participative / practical) is the primary differentiating factor with regard to the choice of governance model. The approach taken regarding governance did show a variation according to the gender of the leaders studied: the women tended to encourage more participation, were more engaging and caring, but were also more disorganized; whereas the men tended to be more practical/authoritarian, were more emotionally detached but were also very organized. Being appreciated however does not necessarily imply that the leader represents a strong figure for the residents; the approach they take towards getting things done coupled with a pleasing personality is then what characterizes a healthy leadership.

9.1.2 Choice of site

Being close to services is imperative for low income people; so, the choice of the location of the site, made either by the current residents of the informal settlements, or by the leader, is a key factor. Of the three settlements chosen, three different reasons were the main cause for selecting each site: closeness to friends and family (Amp. Las Joyas), closeness to the city centre (Diamante), and necessity[144] (Linda Vista). Because Zihuatanejo is a small city, and the furthest settlement studied is just a twenty-minute ride from the city centre, services are (as far as distance is concerned) close by. Summing up the reasons behind the decision of the location of each settlement as explained in the previous chapters: it was a personal one for the leader of Linda Vista, a practical one for the leader of Amp. Las Joyas, and an easy one for the residents of Diamante, but all of them satisfied the need for a home near the city´s services (Map 9-1).

[144] All the informal settlements are the product of the need of a home for the poor, but the reasons here stated are the ones for the selection of the specific site by the leaders.



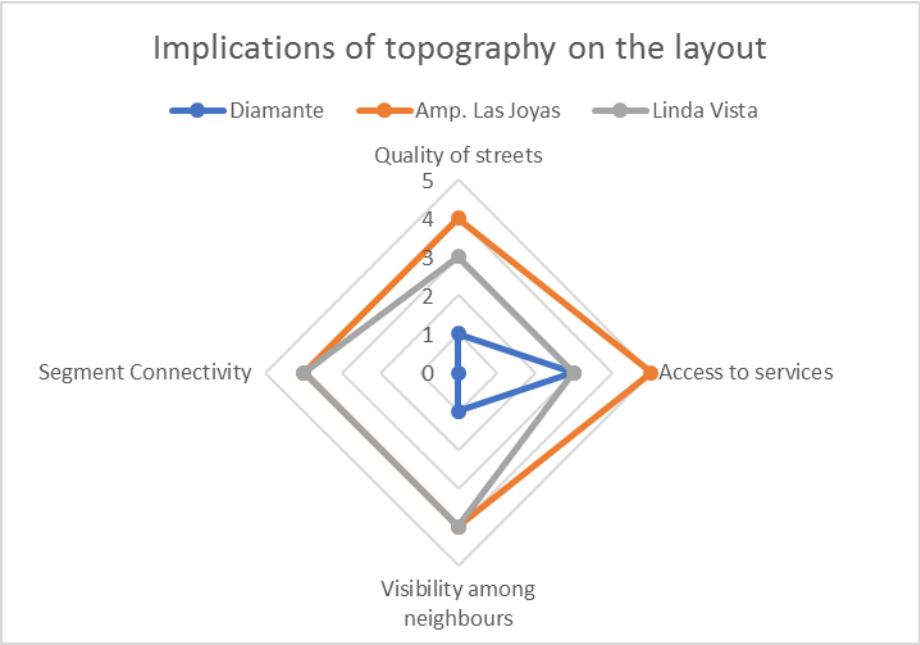
Map 9-1 Location of informal settlements of study within the city.

9.1.3 Layout design

Organization in the form of a plan or predesigned layout by some of the leaders, not only allowed the residents to have an ordered settlement, with designated plots and common areas, but it also eased the regularization process. Having a predesigned layout meant less trouble for the authorities when the official design was to be done. In this study, that was certainly the case since leaders commonly took topography somewhat into account when designing the layout. Two important consequences arose from this fact; the first one was that a predesigned settlement would be enrolled faster in the regularization processes, which gave the residents a better sense of belonging to and owning their land; and the second one was that since topography was already considered in the original design, assigned plots might not necessarily have to change on the official plans; hence relationships among neighbours would likely continue.

Topographic characteristics of the sites have a big influence on the type of layout, the accessibility of services, and the social integration that can be developed. Graph 9-2 compares the results from the Adapted 3D Space Syntax

analysis discussed in chapter six. Space Syntax analysis considered the layout and the topography of each settlement and identified and classified on a scale from 0 – 5 the influence of topography on each spatial characteristic. In the settlements where the leader had a predesigned and organized layout, the spatial characteristics of the settlement showed better quality than those which were not planned. Harsh topographic conditions can be overcome by good leadership.



Graph 9-2 Implications of topography on the layout, results from the three case studies.

Rather than acting as an emotional barrier in the construction of social ties, a predesigned layout that considers the topographic characteristics of the place allows for better space planning and the possibility of development of a stronger community. Based on the results from the spatial analysis on each settlement, particularly from the mapped use of the place and from the responses of interviews regarding the use of the place, which shows that there is a direct relationship between a planned layout and the degree of social engagement between residents, it can be stated that the Spatial Layout bears not only a huge responsibility for the development of social ties but also exerts a large influence on the real physical dependence on the site.

9.1.2 Governance, organization and community.

Gender differences in the eight case studies were explored; each settlement has existed for around ten years with an average population of 110 families. The table 9-1 considers the impact of gender on the overall organization of the settlement. Female leaders functioned simply as a guide for the residents, as their work was voluntary, and the location of the houses was determined by the residents themselves; whereas male leaders tended to have more control over the residents' work and layout organization. No female leader was self-appointed, in contrast with two male leaders who also tended to be more authoritarian. The same results also appeared in the pilot studies which featured one male and one female leader. This is what helped focus the research on understanding the type of leadership.

Leader	Settlement	Designed Layout	Assignation of Plots	Work done on site	Power acquisition
Female	Paraiso Amate	No	Residents	Voluntary	Elected
	Diamante	No	Residents	Voluntary	Elected
	Perlas del Mar	No	Residents	Voluntary	NI
Male	Amp. Las Joyas	Yes	Leader	Joint	Elected
	Jorge Allec	Yes	Leader	Joint	Elected
	Cerrocoy	Yes	Leader	Imposed	Self Appointed
	Linda Vista	Yes	Leader	Imposed	Self Appointed
	Mata de Sandia	No	Residents	Voluntary	Self Appointed

Table 9-1 Gender impact on settlement organization

Even though researchers have not yet come to an agreement about gender differences in leadership (Parry & Bryman, 2006), the findings from the present research show that women indeed favour connection and relatedness but are also less organized and focused than male leaders (see chapter six).

Relating the results presented in this section, this research shows that leaders can be classified into three types and can be organized based on their personalities and qualities. The self-appointed leader generally possesses a strong personality, is an entrepreneur and may have good socio-political capital. The leader chosen by the community is a natural born leader with entrepreneurial qualities. This person is a committed and approachable member of the settlement who may or may not have good socio-political

capital. The third kind of leader, one who is politically appointed may not necessarily possess good leadership qualities but reacts, in turn, to the political interests of the government.

Although self-appointed leaders are commonly depicted as being opportunistic (Chapter two); the results from the present research show that these types of leaders who have created settlements to fulfil a legitimate need for housing for the poor, do not gain any personal political benefits.

Chapter six grouped these settlements into three categories as per the leaders work with the community and the community´s response to his/her call: (a) self-caring, (b) mandatory, (c) optional. These categorizations strengthen the hypothesis that each settlement reflects the type of leadership. In the self-caring model, the work is consciously done for the improvement of the settlement as residents like the place and appreciate the leader. A mandatory type of governance implies a continual resistance to community work and, because of fear of the leader, a forced compliance to do community work. The optional model is open to the will of the residents; leaders just act as guides, and improvements are difficult to achieve. It is theorized here that self-caring type of governance, due to the residents' commitment could imply the development of stronger social bonds, while the mandatory model would be the opposite, as table 9-2 shows.

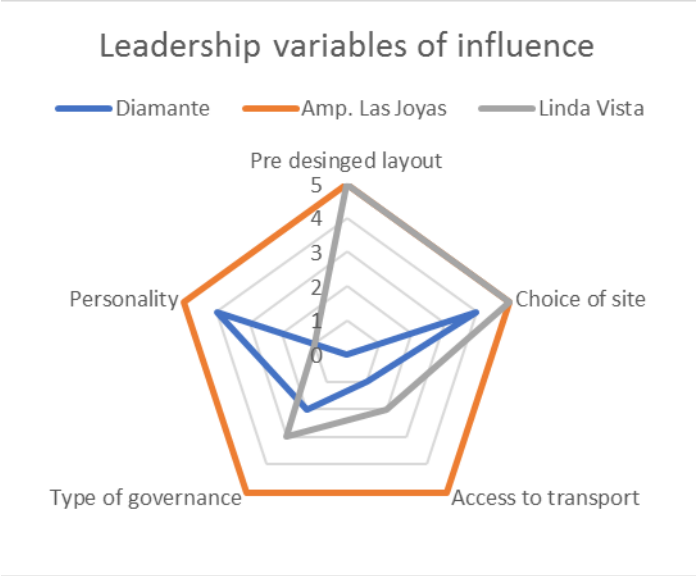
Type of Governance	Settlement	Residents bonds towards the place	Community bonds
Self-caring	Amp. Las Joyas Jorge Allec	Like the place	Strong
Mandatory	Cerrocoy Linda Vista	Need the place	Weak
Optional	Diamante Paraiso Amate	Indifferent	Weak

Table 9-2 Impact of the types of Governance on the settlements.

The personalities of the leaders studied, the impact of their personal qualities on the community and on the improvement of the settlement has been highlighted. There are two variables of personality and gender that stand out. Being kind and organized can have a positive impact on the settlement; as a kind and approachable leader allows for strong integration of the community. Being organized means that things get done and that plans and projects will be achieved. As in chapters 6 and 7, this chapter also compares three settlements: each one modelling a type governance, with one out of the three having a female leader.

This section has shown the direct variables that arise from the different types of leaders, and the impact that these variables have on each settlement. These variables have been summarized and compared in the graph 9-3 and classified from 0 – 5 with 0 representing a negative[145] quality of the variable and 5 a positive one. Hence, settlements with highly and consistent positive (5) leadership variables of influence, would create a stronger community with a deeper attachment to the place, than those with negative variables: a pre designed layout, with proper access to public transportation allows for a better engagement with the city; a reliable and polity personality along with a self-caring governance, creates community engagement.

[145] Classifying the variables as Positive and Negative according to the amount of work the leader has put into each one, the achievements, and the perception of the residents.



Graph 9-3 Leadership variables of influence

9.2 Location and place dependence.

The dependence on a place, based solely on the physical assumptions and specifically as it relates to informal settlements, is almost always referred to as the need for a place to live. As was mentioned in chapter three, Place Attachment can be also negative. Negativity of attachment refers to the desperate need to have a place to live in. The need for such a place is the urgent factor which supersedes whatever harsh physical conditions that the place may have. Asserting the need for a place to live is an empirical and obvious variable of dependence. Place dependence in this work focuses on other variables such as location and transportation, as two main variables of influence (observed on the graph 9-3 above). Public transportation is not available for all the settlements studied (as explained in chapter seven), so three variables are to be considered when analysing the physical place dependence on the settlements: closeness to services, physical distance and perceived distance to them.

Settlement	Closeness to services	Physical Distance	Perceived Distance	Availability of Public transport onsite
Amp. Las Joyas	Close	5.6 km	Very close	Yes
Diamante	Close	2.5 km	Very far	No
Linda Vista	Close	1.5 km	Close	No

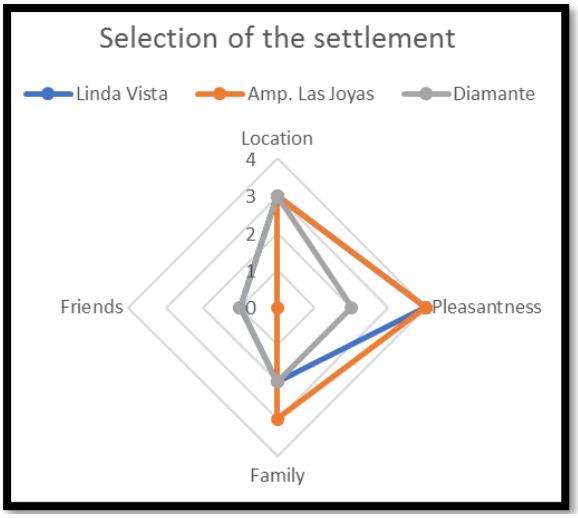
Table 9-3 Physical and perceived location of sites.

The availability of public transportation inside the settlement is also the product of the leader´s work with the authorities, and even when public transportation into the city is available near the lower borders of the other two informal settlements, the impact that it has on the perceptions of the residents is noticeable; even though the settlement Amp. Las Joyas is furthest away from the city, it is perceived as very close by**.**

The physical distance that residents must travel to either access the city for services or work, does have an impact on their economic strain; so being close loads the settlement with high residential value (and hence more dependence on the place). This also makes a difference on the income levels of the residents of these three informal settlements. For example, settlement Linda Vista has the lowest monthly income, while settlements Diamante and Amp. Las Joyas have the highest of the eight settlements studied. Closeness to the city centre due to not being able to afford public transportation, could be understood as a reason for the personal choice of site. However, although income does have an impact on the livelihood of the settlement, it makes a stronger impact on the development of social bonds as expressed in chapter eight and will be later compared amongst the three settlements along with other variables. Results from the interviews [146] regarding place dependence and reasons for the selection of the site applied to 10 participants of each of the three settlements discussed, are presented below. Classified from most significant (4) to least significant (0), the graph 9-4 shows that location is one of the significant variables for most residents of these settlements. Even though the variables of

[146] See Appendix 7.

Friends and Family were considered separately from Location, they are intrinsically related as closeness to Friends and Family (in the sense of distance), also acts as an aspect of Location.



Graph 9-4 Variables of influence in the selection of the settlement

Pleasantness appears as a strong variable in the selection of the site, and although this mostly refers to the natural beauty of the place (the place´s aura), it also reflects the perceptions that residents have about the livelihood of the community.

Another variable that enhances the dependence towards a place is the availability of basic services onsite (religious, commerce, groceries), as observed and mapped by the researcher during the onsite visits (see Maps 7-21, 7-22 and 7-23 on chapter seven). This also relates back to the location of the site. The more services a settlement has, the more comfortable the residents feel. Of the three settlements studied, Amp. Las Joyas is the most complete with regards to both services and infrastructure, followed by Linda Vista and Diamante.

Being close to the city´s services, having accessible public transportation, living in a beautiful natural location with most of the basic services located in the settlement, these are the indirect variables that the three different kinds of leadership have had on the development of the physical dependence of the

residents towards the site. The first direct relationship can be made between types of leadership and physical Place Dependence: a participative and organized community leader will enhance place attachment by means of providing a settlement where residents can make a home.

9.3 Leaders´ influence on community cohesion.

The space syntax analysis explained in chapter six stated that all of the three settlements are considered to be compact space; the process of acquiring land and the allocation of plots was explained in chapters five and six. Chapter seven then focused on the analysis of the layout in the formation of bonds and the development of an identity (the two other variables in the trichotomy of Place Attachment as analysed in this thesis).

9.3.1 Layout indirect influence on social ties.

The place where you live will have an impact on the way you live and the people you mostly have contact with; which is the hypothesis of this thesis; and as such, layout is one of the key variables in the case of these informal settlements. Again, an organized layout is presumably better for the development of social ties while it also ensures the continuity of these ties after the regularization process. This is something that normally does not happen in the informal settlements as mentioned in the literature.

Two out of the three settlements studied had the layout predesigned, and the plots were allocated to the residents by the leader. In general, results showed that ties between neighbours are more likely to be formed by proximity than from participation in community work (see Graph 7-7 in Chapter seven). Since the settlements are relatively small, most of the residents know each other. There are however significant differences between the settlements.

Since settlement Diamante was not designed, the lack of open public areas has hindered the opportunity for the development of social bonds. This is a contrast to what happened to settlement Amp. Las Joyas, where the availability of public spaces has strengthened the community cohesion, as constant reunions and

parties are organized by the leader in those areas (see section 8.1.2 in chapter eight); however, having an organized layout with open common areas does not necessarily mean a strong cohesive community if the leader does not organize events, as is the case of settlement Linda Vista.

Constant variables such as length of residency, steep topography and economic level exist in all three settlements, with only two main variables: type of leadership and the layout. This section analyses the creation of social ties, the depth of bonds, and compares the strength of community cohesion among the three settlements.

Most ties in the settlements were created by the location of their plots (see graph 7-7 in chapter seven), however the type of ties varied per settlement. While closeness does mean more interaction between neighbours, for two settlements it did not necessarily mean the development of a strong bond, having neighbour as the most prominent type of tie developed by location. It could be implied that social ties created by community work are stronger. The results from ten participants in each settlement are shown in table 9-4.

Means for the creation of social ties			
	Amp. Las Joyas	**Diamante**	**Linda Vista**
Creation of ties	Location	Community Work	Location
Type of ties by location	Neighbour	Friend	Neighbour

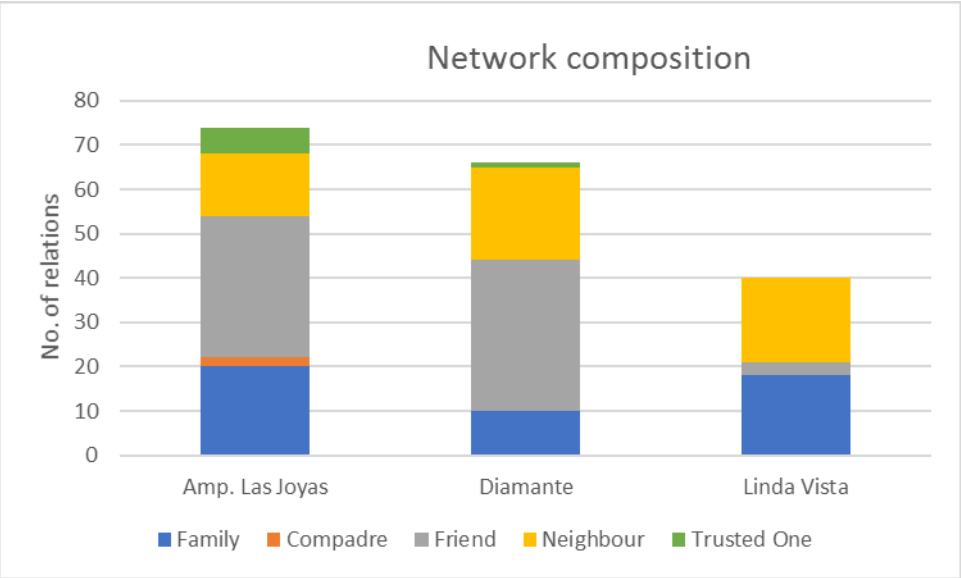
Table 9-4 Means for the creation of social ties.

Although the participants were suggested by the leader of each community, which could have had an impact on the results found, that impact was nevertheless positive as it helped show the role of the leader in the social part of the community. The extent of the social network of each settlement illustrated that influence. For settlement Linda Vista, the social network of the participants is very small (32 people), in contrast to the extended social network of the participants on Amp. Las Joyas (79 people, almost double in size). By

considering the twin factors of the layout of the settlements and the community events and engagement in the settlements, the role of the leader as the developer of networks is clear. Linda Vista and Amp. Las Joyas were predesigned; the type governance, however, is different. For settlement Diamante, due to the nature of its creation, the community work done at the beginning of the take-over is what developed the networks, which as in Amp. Las Joyas extended all over the settlement. However, the lack of a planned layout and hence the lack of safe paths in Diamante, has restricted the development of the stronger type of tie (Friendship) to location proximity; while in Amp. Las Joyas, that stronger bond is located mostly at a distance (see chapter seven for maps)

Reciprocity of the specific type of tie between participants varied as well as was shown from the mapping exercise illustrated in chapter eight. In Amp. Las Joyas out of the 79 relations mapped, none were reciprocated (not one participant marked another one with the same type of tie). in settlement Diamante one was reciprocated while two relations where perceived different (resident A perceived resident B as Friend, while B perceived A as the Most trusted person). In Linda Vista just one relation was reciprocated with the same type of tie (Neighbour). This finding can be mistakenly interpreted in two ways. The fact that none of the participants of Amp. Las Joyas reciprocated relationships with each other can mean that their network is weak, and that the network in the other two settlements is stronger because of the percentage of participants who did have reciprocal relationships. On the other hand, the extent of the network expressed by the participants illustrates the influence that the leader had in the selection of the participants, hence is biased and is not an expression of network strength.

The mapping and interview results disregard the first supposition as they show that even when participants in Amp. Las Joyas did not reciprocate relationships with the other participants, the existence of strong ties such as Family, Compadre and Trusted One in the network of those participants illustrate the strength of the network (Graph 9-5).



Graph 9-5 Network composition comparison in the three informal settlements.

Three main types of ties were highlighted: Friend, Family and Neighbour, which had a different level of significance strength in each settlement. In settlement Diamante, the term 'Neighbour' was used to define a person whom you know, have a casual social interaction with, and who lives in the same neighbourhood, and particularly in the case of Linda Vista, on the same street. The residents of Amp. Las Joyas used the term 'Neighbour' to describe the people with whom they were "*friendly and familiar*". The se of the term Neighbour differed according to the depth of the bond in each settlement. Neighbour described a weak bond in Linda Vista, a medium one in Diamante, and a strong one in Amp. Las Joyas.

Considering the three settlements had the same number of participants, these same results also partially disregard the second supposition, as the extend and strength of the social networks mapped do illustrate and corroborate the results shown in this work. As well as illustrating the implications that economy, layout and type of governance have on the development of social ties. In the case of settlement Amp. Las Joyas, community cohesion was strong due to the constant work and events interaction and the accessible layout of the settlement. In the case of the other two settlements, community cohesion

became relaxed. Ties that tended to develop were based on solidarity, but these ties also dispersed and became weak without constant interaction. This weakening phenomenon was noted during the observation process in settlement Diamante due to the lack of available open spaces and in settlement Linda Vista due to the lack of social events proposed by the leader.

Topography, as another key variable in the development of social networks, also impacted on the participants' acknowledgement of social ties. Although the term Neighbour commonly means a person who lives nearby, and is then defined by physical adjacency, the steep topography and the way in which neighbouring houses needed to be constructed, meant that even though houses were adjacent, the doors and windows might be placed on opposite sides (especially in settlement Diamante where there are no streets as such), hence reducing the possibility of direct every day social interaction. Being fair to this variable, settlement Diamante has the steepest slope [147] with an approximate 31% decline, followed by settlement Linda Vista with 25% and settlement Amp. Las Joyas with 14%, extended over a larger area. This topographical reality adds or subtracts the possibilities of social interaction.

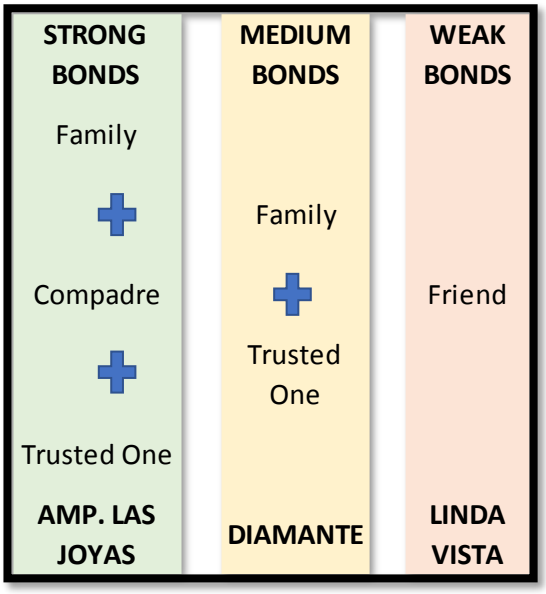
9.3.2 From Ties to deep Bonds.

Having social relationships or an extended social network does not guarantee strong and deep social cohesion among residents. The development of deep bonds takes time and effort from all those involved in the relationship. Although the three settlements have existed for over ten years, their origins vary. For settlement Diamante for example, as mentioned in chapter 5, the initial struggle for the land, the hard work put into the construction of their houses, the constant pressure from the Government and the fight for services, have built a strong community based on solidarity. This settlement has gone through three leaders prior to the present one at the time of the research; so, as a community they have learned to survive. But solidarity among neighbours is not the same as having deep bonds as was shown in the results from chapter

[147] Slopes measured based on Google earth and topographic curves when available.

seven, where the constant figures that appeared in their social networks were Family and Trusted One. The figures of Friend and Neighbour varied between the mapped results and the interviews. This lack of consistency shows that these figures (Friend and Neighbour) lack strength.

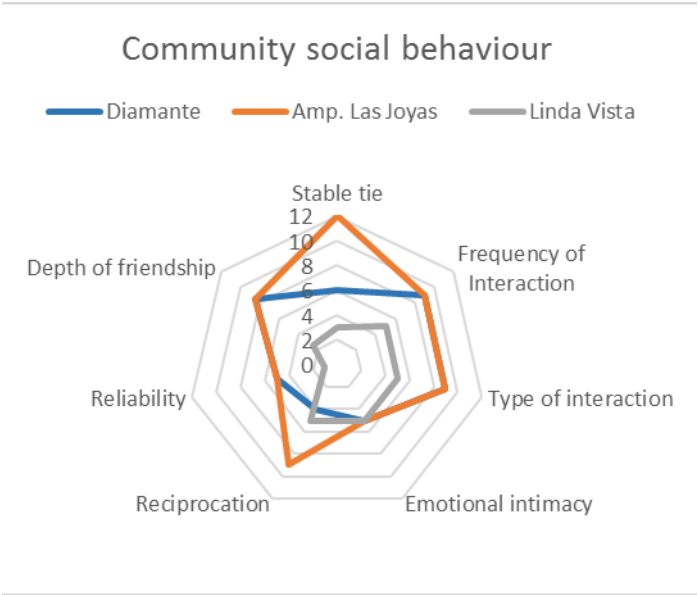
As figures of value, Family, Compadre and Trusted One are more representative of strong bonds. Settlement Amp. Las Joyas had those figures as constants in their social networks, while in settlement Linda Vista, the figure of Family was easily exchanged with Neighbour. Only Friend stayed stable. If graphed, according to Lomnitz (1977) scale of strength of bonds, we would have:



Graph 9-6 Grouping types of bonds by strength

Interestingly enough, those figures of value changed in settlement Linda Vista when analysing the depth of those bonds. For most people in Amp. Las Joyas and Diamante, Family represented the deepest bond (consistent with Family being a strong bond). For Linda Vista, the figures of value shifted from Friend to Leader to Family. The depth of acknowledgement of these figures of value again added significance to the overall perception of community cohesion. While the results in Amp. Las Joyas tended to show a strengthening of community cohesion, the results in Linda Vista showed that it got weaker (see table 8-3 in chapter eight).

Social relationships tend to be hard to analyse because they are embedded with emotions and can change rapidly over a short period of time. Results from this work have shown differences among social ties, strength of bonds and depth of bonds. Taking as an example the results from the participants from Amp. Las Joyas (participant #7), Linda Vista (participant #6 and #8), and Diamante (participant #1 and #6)[148], as for them, Family is a *de facto* social tie, of negligible value, not necessarily implying a strong or a deep bond. Siblings may love each other; they may have a strong bond and share a life with each other; but they may not be the best of friends who also share a deep bond. This is the reason why for settlement Linda Vista, the figure of Family was used rather interchangeably with Friend or Neighbour. The strength of bonds and the depth of bonds do not compete, but rather, they complement each other. The bonds grow stronger with constant personal interaction, with acts of reciprocation and expressions of reliability, and they become deeper when there is emotional intimacy and a profound knowledge of each other.



Graph 9-7 Variables that influence community social behaviour

Graph 9-7 shows a comparison between the results shown in chapter eight section 8.2, of three settlements studied, with variables measured in each settlement and scaled as least impacted (0) to most impacted (12) adding to

[148] See Chapter eight, section 8.2.2 Strength of bonds.

the overall community social behaviour; the graph clearly shows how residents of settlement Amp. Las Joyas have a wider growth of both the strength and the depth of bonds with their personal network. However, there is an added variable that affects the development of bonds in settlement Linda Vista. In chapter eight, it was mentioned that this settlement had the lowest income level of the three. This, as explained in chapter eight, section 8.2.2, means residents have to work all day to make a living, and in contrast with the other two settlements where some residents work in the settlement, all the working residents of Linda Vista work in the city. Working all day out of the settlement hinders the possibility of frequent direct interaction and hence the development of stronger and deeper bonds with their neighbours. Family remains the only de facto constant tie. According to the residents, their economic situation limits the possibilities for sharing. Anderson, 1999, and Wilson, 1987, 1996, mentioned in Freeman (2001) highlighted the level of poverty as a variable that impacts on the social resources of communities. Results found in this work confirm that assertion in two ways. Excessive work isolates residents from their neighbours. Their own sense of poverty inhibits their desire to share; with the consequence that social relationships can neither be initiated nor strengthened. Since there is no constant interaction, and the initial struggle of the take over as well as most of the problems have been individually resolved by the leader alone; there is no 'collective contractual obligation based on shared values and beliefs, thus the communal ties and bonds are weakened' (Arefi, 1999).

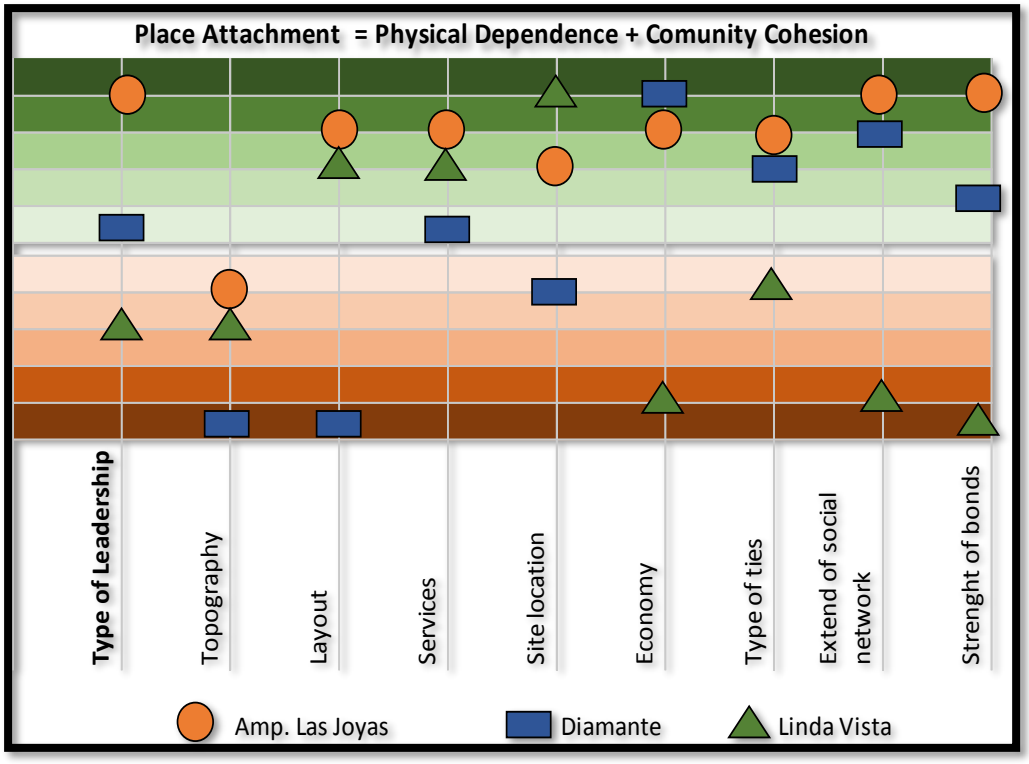
From the data explained in this section, it can be theorized that:

(1) Weak bonds among neighbours exist in the settlements where leadership did not exist right from the beginning and the people arrived as individuals or as a family, as in the case of settlement Diamante, where the lack of planned layout has hindered the development of deep bonds across the settlement. Also relevant to this discussion is the settlement of Linda Vista, where the leader is authoritarian, and the people did not have an opportunity to choose their plots in the settlement. Allocation of lots was determined by the leader

according to his own view of the situation. Community support work is compulsory, and because of their low economic status, there is no socializing. For the residents of both type of settlements, when asked the question*: Who do you go to when you have a personal problem or are ill*? they mostly mentioned that they call their family, even if members of the family live elsewhere and there is neither a constant nor a deep relationship with them. When asked about their most trusted advisors, they live in other settlements or, due to work activities, spend most of their time in the city.

(2) Strong and deep bonds were found on the settlements that were predesigned, as in the case of Amp. Las Joyas, where the leader proposed the assigned plot to the families as they were arriving, and residents got to decide to stay as close to or as far from each other as they wished; also, in this settlement, the leader is approachable and does not force the work on the residents. People enjoy their community and mentioned that they trust each other; so, help with resolving problems or health issues is facilitated by the neighbours. Here, there is a wide network with strong community bonds.

Graph 9-8 illustrates how the variables revised so far add or subtract the possibility of Place Attachment by its first two components: Community Cohesion as a whole (creation of ties, strengthen of the bond, deepen of the bond), and Physical Dependence. Comparing the impact of those variables among the three types of leadership, as per the responses of participants and based from the results of the analysis made in chapters five, six and seven.



Graph 9-8 Comparative variables from the three informal settlements studied, of the two components of Place Attachment.

The Type of Leadership, marked in the graph 9-8 as the most influent and defining variable, illustrated by colour scale where the green area represents the Self caring type and the red area the Mandatory type; for the Community Cohesion (with the variables of Type of ties, Extended social network and Strength of bonds) the darker shaded green area represents deeper social bonds, while the darker reddish area represents the weaker bonds; for Physical Dependence (with the variables of Services and Site Location) the darker shaded green area represents optimal conditions, while the darker reddish area represents the worst conditions. As independent but correlated variables for both components, for Topography, green areas mean less accidental terrain and red areas, harsh terrains; for Economy, green areas represent good/higher income and red areas low income; and Layout, with relates directly to Topography and Type of Leadership, green areas mean a planned layout, and red areas a non-planned layout.

This graph symbolically illustrates the indirect influence that Community Leaders have on the other variables. Amp. Las Joyas, with the Type of Leadership being well into the ´positive´ green area, also has 90% of the other variables in that area as well; the settlement Diamante, with a middling Type of Leadership, has the variables balancing on both sides, with 60% of them in the green area. This contrasts with settlement Linda Vista, where the Type of Leadership is reflected by the observation that 60% of the other variables are in the red area.

Blooming social relationships develop in places with open public spaces, where people interact face-to-face (Huang, 2006; Völker, et.al., 2007; in Kazmierczak 2013). Verticality in urban planning has affected these opportunities, as more and more people get to share the same land space but on different levels. Although 'forced' to interact when circulating through escalators or elevators, social encounters are short and ephemeral. And this verticality is present in these type of settlements as a natural site characteristic – steep topography-, which also, lack the open public spaces for social interaction. This alienation of neighbours though, varies as described above. It certainly relates to the type of leadership that the settlement has; which as has been shown throughout this text, begins with the existence or absence of a designed layout, and the personality of each leader.

9.4 Identity relations

Chapter eight analysed the three facets of the variable of Identity: the sense of belonging and personal identity of the residents, the identity of the place as self-identification of the residents, and the identity of the place itself. This last variable of place attachment factored in the notion of Time, due to the known multiple temporalities that act on the final attachment to place (Lombard, 2013).

It was mentioned in Chapter two, that informal settlements are commonly perceived as a *cancer* (Li & Wu, 2013) on the city. The processes of

regularization, eviction or relocation of informal settlements are considered as cures for the disease. This identity of the informal settlements as perceived by outsiders was confirmed by the interviews conducted with four professionals that work with informal settlements. Two of them agreed that it is the only way that low income people can have access to a house. Economically, informal settlements represent a constant drain on the Municipalities. Ecologically informal settlements cause damage to the sustainable development of the city (because of their lack of services and the deforestation caused by the settlement process). Politically, informal settlements are constantly evoked as election issues. Although this work intends to show the positive human side of informal settlements, their reality cannot be denied, and informality should be avoided by an improvement in government policies that allow for a stable economic growth in the countries that deal with these issues.

9.4.1 Sense of belonging and personal identity

This image of informal settlements being places of filth, and delinquency not only affects the city, but this 'outcast' (Neuwirth, 2007) identity permeates the self-perception of some residents of informal settlements. However, results found in this work show that that negative perceptions can also be reversed by the way in which the residents feel pride over their settlement. Such feeling of pride grows from the cohesion of the community, the organization of the place and the approachability of the leader.

The degree of belonging to the city despite being categorized as outlaws was measured by relational identity exercises and interviews. The results showed how much that identity of 'second class' citizen and being 'illegal' has permeated the consciousness of the residents of each settlement. While residents of Linda Vista considered themselves excluded from the city and pictured themselves as living in an isolated place, residents of Amp. Las Joyas felt as much part of the city as every other neighbourhood (see Table 9-5).

	Amp. Las Joyas	**Diamante**	**Linda Vista**
Transport	On site	Near site	Near site
Origins	Group work Extension	Residents independently Cheaper place	Leader only Need of housing
Leadership	Self-caring	Optional	Mandatory

Table 9-5 Variables influencing the degree of belonging to the city

Two variables of belonging specified in the graph and related to the type of Leadership express that: (1) the perceptions of distance (based on the availability of transportation) described in section 9.2 of this text, have a direct relationship to the way residents feel about being part of the city (2) the origins of each settlement have an influence on this identity of belonging.

It was narrated in Chapter six, that the leader of settlement Linda Vista chose a piece of land that was (at the time) far from the city. There were no streets, and no surrounding informal settlements, hence they were indeed isolated. Settlement Amp. Las Joyas was created as an extension of the (already regularized at the time) settlement Las Joyas, implying an already existing connection with the city boundaries. Settlement Diamante sits in between the other two, having been born as an 'scape goat' for avoiding rent in nearby informal settlements. Residents still feel they belong to these settlements, rather than to the city itself.

Feeling part of the city contributes to strengthening the attachment to place since it is felt as a secure location. Then again, feeling a part of the city can also imply that residents feel freer to move out of the settlement. Feeling part of the settlement would confirm that sense of belonging, making the settlement part of who you are or how you define yourself. Even though all participants had lived in their settlements for the same amount of time, the questions asked[149] in order to understand their degree of belonging as a result of the

[149] See Chapter eight, section 8.3.2, table 8-32.

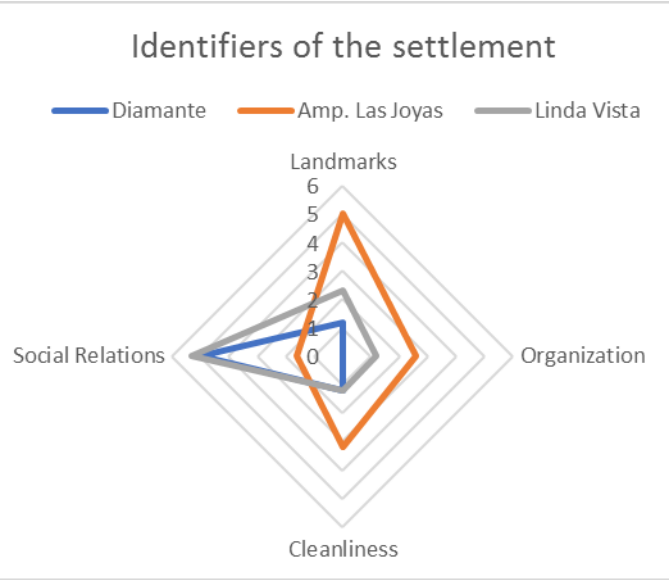
place identity had different results. Residents of Amp. Las Joyas, - albeit by with a small percentage (14%)-, were the only ones who expressed that they belonged to their settlement, and a bigger percentage as belonging to the Town (86%). Residents of Diamante mostly considered themselves as outsiders (66%), with only 17% relating to the Town. Residents of Linda Vista mostly considered themselves belonging to the State (80%). Their bodies are in the settlement, but their souls are elsewhere.

This also explains the perception participants had of what living in an informal settlement means. As mentioned above, the image of informal settlements as a serious blight on the city tends to permeate the self-perception of the residents of these types of settlements, as identified in the interview question: ‘‘*What does it mean to you to live in an informal settlement?*’’. However, results from this work have shown that depending on the type of community and improvements to the settlement (as a result of the work and influence of the leader), residents tend to have either a positive or negative perception of their status as residents of informal settlements. Clear and opposites examples are settlements Amp Las Joyas and Linda Vista. For the residents of Linda Vista, living in an informal settlement is equivalent to being poor and suffering socially discrimination: ‘‘*shortage of basic services and social discrimination*’’ as described by one resident. For residents of Amp. Las Joyas, it means finally owing a property, as expressed by one resident: ‘‘*It means a lot because I am forming a heritage for my children, I save income and I have something of my own’’.* If traced back to the origin of both settlements (as table 9-5 summarises), the struggle that each community and its leader had gone through, and the type of community that eventually emerged, it is understandable why residents feel so differently about their status as informal residents

9.4.2 Values of place as identity factor

Relational identity towards the settlement itself was the second dimension measured to anchor the results shown in the previous section. Relational identity has confirmed the conclusions of the previous paragraph and has

shown the value given to the place and to the degree of self-identification that residents have towards the settlement. This is so, precisely because these valuable variables are the result of their work as a community improving their settlement. Variables such as landmarks, cleanliness, organization, and social relations were the responses given by the participants to express the identity of the place and their identification to the place (graph 9-9); where 0 represents the least valued element and 5 the most.



Graph 9-9 Valued identifiers of the settlements.

As the graph illustrates, for settlement Amp. Las Joyas, the landmarks and the organization and cleanliness of the place were the most valued elements of their settlement, while for settlements Diamante and Linda Vista the most valued elements were the social relationships expressed on the interviews as 'having good neighbours'. Although this could contradict the previous statements that affirm that the social relationships of these two settlements are not strong compared to the ones in settlement Amp. Las Joyas, the responses illustrate what residents perceive as the most valuable elements. Nevertheless, this could also imply and support the affirmation that due to settlement Amp. Las Joyas having a strong community, they have been able to build a safe, organized and pleasant settlement, really valuable to them. While for the other two settlements, the lack of improvements in the settlement

means that the most valuable element is the social relationships, mostly related to having their family members close.

There was an interesting outcome from the interviews with the residents of settlement Linda Vista. The question ‘‘*When you visit other settlements, what do you notice different from yours?" was* intended to acknowledge the valued elements of their settlement. The overwhelming response was "*I don't care".* Their almost consistent response confirms their isolated identity, and their lack of free time due to their economic level. The residents mentioned that they would not compare their settlement as they are content with theirs as it was. Their responses could have indicated a strong attachment to the place, if the results from the described identifiers of the settlement had not shown that the only things that they valued about their settlement is that is organized, has a road access and that they have their family living close by. The work of the Leader again has had an influence on the value that the residents give to their place. The leader had done all of the work by himself and residents barely acknowledged built landmarks as main self-identifiers of their settlement. For settlement Diamante, value stayed with having family members close. Residents of settlement Amp. Las Joyas, expressed a highly positive, proud and superior value comparison of their settlement in relation to the other informal settlements in town: "Ours is the best, great community, good leader and most organized and clean, I really like living here".

The dimension of emotional dependence (making their social relationships a place-valued self-identity factor) however, did influence how the residents related to the settlement as mentioned above. Residents of settlements Linda Vista and Diamante expressed their social relationships as anchors and main identifiers of their place in the settlement. This contrast with Amp. Las Joyas where the settlement itself is portrayed as a place full of character. Interestingly, even though community cohesion is stronger in this settlement, it is not portrayed as an identifying feature of it. The reason is that emotional dependence on a place does not imply that the place has a strong community. Emotional dependence is personal. Community cohesion is collective.

Emotional dependence relates back to what was expressed by the participating residents as the reason of choice of settlement. For settlement Linda Vista the main reason was the Location (40%), followed by Family and Friends (30%); for Diamante, virtually tied with Location (37%) as the main reason, was Friends and Family (38%); while for residents of Amp. Las Joyas, the main reasons were (30%) Location and Family (30%). This shows that the social connection of Family and Friends (Ties) only represents a personal emotional dependence. The identity that builds from being in a community and achieving improvements in the settlement reflects more on the identifiers that grow out of these accomplishments. They are also the reflection of strong community cohesion as in the case of Amp. Las Joyas.

9.4.3 Place Aura

Regarding the identity of the place itself, two focal points were taken; the first one was the way in which the place's natural 'aura' is extracted by the residents into the conception of the place (meaning responding/adapting to the existing qualities of the place); and the second one is how the impact of residents on the place can improve or decrease the place´s aura (Place making).

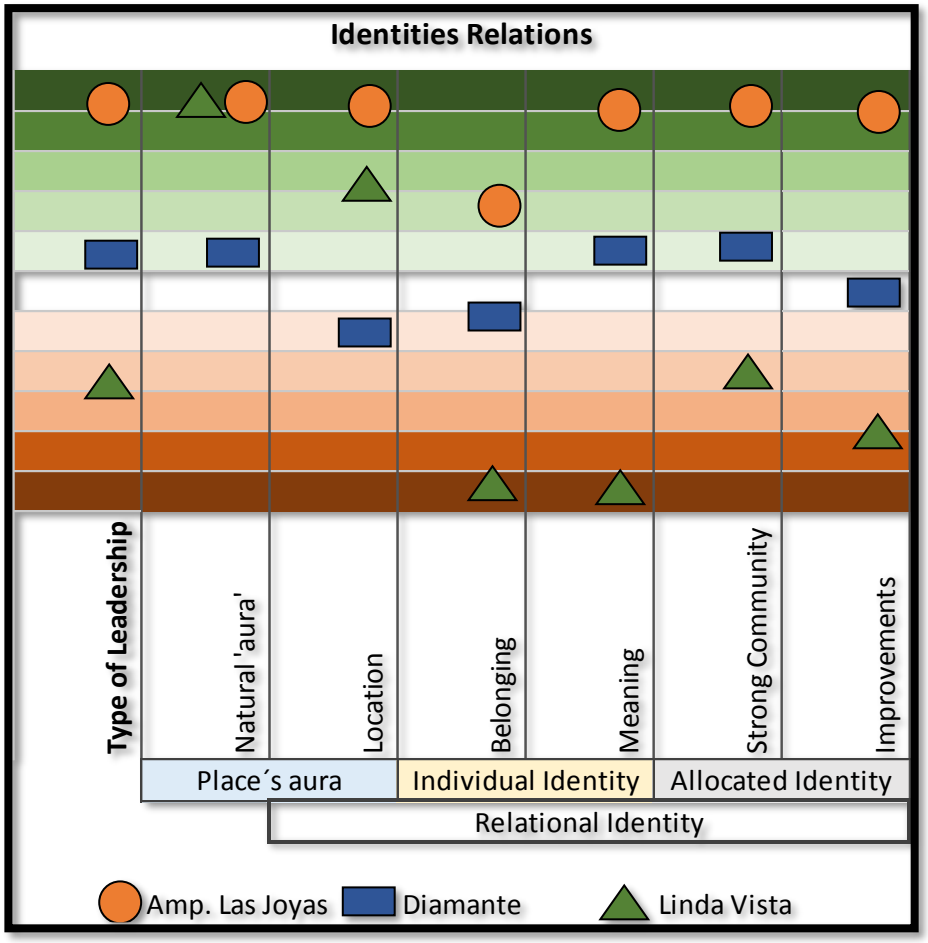
The first focal point analysed the reasons behind the names of the settlements and their streets, and the second focal point examined the pleasant and unpleasant elements that the settlement (acquired during the time of its existence as a housing area). Elements such as views, natural beauty, tranquillity, and interestingly, leadership were the most mentioned variables that according to participants, reflected the place´s original characteristics.

There is no doubt that all three of the settlements have an outstanding location with an impressive view of the bay; so these variables are no surprise. However, for settlement Diamante, the view is not as beautiful as for the other two settlements. Most of its residents rather than identifying the site by its natural beauty, identified it as 'just being on a hill'. The descriptor of 'just being on a hill' links two reactions to their place of residence: the way residents perceived themselves as part of the surrounding settlements and the lack of availability

of transport on site. Being on a steep hill has impacted on the acknowledging of the place´s aura.

The originally positive identity of the settlement according to its own natural characteristics, was then improved or decreased by the impact that residents have had on it, giving it a different 'aura'. In settlement Amp. Las Joyas, place identity was positively improved by the strong community and the sense of safety that their leader, by means or order and cooperation, brought to the place. In settlement Diamante and Linda Vista, location and accessibility were the most mentioned variables, which although they are an identity values, relate more to the decision of the leader and the lack of options for a quick invasion. Negative identities given to the settlements related to their illegality, since lack of services, and poor infrastructure were mentioned as part of the settlements´ identity elements.

Identity formation in informal settlements, from the results of this study in Mexico, is comprised then of three elements that correlate with each other, and also with physical and emotional dependence as well as with the community cohesion. These elements, as explained in the preceding paragraphs are: the Place's aura, the Individual identity and the allocated identity (these last two form the Relational Identity as they are an expression of the perception of residents) Graph 9-10 summarizes and illustrates with a colour scale the positive (green) and negative (pink) identities detected in the three settlements, as per the results of the interviews and analysis made in chapter eight; correlating each with the type of leadership.



Graph 9-10 Comparison of Identity Relationships among the three informal settlements.

The place´s natural beauty is indeed positive for all three. The factors which create a positive or a negative perception in the minds of the residents are: the work of the leader with the community, the means of creating improvements to the community, and the nature of social engagements within the community. Perceptions influence the way in which residents feel towards the place, either giving them a pleasant experience or an unpleasant one.

Conclusions

Leadership, as a main variable of influence in the origin, and development of informal settlements' place attachment has been correlated with the 'classical' place attachment variables of dependence, identity and social cohesion. These variables have also been correlated with the factors of time, economy, and location, highlighting the differences among the three selected settlements. But more importantly, the emphasis on types of leadership and the differences those impose based on character, personality and gender, have been exposed as valuable factors of influence on community life.

The personality of a leader will reflect the type of community he/she forms. This study has shown that good leaders exercise good governance strategies, and hence develops a strong and attached community that values their place. As an inversion of Joseph-Marie de Maistre (1798) idea that, "*Every nation gets the government it deserves*", on the smaller scale of informal settlements, it would seem that every leader gets the community they construct. It can be seen that a distant, authoritarian leader as in Linda Vista, has generated a non-cohesive, non-caring community, while an approachable, team-working leader as in Amp. Las Joyas, has created a cohesive, positive and caring community. These observations echo André Malraux notion that people have the rulers that resemble themselves.

Place Attachment is formed and influenced greatly in informal settlements by the leadership, whether it merely fulfils the basic need for housing or whether it enhances it into a stronger bond to the place: 'the construction of a home'; the role of leadership must be acknowledged as a factor in studies of informality.

The final comparative results of the three settlements presented in this chapter have shown a direct relationship between the type of leadership and place attachment.

Chapters six, seven and eight have described the variables of place attachment as influenced by the type of leadership; specified in graphs 9-8 (Community Cohesion and Physical Dependence) and 9-10 (Identity relations) above. Place Attachment in informal settlements, based solely on the need of a place to live, is undoubtedly strong, but this research has shown that it is the influence of the leader what transforms and classifies that attachment into positive or negative as perceived by the residents (previously explained by their relational identity and social engagement).

Table 9-6 illustrates the comparison of the three case studies, where the colour green represents a positive leadership and a positive/strong attachment, and the red a negative leadership and a negative/weak attachment; thus, proving the validity of the hypothesis raised in the introduction.

Settlement	Type of Leadership	Place Attachment
Amp. Las Joyas	Self-caring	Strong
Diamante	Optional	Medium
Linda Vista	Mandatory	Weak

Table 9-6 Place attachment in informal settlements according to type of leadership.

Chapter 10 Conclusions

The conclusions of this work are presented as contributions to the knowledge of informal settlements by means of answering the research questions set in the introduction and describing the methodological adaptations that were made throughout the research onsite. These contributions include: variants of the measures of dependence, identity and social cohesion in relation to the general use of these variables in place attachment studies elsewhere, theoretical knowledge about the importance of different types of leadership, and the methodological approach for obtaining data when working with informal settlements.

10.1 The variables of Place attachment

The aim of this research focused on understanding whether and how residents of informal settlements can develop an attachment to the place. The first research question was: *How has place attachment been explored within informal communities*? To understand the focus that is normally taken when analysing and working with informal settlements, there was an in-depth review of the literature which showed that *Time* acts as a main variable in the development of that attachment. The longer a community stays in an informal settlement, the stronger it becomes and the more the inhabitants value its place (Lombard, 2013). Additionally, the strategy of encroachment (Bayat, 2004) assures the illegal possession of land. The literature suggest that communities in informal settlements derive strength from the struggle that creates solidarity amongst the residents; their attachment to the place is

developed as a reaction of their ´lack of welcome elsewhere' (Brown, et al., 2012).

This approach to place attachment in informal settlements in the current literature basically states that the need for a place to live is the main reason for that attachment. Place attachment trichotomy includes Identity, Dependence and Social Cohesion as the main variables to be measured in general place attachment studies in both Environmental Psychology and Human Geography, although with different names (Sense of Place / Place Attachment). Chapter three specified that, for the focus of this study, Identity and Social Cohesion would be considered part of the Emotional Dependence of the place but they would be treated separately, and analysed as correlating variables, while the Spatial Dependence would focus only on the physical assets of the place as a location. These variables made it possible for the research to be executed by stages, without mixing either data meaning or interpretation, and allowed for data collection methods and techniques to be specified in the research.

This work has shown, that people can get positively or negatively attached to a place by two means: time and their own experiences. It could be stated that the longer you live in a place, the more opportunity you have to develop a bond with it, - to identify as part of it and it as a part of yourself-, due to your everyday activities and unplanned social interactions. However, time alone does not necessarily define how much attachment you can develop to a place. Opportunities for pleasant experiences can happen at any time, and it is those experiences that will trigger and then develop the 'love' for the place. Examples of this include the presence of shared stories about the establishment of the settlement Amp. Las Joyas. Although hard, the process, filled the residents with pride and a sense of success, that strengthened the attachment to the place.

In contrast, in the settlement Linda Vista, most of the initial struggle was faced and resolved by the leader, with the result that residents currently have no sense of shared success. In settlement Diamante, the lack of community cohesion has kept residents from enjoying meaningful positive experiences; however, they do share a sense of abandonment and rejection from a lack of

connection with the rest of the city as Brown, et al. (2012) mentioned. This also creates attachment, although it is negative.

In informal settlements then, the key factor is not time; rather it is the attachment to the place that is developed because of meaningful experiences, whether positive or negative. To some extent, these experiences are created by the work of the leader, and the leader's influence on the type of livelihood that the community may have. Not all informal settlements' communities are the same, regardless of their common roots in attempting to alleviate poverty.

The variables of Identity, Dependence and Social Cohesion are to be understood to have a direct relationship with the type of leadership, the overall city context, and the legislative decisions. This last point: legislations, was described in Chapter two section 2.6. The Mexican Human Settlements Act and the Civil Code do allow somewhat for the proliferation and, later regularization of informal settlements; these provisions have created a grey area of opportunity for illegal appropriation of land. From the outset, people inherit a sense of property toward the place, especially when dealing with informal settlements established on Ejido land, where the land is perceived by the residents as being already theirs by right. Even though the specifics of this study refer mostly to informal settlements in Mexico, there are also similar grey areas in legislation, in the Favelas of Brazil, in the urban villages of China and in the slums of India.

10.2 Leadership influence

The second research question focused on the specific impact that leadership has on the spatial layout of informal settlements. This consideration was followed by questioning the social impact that the layout can have.

When studying the development and improvement of informal settlements, there is a tendency for the role of community leaders to be under appreciated. Community leaders are often portrayed as villains and abusers of the needs of the people; this tends to be the case when they are appointed to their position

for political reasons or when they otherwise function in a non-democratic manner. The personal characteristics of the leaders are often excluded when discussing the effectiveness of working groups and community task forces. The thesis of this researcher is that community leaders function best when they are democratically selected 'illegal' urban designers.

As explained in chapter six, some leaders develop a pre-designed layout of the site prior to the invasion, which makes it easier to organize, allocate and keep control of the inhabitants; the degree of planning both spatially and socially then impacts on the availability of social interaction by the residents, especially since the topography of the sites is commonly very harsh. It is, however, the community work of the leader that becomes the main factor that helps to overcome the verticality of the site and by either improving or undermining the community cohesion by means of social engagement.

With a defining role in people's attachment to the site, the leader decides:

- **When** to take the land
- **How** to take it
- **Who** will be allowed in the settlement
- **Where** the houses will be located
- **Which** work or social activity is to be done
- **What** portion of the community will do each work

This land management controlled and administered by the leader, as Van Gelder (2010) called 'informal settlement administrations with an informal legal system', is precisely what gives a sense of security of tenure to the residents of informal settlements.

This work has shown that the personalities of leaders do affect the degree of attachment that residents have to a place. Leaders are invaluable figures. This conclusion is proved by the way in which they fight for land and design the layout, by their consistency over the years until regularization is achieved, and by the work that they do every day to improve their settlements and help their people. The attachment, that is normally considered as hard to develop in

informal settlements due to their ´temporality´, is overcome by a planned layout as it speeds (and somewhat ensures) the regularization process. The ways of the leaders may be tough and illegal, but they solve problems that are somewhat ignored by the authorities. Leaders can and do move the attachment to the place further from the mere need for a home; they also contribute to the strengthening of the community.

Finally, in order to understand *how layout and leadership encourage place attachment in informal settlements*, this work shows that Place attachment, when studied in informal settlements, must recognize the need for a home as a crucial variable when understanding the dependence on the site. Developing a Sense of Place, apart from the 'romantic' approach toward identity formation, involves developing an emotional tie with the setting which can be developed by the harmony and state of 'being home'. This work has shown that the state of 'being home' is influenced by the type of leader. The notion of the type of leader also includes the organized planning of the layout and subsequent social activities. It is the leader, therefore, who makes the lived reality of informality either a 'positive' experience, or a 'negative' experience. More specifically, in the case of informal settlements, the leader is the single most important factor in 'having a home', and in assessing a total spatial attachment towards the place. This research takes issue with arguments presented by Carmona, et al. (2010) when they posit that curvilinear patterns reduce the possibilities of social engagement. In the case of informal settlements with a harsh topography, such as the ones studied, curvilinear and irregular layouts have not been an impediment for the development of social cohesion. It is the lack of planned spaces and an imposing and authoritarian leadership that have been the variables that do, in fact, reduce these possibilities. If these limitations are overcome, the curved topography-adapted layout does not constitute an impediment.

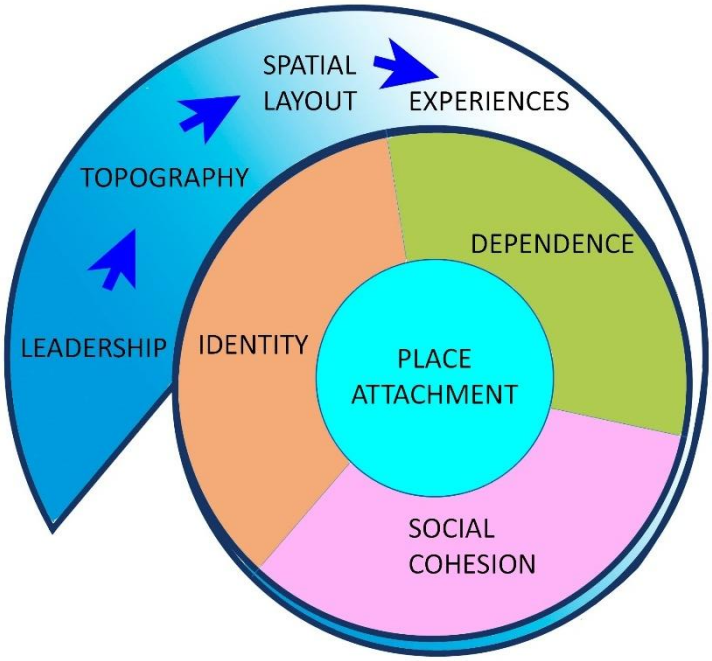


Figure 10-1 Variables of place attachment in informal settlements, author's work.

Place attachment in informal settlements is influenced and built by different variables (Fig 10-1). Variables of attachment that are significant in informal settlements are not the same as the variables of attachment in a regular neighbourhood. Leadership is the one key variable in developing/enhancing this attachment. The physical dependence analysed in this work focuses not only on the practical location, but also on the other physical characteristics of a site (topography, natural assets, micro-climate). These specific factors can influence the development of dependence with regard to the place´s aura, and they also contribute to building the perceived and personal identity of their residents.

Emotional dependence (identity) with the place is the result of the struggle that has strengthened the community. These experiences, be they positive or negative, tend to develop either love for the place or a pure need for the place. As one resident put it: '*we have suffered so much for this land that we love it because of it*'. This phrase which summarizes the meaning of place attachment in informal settlements, as in the case of Amp. Las Joyas, when the struggle was shared by both the leaders and the residents.

All over the world, the urgent and desperate need for housing is indeed the prime motivation for every informal, irregular, slum, and squatter resident of such settlements. However, as mentioned before, the construction of a community within the informal living context, and the development of a sense of belonging, are both influenced by the type of leadership.

10.3 Methodological approach

Compared to regular legal neighbourhoods, informal settlements' attachment to the place is to be understood and 'measured' differently than when studying attachment to public areas such as parks, zoos, or plazas.

This is primarily because the informality and illegality of those settlements impose huge burdens on the people who take the land. The burdens of struggle, of suffering and of the awareness of their illegal activity; can only be lifted by the expectation of owning a home, and by the work of the leader.

Five main premises constructed from the findings of this research are proposed as key bases when measuring and analysing place attachment in informal settlements. These five premises can be applied to most informal sites.

1) The type of leadership must be observed and understood prior to commencing research onsite with participants. It was noted in Chapter three, that before commencing any work on informal settlements, it is imperative to contact the leader (Garcia de Hernandez, 2006), as leaders act as gatekeepers of the community. This was indeed confirmed by this research, as no work would have been possible if the researcher had not received the approval and support of the leaders. More importantly, the outcomes of this work have shown that leadership as a form of governance was highly influential on the formation, development and mere existence (or not) of attachment to the place. These conclusions were demonstrated in Chapter nine through the comparison of three researched settlements (table 9-6, pg. 344); The nature of the leadership did impact the way in

which the research on each site was executed. Residents of settlements with a 'Self-caring' governance (as defined in Chapter six) such as Amp. Las Joyas, were more open to long informal conversations, friendly and explanatory 'tours' of their homes and their settlement, and they were more willing to participate in every workshop planned. This approach offers a contrast to the settlement Linda Vista where data collection was a much harder process. Linda Vista had a 'Mandatory' governance, where residents were ordered to participate both in the workshops and in informal interviews.

2) Surveys using the Likert scale to measure qualitative data (e.g. identity and dependence) are best replaced by informal interviews and mapping workshops, which should be designed after acknowledging the type of leadership. This premise was discerned at two stages of the research. It was first noted during the pilot studies and it refers to the lack of understanding of the Likert scale by residents of informal settlements. Residents indicated that the options given were very limited. In particular, words such as Very good, Good, Bad and Very Bad, although purposely simple, could not really reflect their feelings and perceptions. People in informal settlements are rarely consulted and their opinions are rarely noted; hence, when they are included, they need to fully express themselves[150]. When the Likert scale questions were adapted to become the core feature of informal interviews, the data obtained was much more meaningful and trustworthy.

   In addition, people of these settlements tend to be shy or are sometimes unable to express their answers with words. This is why simple mapping activities were used to help overcome this difficulty. However, even when questions referring to the maintenance of the place (intended to acknowledge the value residents give to the place) were done as part of an informal interview during the final part of the research onsite, they had to

[150] This assertion comes from different comments of several residents during the informal tours, where they were very 'grateful' of the work that was being done including them as important factors.

be rephrased in such a way that residents did not feel they were criticising their leader about the state of the settlement. An example of this was the rephrasing of the question '*If you could change anything in the settlement, what would it be and why?'* into '*if you were the leader, what would you change and why?* This adaptation not only allowed them to separate responsibility from the existing leader, but also gave them the power of actually being in charge of doing something. Rephrasing the question had a significant impact on all three settlements, but mostly on the settlement with a 'Mandatory' governance.

3) Researchers must recognize that the need for a home is a crucial variable which affects the results of responses in attitudinal questions. Because of the observation that the research onsite created fear amongst the residents [151], and the fact that the answers to the surveys and the questionnaires showed an image opposite to what was observed on site, the results of the pilot studies had to be disregarded. The reason was that the need for a home was found to be such an influential variable that an alternative approach had to be undertaken. Residents had marked all their Likert scale responses as positive, while the observed reality was expressed otherwise; and this was basically due to fear manifested in three areas: the fear of expressing their harsh reality to a stranger, the fear of retaliation by the leader, and the fear of eviction (making comments about their lack of conformity with the requirements of the law would give authorities more reason to evict or relocate the settlements). These fears however, highlighted the importance of acknowledging that the need for a home is a key variable. In this research, it became essential to adapt the methods and techniques of the methodology to a more ethnographic, less invasive and more flexible approach. The image a researcher presents needs to be friendly and understanding, rather than consider the informal residents as test subjects. Only then residents will be more open to talk and to participate.

[151] The constant abuse and mistrusts build over the years by politicians had some of the residents on edge during the research.

4) Analysis must differentiate between the emotional tie and a physical dependence with the settlement -from 'being at home' and 'having a house'-. The analysis of the responses must be carefully scrutinized to understand and separate the need for a place to live as a fixed variable and must make use of several methods to compare responses. Having a house is an imperative basic need for every person; while building a home is what demonstrates the 'love' given to a place.
5) Research should consider a 3dimensional space syntax data collection and analysis, including the type and quality of construction materials. As informal settlements tend to be established on difficult terrains (mainly due to the land not being suitable for housing or development), the impact that the topography and natural implications have on the overall community life was demonstrated to be significant, and as such, this verticality and the irregular curvilinear layouts must be analysed in place attachment studies. Also, careful observational methods should include place care behaviours as variables demonstrating the value and, hence, the attachment that is given and felt for the settlement. As mentioned above, each place as a location with particular physical characteristics, has the potential of adding value to the self-perceived identity of the residents; this observation can also help in the analysis the responses given by residents during interviews and cab also help in the determination of the truth of those responses based on the compared data from observational methods.

Although these five premises can be taken as a fixed guide when designing research work with informal settlements, another important variable is the cultural and historical background of the population where the study is to be pursued. As described in Chapter two, section 2.2, countries with informal settlements tend to have a difficult historical past, coupled with a struggling economy, which tends to be the main trigger of informality. Nevertheless, every economy works and is built upon the country´s cultural, historical and commercial relationships, which generate different forms of legislation and political engagement.

10.3.1 Frequent constrains of social studies.

Social research tends to use qualitative data collection methods as the main path of research, while Urban research mostly uses quantitative methods for their proposals. In this research, it was imperative for mixed methods to be used, as there was a merging of urban core with a social context. For the reasons explained the sections above, such an approach allowed for clarity of data collection and for reliability of analysis. The possibility that the subjective perceptions of the researcher would affect the validity of the results were thereby reduced.

Nevertheless, and despite the ongoing adaptations of methods on site during the research, some constraints were still faced during this research. These realities teach us about the importance of community leaders. Sometimes leaders' names were not revealed to the researcher, especially in these types of settlements where illegality and ambiguity are common. Residents tried to protect the identity of their leader so as not to have the risk of being disengaged from that meaningful figure. On other occasions, the identity of the leader was known by the authorities, but they too kept that information confidential, as though to guard the shared 'power' relationship between the two stake holders (Hernandez, et al., 2014). This research overcame these secret anxieties by making use of the researcher's social capital: with the local authorities (former schoolmates) and with residents or with the families of the residents (former students of the researcher). Trust, therefore, with the leader or with the people that might know the identity of the leader had to be gained somehow. The aims and objectives of the research must be made very clear to them before commencing any work onsite, and more importantly, the researcher must offer something valuable in return.

This 'compensation', however, differs from either the common monetary compensation, or the catering services during the workshops. Leaders of informal settlements seek compensation that provides less of a short-term advantage and more of a long-term benefit.

10.4 Outreach and Impact

In the case of this research, the compensation mentioned before considers the impact and the outreach of the research process as well the outcomes for the communities of the informal settlements, for the researcher's sponsor university and for the local authorities

10.4.1 Community and Education

Shortly after commencing the research onsite for the pilot studies, having observed their real living conditions, their social behaviour, and most importantly, their educational and economic restraints, the researcher offered and proposed a series of workshops and lectures in accordance with the needs as were expressed during the rare opportunities for informal chats with the residents (mostly during the pilot studies). In the beginning, these workshops and lectures were intended to encourage personal commitments by the residents to the aims of the research and to encourage further participation. The workshops and lectures evolved into a formal educational program open to all citizens. These three months programs are now held every year.

The rapid growth of this program was mainly due to the researcher's being part of a community-based, non-profit organization called Alianza Cultural Ixtapa, which was also responsible for the construction of the local Parish building. When Alianza offered their resources, the offer was made available to the public.

The continued work on site for the two next segments of the research, also highlighted the need for specific and detailed self-build house designs, that would allow each of the residents, once regularized, to have a home that was properly designed both functionally and structurally. Leaders also asked for support for the proper design of their green areas and services areas (parks, school, chapel), in order to prevent further invasions within the informal settlements. It was at this point, that the sponsor University joined in. The involvement of the University consisted of five designed proposals of housing

typology that would be adaptable to the difficult topography of the informal settlements; the researcher, along with a Lecturer colleague at the University, were in charge of supervising proposals created by final year Architecture students, submitted in the form of a Bachelor Dissertation. The work onsite, as well as the first cycle of the educational program, received the attention of the Government. An official work agreement between the local Government, Alianza and the University was drafted. This creation of this tri-level agreement has given strength to the program and has shown the importance of the research presented in this thesis.

Ongoing support and commitment from the University by the way of more personal design proposals created by students of Architecture for the residents of regulated informal settlements, as well as teaching support in the educational program assisted by the other careers, has had the impact of helping to increase the University enrolment, and of consolidating support from the governmental authorities for further research.

10.4.2 Further Research

The involvement of the University and the Government in this joint commitment to the informal settlements, has spread the and benefits of the research objectives to neighbouring cities; which, through their Universities, have solicited the participation of the researcher in the development and guidance of research teams that would reproduce similar research about their local informal settlements. This is a huge benefit which creates opportunities to further test the theory and methodology and to compare results. The realization of such possibilities can then be translated into formal governmental policies to deal with improvement of informal settlements and programs of regularization.

Final statements

Place attachment, as a separate entity from the need for a house, does exist in informal settlements, but the impact of that variable is directly related to the type of leadership. Leaders are to be viewed not as the cause of the proliferation of informal places, but as important elements in the overall city integration.

Relationships are the key: relationships between people and place as dependence and identity, relationships among people as manifestations of social cohesion, and even, as the methodology has shown, relationships between people and research. These relationships bring urban design closer to realm of emotions. Uncovering the human side of informal urban design during the present research, inspired the authorities of the city under study to commit to a long-term process, including not only economic support for governmental programs, but also support for improving the educational needs of the residents, to enable them to earn more income and hence improve their quality of life.

Informal settlements are part of any city; the attachment must be developed positively not only to the site of the settlement, but also to the city as a whole; then, and only then, will authorities take responsibility for the existence of these settlements, and take appropriate action.

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Appendix 1 – Participants Information flyer

Place attachment in informal settlements: the influence of community leaders in Mexico.

The University of Nottingham.
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The University of Nottingham
UNITED KINGDOM • CHINA • MALAYSIA

Data protection

All physical and electronic data collected during the research will be stored safely in a locked cabinet in a private office and on a password-protected computer. No-one but the researcher will have access to data with containing possible sensitive material or any personal information that a participant may share. No data will be left behind on the site of study, nor will be published unless the University of Nottingham gives consent for doing so. Only data without identifiers can be shared.

Compensation

No monetary compensation will be made to prevent the research to be perceived as a bribe or political move. As a courtesy, food will be offered during the workshops.

General details

Taking part in this research is completely voluntary.
You may also withdraw from the research at any time you wish to do so.
Any personal information given will be kept confidential and safely stored in a locked cabinet, digital data will be stored only on a password-protected computer to be used exclusively by the researcher and for the research aims only.
No disclosure of identifiable nature will be shared or published.

There are no political nor economic interests or consequences embedded in the research process or outcome.

The University of Nottingham

UNITED KINGDOM · CHINA · MALAYSIA

This research explores the way in which place attachment is developed and nurtured in informal settlements in Mexico, postulating the hypothesis of community leadership as a key variable within the social-spatial relationships in informal settlements; the findings could later result in an improved, inclusive, and informed participation methods for informal settlements into the urban planning process, specifically regarding relocation processes and proposals.

The investigation will be done through onsite observation, informal chats, and workshops.

Focused on specific tasks, where participants will be the focus.

PHASE 1—OBSERVATION

A non obstructive coded 'descriptive and formal observation' process where the researchers will stroll through the settlement making notes.

Data to be collected: (a) the layout of the physical setting: houses, stores, parks, roads, paths, over a blank plan with only the boundaries of the settlement drawn. Proportional drawing scale will be used. (b) infrastructure overview of site, (c) Use pattern of public space, (d) social interactions.

This observation will help locate specific and significant use of public space and the intensity of social interaction.

Activities:

Stroll through the neighbourhood to get used to the site surroundings.

Get introduced to the inhabitants.

Informal chats and quotes to inhabitants (contextual interviews).

Take photographs of the site, focused on space layouts and conditions.

PHASE 2—SURVEY

A socio demographic survey to gather general data of the population under study.,

PHASE 3— INTERVIEWS

This will to acknowledge the place, people and activities' significance and probable cultural relationships between the use of the site and its dwellers.

The participants will be interviewed individually and privately in their homes, by means of open ended questions regarding the community leader, their social relationships, the use of the site and the relationship with the city.

Interviews will be audio recorded for subsequent analysis.

PHASE 4- FOCUS GROUP WORKSHOP

The objective is to understand (a) availability/efficiency of services/ infrastructure, (b) social networks, (c) place belonging and (d) depth of social tie.

Interactive workshops where the participants will engage in drawing exercises to express their social relationships, and their perceived knowledge of the site.

The workshop will be recorded on video for the researcher's subsequent analysis.

Appendix 2 -Participant Information Sheet

WORKSHOPS RELATED TO THE PLACE ATTACHMENT FOR INFORMAL SETTLEMENTS.

Objectives:

Evidence the background and cultural values of inhabitants and understand the attachment to place and social relations.

How will it be done?

Interactive workshops where the inhabitants will place their attachment to the site through the use of picturing research.

Why do this?

This will give a more profound, precise and comparative understanding of the life in an informal settlement for the aims of this research.

What would taking part involve?

Participating in a morning/afternoon 2 hour workshops.

The workshop will be recorded on video for the researcher's subsequent analysis.

Schedule:

1. The first 10 min will consist of a broader explanation of the activities to do.

2.The following 1:30 hr. will be covered by the several interactions between participants, including a break for lunch.

3.The last 15 min will aim for a closure and summary of the workshop.

Activities:

- Draw location of participant's house and participant's friend's house on a black sheet of paper.
- Draw location of participant's house and participant's friend's house on a map of the settlement.
- Place on the city map the location of work, leisure, grocery and visiting places.

- Taking part in this research is completely voluntary.
- You may also withdraw from the research at any time you wish to do so.
- You may refrain from answering any question/activity you consider too personal.
- Any personal information expressed by participants will be kept confidential and safely stored in a locked cabinet from the researcher, digital data will be stored only on a

password-protected computer to be used exclusively by the researcher and for the research aims only.

- No disclosure of identifiable nature will be shared or published.
- There are no political nor economic interests or consequences embedded in the research outcome or process.

Should you require any more information or need to report any complain please contact:

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Engineering Ethics Committee at: ez-eng-ethics@mail.nottingham.ac.u

Appendix 3 – Participants consent form

THE INFLUENCE OF LEADERSHIP IN PLACE ATTACHMENT FOR INFORMAL SETTLEMENTS.

Researcher's name Concepcion del Carmen Rojas Rivera

Supervisor's name Dr. Katharina Borsi, Dr. Lucelia Rodrigues, Dr. Nicole Porter

☐ I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.

☐ I have been given an opportunity to ask questions.

☐ I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.

☐ I understand that I may refrain from answering any question I consider too personal.

☐ I understand that while information gained during the study may be published, I will not be identified, and my personal results will remain confidential. Any information which might potentially identify me will not be used in published material.

☐ I understand that I will be audiotaped / videotaped during the workshop.

☐ I agree to be contacted for further questions or research activities.

☐ I understand that data will be stored in a locked cabinet on a private office; it will also be scanned and saved as an electronic file on a password-protected computer, as well as on an external memory which will not leave the office and will be stored in a locked cabinet. Recordings, transcripts and photographs will be treated the same way. Nobody but the researcher will have access to data.

☐ I understand that I may contact the researcher or supervisor if I require further information about the research, and that I may contact the Research Ethics Coordinator of the School of Education, University of Nottingham, if I wish to make a complaint relating to my involvement in the research.

Signed …… (research participant) No. ……

Print name …… **Date** ……

Contact details …… (if agreed to do so)

Researcher: email- *concepcion.rojas@gmail.com*

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Appendix 4 – Information sheet for assisting researchers

INFORMAL OBSERVATION PROCESS RELATED TO PLACE ATTACHMENT IN INFORMAL SETTLEMENTS.

Main Objective: Understanding and mapping of the settlement and key places, through the dimensions of space, time, activities and social interactions.

How will it be done?

A relaxed, formal and descriptive observation process on the settlement accompanying the main researcher on short day and morning walks around the site.

Why do this?

This, being the first step of the research, is crucial in defining, giving shape and verifying data to further compare with the rest of the methods.

What would taking part involve?

The participant will play the role of a second observer and companion of the researcher. The activities will include:

1.- Strolling through the neighbourhood to show the researcher the site surroundings.
2.- Introducing the researcher to the inhabitants.
3.- Map the variables of infrastructure, services and state of conservation of houses, as per codding.
4.- Take photographs of site's characteristics, locating each photo on a map of the settlement.

- Taking part in this research is completely voluntary.
- You may also withdraw from the research at any time you wish to do so.
- You may refrain from answering any question/activity you consider too personal.
- Any personal information given will be kept confidential and safely stored in a locked cabinet, digital data will be stored only on a password-protected computer to be used exclusively by the researcher and for the research aims only.
- No disclosure of identifiable nature will be shared or published.
- There are no political nor economic interests or consequences embedded in the research process or outcome.

Should you require any more information or need to report any complaint please contact:

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Dr. Nicole Porter at: Nicole.porter@nottingham.ac.uk

Engineering Ethics Committee at: ez-eng-ethics@mail.nottingham.ac.uk

Appendix 5 – Research assistant confidentiality agreement

Principal Investigator: Concepcion del Carmen Rojas Rivera

As a member of this research team I understand that I may have access to confidential information about study sites and participants. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about study sites and participants are completely confidential.
- I agree not to divulge, publish, or otherwise make known to unauthorized persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the study.
- I understand that all information about study sites or participants obtained or accessed by me in the course of my work is confidential. I agree not to divulge or otherwise make known to unauthorized persons any of this information, unless specifically authorized to do so by approved protocol or by the principal investigator acting in response to applicable law or court order, or public health or clinical need.
- I understand that I am not to read information about study sites or participants, or any other confidential documents, nor ask questions of study participants for my own personal information but only to the extent and for the purpose of performing my assigned duties on this research project.
- I agree to notify the local principal investigator immediately should I become aware of an actual breach of confidentiality or a situation which could potentially result in a breach, whether this be on my part or on the part of another person.
- Keep all research information in any form or format secure while it is in my possession.
- Return all research information in any form or format to the Principal Investigator when I have completed the research tasks.
- After consulting with the Principal Investigator, erase or destroy all research information in any form or format regarding this research project that is not returnable to the Principal Investigator (e.g. information sorted on computer hard drive).

_____ _____ _____

Research Assistant Signature Date Printed name

_____ _____ _____

Signature of Principal Investigator Date Printed name

Appendix 6 – Generic Data Survey

GENERIC DATA SURVEY

Settlement: _____ Participant #

Please tick the box which best suits your answer.

1	Age:					
2	Gender:				Female	Male
3	Education	None	Primary	Secondary	Highschool	University
4	Civil state	Single	Married	Divorced	Widow	In a relationship
5	Household					
6	No. of children under 18					
7	Place of origin	Zihuatanejo	Other towns of the municipality (sierra)	Other towns of the municipality	Other town of the state	Other state
8	Lenght of stay on this settlement					
9	Reason for selecting this settlement	Close to city centre	Family	It is cheaper	It is beautiful	Other
10	Economic activity in hometown	Farming	Agriculture	Tourism	Commerce	Other
11	Economic activity in Zihua	Farming	Agriculture	Tourism	Commerce	Other
12	Monthly income					
13	Religion	None	Catholic	Christian	Jehova Witness	Other
14	Do you own a mobile phone with camera?				Yes	No
15	Do you have internet access at home				Yes	No

Appendix 7 – Interviews for variables of Place Attachment

PLACE DEPENDANCE

1.- Why did you choose this settlement above others? (*Promps: location, neighbours, accessibility, ease of take over*?)

2- Can you describe a typical day for you? Example: I get up at 6 am, I prepare breakfast, I take the children to school and then I go to work (or do the shopping), I pick up the children at 1pm (or they arrive alone) and then I stay in the house, washing and feeding, while the children play outdoors (or watch telly). – *This question will try to acknowledge the use of the settlement in the small scale of home belonging and safety (e.g. children playing outdoors), and city interaction.*

3.- Do you perceive the settlement as being close or far from the city centre*? The availability or lack of public transportation can influence this perception.*

4.- If you were to be relocated (either to another settlement or to another place in the settlement), what would you miss the most of this place? (*Promps: neighbours, house?*) (Hidalgo & Hernandez, 2001)

IDENTITY

1.- What do you like most of the settlement?

2.- What do you like the least of the settlement?

3.- If you could name the settlement, what name would you choose and why?

4.- If you could name the streets of the settlement, what names would you choose and why?

5.- If you could change anything in the settlement, what would it be and why? *This intent to acknowledge how much residents value the place as it is now, but also what they would be willing to do to improve it*

6.- When you visit other settlements, what do you notice different to yours? *This intent to acknowledge which elements of identity residents perceive in the place, but also, the value they give them as they chose their settlement to live.*

7.- If you had to tell a friend how to get from the city centre to the settlement, and to your house, how would you describe it? *From the pilot studies it was learned that if asked to describe the settlement itself, words such as 'pretty' and 'good' were overall used to answer that question, which is why it was rephrased as a mobility question to purposively distract their minds from those words and instead be able to describe the elements that they unconsciously acknowledge as identity elements of the settlement.*

8.- When asked where are you from? What do you say?

9.- When asked where do you live, what do you say?

10.- Does living in an informal settlement mean anything to you? What?

SOCIAL COHESION

Networks

1. How many friends do you have in the settlement?
2. On an average, how many contact with you in a typical day? (say hello, chat, talk or discuss matters with) (Fu, 2005).
3. Is that contact face-to-face or by phone?
4. Would you say your closest friends/family live in your neighbourhood? Could you name them?
5. You attend a religious celebration?
6. You form part of a community group (A.A. Church, Red Cross, Fisherman, other.)?
7. You play team sports (football, basketball, baseball, volleyball)?
8. Have you met anyone through living here? How?

Depth of Social Ties

1. During the last six months, whom did you discuss important matter with?
2. How often do you talk to your parents? Or family members?
3. Of the people you said were your closest friends in the settlement, could you enlist some personal details? (age, occupation, religion, income, sex, political party, race, kinship, etc.) (Burt, 1984).
4. Have you gone to their house? Have they come to yours?
5. Who do you go to when you feel sick/sad? Why? Who comes to you?
6. You share things/lend money/babysit with your neighbours?

7. How frequently you contact your friends/neighbours? What for?
8. How frequently do you talk about family/friends/politics/local events/work/leisure with the friends you have in the settlement?[152]
9. Do you have any anecdote (story), whether funny or not, about something that happened to you in the colony, that you could/would like to share?

[152] Altneustadt data

Appendix 8 – Interviews related to Community Leaders

PARTICIPANTS

1. Could you please tell me a little bit about yourself? (age, occupation, etc)
2. Do you remember your first time in the settlement? how was it like? how did you feel? did you come alone?
3. Did you choose your parcel?
4. How was the building process of your house?
5. Do you know why this settlement is located here?
6. How was the process of occupying the land?
7. Have you had any issues related to the risky topography of the place?
8. Do you know the community leader, or committee? Have you spoken to him/her? How often and under what circumstances you see him/her?
9. How would you describe the leader?

LEADERS

1. Could you please tell me a little bit about yourself? (age, occupation, etc)
2. Do you remember your first time in the settlement? how was it like? how did you feel? did you come alone?
3. How did you become the leader?
4. Are there any other 'natural' leaders or second in command? Why? How do you work with them?
5. Are you 'registered' at the Municipality?
6. Do you know your legal obligations and limitations as a leader?
7. A- Do you know of how this settlement's layout is the way it is? And why it is located here? (or)
8. B- When you were thinking about the design of the layout, what did you have in mind?
9. How was the process of occupying the land?
10. Have you had any issues related to the risky topography of the place?
11. Do you hold community meetings? What for?
12. Do you find it hard but rewarding being a leader? Why?

AUTHORITIES

1. How do you deal with informal settlements? Would you consider them a problem to city planning?
2. Do the leaders have any official legal position? What is their role? **
3. What time-frame is it average to face eviction/relocation/regularization. What are the defining points to make that decision? **
4. What would you consider the difference between an informal settlement's leader and a regular neighbourhood leader?

*** Although there is legislation explaining these subjects, the intent is to understand how it is the authorities are actually working with them.*