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Post-Disaster Reconstruction in Medellin Informal Settlements and the Associated Resilience Dimensions of Place-remaking

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Abstract

In urban planning research, studies that investigate the process of reconstruction after natural disasters in Latin American countries, and the set of resilience coping strategies organically developed by residents of these areas, are very limited. In Colombia, for instance, the lack of understanding on how these communities have reshaped the built environment through grassroots actions has amplified the gaps between the historical development of urban slums and the principles for the latest top-down participatory urban developmental strategies. In response, this thesis aims to reveal the process of development of an informal settlement, Villatina located at the Comuna 8 in Medellin Colombia that has followed a long process of reconstruction after a major landslide in 1987. The main resilience community aspects created during the reconstruction are unveiled and discussed against the backdrop of the outbreak of civil war in the 1990s, which significantly affected the informal settlements of Medellin.

Following a principle of sequential mix-method research, ethnographic field work was conducted for a period of six months in the community. Focus groups and interviews with residents, local leaders, and the local government were performed, and survey responses were collected. The findings revealed a long history of resilience represented by insurgent movements of space re-construction and territory protection (i.e. attempts of eviction and extreme violence) against the government. These movements gave rise to grassroots places that were built by the community. However, the introduction of a new 'top-down' model of development (social urbanism) applied in urban slums by the local government has halted community actions and the development of future grassroots places. To understand if the community has been disempowered by the government, the two types of interventions in Villatina (i.e. top-down and bottom-up) were compared in order to determine their main differences. The results have revealed that the underlying factors identified in grassroots places were strongly aligned with territory protection, community action and place attachment, which were absent in government top-down places.

These findings can be used to facilitate a discussion on the principles in which the communities interact and create their own built environment. These can then be used in slum upgrading programmes that integrate participatory design strategies. To this end, concepts grounded in planning theories and complementary fields (i.e. sociology and anthropology) were used to help this thesis to find alternative and progressive routes to urban development in these urban informal settlements.

Publications and Presentations from the Research

Benjumea D.M. (2018). Historiography of Insurgent Planning in Informal Settlements. Post-disaster reconstruction in the midst of war: A case study in Villatina Medellin-Colombia. The 48th Annual Conference of the Urban Affairs Association 'Shaping Justice and Sustainability Within and Beyond the City's Edge: Contestation and Collaboration in Urbanizing Regions'. 4-7 April 2018 in Toronto, Ontario (Canada).

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Glossary

Abbreviations

ACI	Agencia de Coperacion e Inversion de Medellin
CAP	Comandos Armados del Pueblo (Armed Commandos of the People)
CCA	Climate Change Adaptation
CTI	Cuerpo Tecnico de Investigacion (Techinical Investigation Team)
DRR	Disaster Risk Reconstruction
EDU	Empresa de Desarrollo urbano (urban development Enterprise)
ELN	Ejercito de Liberacion Nacional (The National Liberation Army)
EPL	Ejercito Popular de Liberacion (Popular Liberation Army)
FARC-EP	Fuerzas Armadas Revolucionarias de Colombia – Ejército de Pueblo (Revolutionary Armed Forces of Colombia – People's Army)
IP	Insurgent Planning
JAC	Juntas de Accion Comunal (Community Action Institutions)
M-19	Movimiento 19 de Abril (the 19th of April Movement)
PDS	Participatory Design Strategies
PUI	Projecto urbano integral (Urban integration projects)
PRIMED	Programa Integral de Mejoramientos de Barrios subnoramles (Program for the Integral Improvement of Subnormal Neighbourhoods)
UNAL	Universidad Nacional (Sede Medellin)
UVA	Unidad de Vida Articulada (Articulated life unit)

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1. Chapter One: Introduction

This thesis begins with an exploration towards understanding how a process of reconstruction of the built environment in informal communities can occur. The first layer investigated revealed a deep connection between a process of place re-making and social interaction which, in other words, provides signs of a resilience process. Nevertheless, there is a lack of understanding of the meaning of resilience from a bottom-up or grassroots perspective in Latin American urban informal settlements. In fact, for years the research conducted in resilient communities after natural disasters has developed frameworks and informed urban planning policies that are not necessarily grounded in the realities of the communities but serve first world agendas (Mackinnon & Driscoll, 2012). As a consequence, the policies integrated in urban developmental projects for the poorest settlements have integrated principles of citizen participation that aim to create empowerment at the local level. In other words, these principles set the basis for community resilience.

Although several scholars have criticised such top-down approaches, (e.g., Cooke & Kothari, 2001, Firedman, 1987; Miraftab, 2010; Sandercock, 2002), to date only a few studies have been conducted that investigate whether community resilience is something that could be organically created by these communities or whether it is something created with the intervention of the top down. Although it is claimed to be of primary importance, research that understands how resilience is translated by the bottom-up in an organic way continues to be vague.

In response to this, this thesis aims to understand the essence of a resilience process in urban informal communities in Medellin, Colombia. The half a century of civil conflict has shaped Colombian societies that have witnessed the longest civil rebellion led by different insurgent groups and drug dealers. The most affected by the internal civil conflict were the marginal communities that settled illegally in the cities. The residents of these settlements have a long history of social segregation and violence which has portrayed these settlements as the most violent places in Latin America in the 1990s (Levy and Dávila, 2017: 37). Nevertheless, in parallel with these conflicts, the history of resilience of these communities to civil wars, displacement, eviction campaigns and geological disasters has not yet been told. Therefore, the focus of this thesis is to contribute to future understanding of how resilience might be developed by residents of informal settlements after disasters (landslides), and how such a process took place in the middle of violence and war.

The case study of investigation is set in the city of Medellin in an informal settlement known as Villatina, located in the Comuna 8. This community overcame the largest catastrophe reported in Colombia in 1987, which took the lives of hundreds and affected more than two thousand residents. The process of reconstruction coincided with the most violent period recorded in the Colombian history unleased by drug cartels and urban militias. Although this thesis' emphasis is on the process of reconstruction after the landslide in 1987, the development of this settlement cannot be isolated from the impacts of violence perpetuated by drug gangs, urban militias, and attempts of eviction coming from the local government. Therefore, these factors are closely analysed in order to understand how the exposure to both landslides and extreme violence could have influenced residents of Villatina to create processes of community resilience.

This thesis is developed under the concept of 'community' and aims to understand the actions of Villatina residents during the process of reconstruction as 'community actions'. The numerous events that have shaped the space and time realities of Villatina residents can only be understood through the lenses of community interaction, which have occurred not along a linear timeline, but have diffusely scattered across a span of 30 years after the disaster. To address what variables shaped the reconstruction of the built environment, time in the context of this thesis will be understood as a continuous change of events, in which different variables can be chosen to measure that change. Nevertheless, in close alignment with the quantum physicist Carlo Rovelli (2017): "none of the variables that we choose to measure changes in time can actually account all the characteristics of time as we perceive it" (p. 176). Therefore, the ceaseless process of change would never be altered, and attempting to find definite factors that fully describe the events might lead to overlooking new social conditions that emerge at different times and affect or shape the social and community interactions. On this basis, the *events, happenings* and *processes* that occurred after the disaster in Villatina will not be understood as absolute, but as the product of a series of community inter-actions or events that shaped the entire process of reconstruction, from the social domain until the creation of the physical space.

Finally, this thesis shares a close inquiry with the historian and architect Dolores Hayden, who in her book Seven American Utopias asked: "*How does the liberated self-emerge that is capable of turning time into life, space into community, and human relationship in to the marvellous"* (Hayden, 1976: 5). However, in the context of this investigation, the researcher asks how the oppressed and segregated communities after surviving a natural disaster and

a civil war have been capable of turning violent times into hope, space into community grassroots places, and relationships into community resilience.

1.1 **Thesis Structure**

The thesis is divided into seven chapters. Chapter two reviews the literature that addresses the latest findings on resilience and its interconnection with processes of post-disaster reconstruction of the built environment in Latin American informal settlements. Key theories of resilience in ecological systems such as those of Adger *et al.* (2005) Berkes and Ross (2012), Cutter (2008), Gaillard (2007) and Klein *et al.* (2011) among others, build the theoretical background to deconstruct the process of resilience from a top-down rigid definition, towards a flexible and inclusive problem that is grounded on the *'everyday magic'* of normal people – as Masten (1990) has claimed. Furthermore, the concept of insurgent planning is introduced as an alternative to help understand how resilience is created by residents of Latin American informal settlements. Complementary to this, the top-down-developed participatory mechanisms used by international agencies and local governments in these settlements are analysed with respect to the concept of resilience.

The theoretical exploration sets up the background to introduce the research problem followed by the research questions and objectives presented in Sections 2.4 and 2.5. The next section introduces the research case study. In Chapter three the research methodology, phases of the study and methods used are presented.

The next three chapters are structured to answer the research questions outlined in Section 2.5. Chapter four presents the historical process of development of Villatina – the main case study – before the disaster in 1987. The sequence of events follows a timeline in which are outlined the periods between 1980 and 1990, a period when the disaster occurred, and the outbreak of the civil war that severely affected Medellin urban informal settlements. The period between 1995 and 2001 presents the double disaster exposure to extreme violence – caused by the civil war, and landslides – also a consequence of the displacement phenomenon triggered by the internal civil conflict in that period. Sections 4.5 to 4.8 address the process of reconstruction and the mechanisms of community action that Villatina residents developed after the disaster which are revealed through the focus groups discussions conducted in 2016 and the surveys collected in 2017 with Villatina residents. The chapter also identifies the main social resilience strategies of place re-making that Villatina residents developed after the disaster. These components are treated as the conceptual

guidelines of this study, which are investigated in chapters five and six in order to establish whether top-down interventions have enhanced or disrupted them.

Chapter five explores the present condition of Villatina after the intervention of the local government using participatory design strategies, also known as social urbanism. The concept of empowerment is reviewed in this chapter in accordance with the top-down participatory strategies developed by the Medellin government. To understand if empowerment has been generated after the intervention of the local government, a place denominated *Campo Santo* – a memorial space created by the community after the disaster – is explored. This place was built by the community during the process of post-disaster reconstruction and later reformed by the local government using participatory design strategies. Interviews with Villatina local leaders, residents, 150 survey responses, and interviews with the local authorities are presented to establish if the community was empowered after the use of the participatory strategies.

Chapter six presents the main differences across bottom-up and top-down places according to Villatina residents. This chapter introduces a methodology designed to investigate the most relevant places in Villatina from a bottom-up perspective (i.e. the most important places were selected directly by the residents). To develop this methodology, a sequential design order was applied following both qualitative and quantitative principles used to validate and triangulate the information gathered. Following scientific social methods of investigation, the aim was to establish the main differences across a shortlisted group of the most important places in Villatina. The places were classified according to their development: bottom-up or top-down. The main differences across the two groups are categorised in different dimensions and explained by the subjective meaning of each place obtained from focus group discussions, interviews, and surveys responses.

Chapter seven discusses why the meanings of the spatial form can help to approach participatory methods in urban informal settlements in Medellin. Additionally, community resilience is introduced as part of a co-creative model that could help in the construction of more active and self-empowered communities. Conclusions, recommendations and areas of future research, and the original contribution of this thesis are outlined from sections 7.2 to 7.4.

2 Chapter Two: Literature Review and Theoretical Considerations

2.1 Will resilience solve future urban problems? A critical examination of how this concept has been applied in urban planning

More important than understanding 'resilience' as a fixed term that refers to the capacity of re-organisation of systems to regain a fully functioning state after disturbances (Klein *et al.*, 2011; Adger *et al.*, 2005; Folke, 2006 in Cutter 2008:600, , Gaillard, 2007: 523; Berkes and Ross, 2012: 6; Fayazi and Lizarralde, 2013:148) is to unveil the empirical nature of such a term and its relationship with the human capacity of making sense of and reacting to the world. In fact, resilience as a social concept was first introduced in psychology research as a notion that is mainly humanly constructed through the experience of adversity (Luthar *et al.,* 2000: 544). The early studies that led to this conclusion were derived from in-depth empirical and systematic examination of the life experiences of patients with severe and moderate schizophrenia in the early 1970s and 2000 (e.g., Garmezy, 1970; Zigler and Glick, 1986; Masten *et al.,* 1990; Luthar *et al.,* 2000). The outcomes of these studies led to the establishment of a unified definition of resilience as a '*dynamic process encompassing positive adaptation within the context of significant adversity'* (Luthar *et al.,* 2000: 543), and it is believed to be a reactionary force created by human beings that aids in the process of re-organisation and recovery in the face of unexpected disturbances (Luthar *et al.,* 2000: 543).

This holistic understanding of resilience has been widely integrated in different spheres of knowledge beyond the social sciences to explain the capacity of any system to adapt and regain a fully functioning state after a major disruption. For instance, in specific natural sciences research, resilience often refers to the capacity of body cells to react and regenerate from unexpected cellular degeneration (e.g., cancer) (Ma *et al.,* 2008). In financial studies, researchers often integrate some principles of resilience research in strategies of crisis management, financial regulation and development economics in the face of unexpected events (Walker and Cooper, 2011; Ananda *et al.,* 2013). However, more recently, this concept has comprised a full body of extended research that has extrapolated studies in social and ecological systems to understand the human capacity of adaptation after natural disasters with the aim of informing future city planning policies (Paton and Johnston, 2001; Wisner *et al.,* 2004; Adger *et al.*, 2005; Berkes and Ross, 2012 Gaillard, 2007; Cutter *et al.*, 2008; Norris *et al.,* 2008).

The research in social ecological systems – the scientific stream of resilience research considered to be the most relevant for societies (Norris *et al.*, 2008) – has been widely applied in practice. The emergence of a new understanding of how individuals are capable of adaptation after natural disasters and what potential patterns of behaviour could be abstracted and integrated in international city planning frameworks has become the panacea of the twenty-first century for developing and underdeveloped countries (e.g., sustainable development goals (SGDs), United Nations Frameworks, etc). These frameworks that comprise general principles and city planning guidelines for disaster recovery have been adopted in several international programmes and applied in countries with problems of extreme disaster exposure in vulnerable low-income populations. For instance, in Latin American countries (i.e. Colombia, Chile, Brazil, Ecuador, Peru, Guatemala, Mexico), programmes such as Disaster Risk Reconstruction (DRR), Climate Change adaptation (CCA), reconstruction from below, and grassroots interventions through participatory design planning programmes have been applied (Chambers, 1994; Davidson *et al.*, 2007; Majale, 2008; Hilhorst *et al.,* 2010). Nevertheless, these programmes have been heavily criticised in resilience research, since the resilience process has been fixed in frameworks that disregard the social phenomenon and exclude dimensions that are implicit in the process of resilience; i.e. people-place connections (Brown and Westaway, 2011; Amundsen, 2012; Berkes and Ross, 2012) and other subjective factors (Brown and Westaway, 2011).

The roots for this oversimplified understanding of resilience in urban practice-frameworks could potentially be found in research. Scholars have argued that attempting to create general frameworks that systematically measure generic factors (i.e. cognitive human constructs) that are believed to be the components of resilience, could induce oversimplified views of the social phenomenon that occurs when a resilience process is triggered (Brown and Westaway, 2011; Amundsen, 2012) and might leave out important aspects that arise as part of the unique characteristics of the context (e.g., social, cultural, ethnic, etc) (Hilhorst *et al.,* 2010). According to Gaillard (2007) and Davidson *et al.* (2007), many of these studies have not yet understood the multidimensionality of human experience and the capacity of individuals to adapt according to their localised reality (e.g., cities, towns, neighbourhoods, etc). Instead, some of these frameworks have insisted in proposing general assumptions that in some cases disregard the micro-processes that emerge as part of the adaptation process (Davidson *et al.,* 2007). Interestingly, this claim intertwines with psychology research on schizophrenic patients back in the 1980s that argued that resilience has a multidimensional nature and is heavily influenced by life-changing circumstances. Therefore, it depends on the

individuals' situated realities and exposure to new vulnerabilities (Werner and Smith, 1982; Masten and Garmezy, 1990).

From this point, a wave of arguments starts to emerge that have criticised the implications of resilience research in urban planning practices and policies. At the core of these arguments is the idea that resilience research has been developed in isolation from 'critical social science literature' (Cote and Nightingale, 2011), leading to the development of concepts and frameworks that mistakenly have assumed the resilience of social groups to be similar to social dynamics (Cote and Nightingale, 2011). This is particularly problematic since the two concepts, although they could be related, are not essentially part of the same process. As previously described by Masten and Garmezy (1990) and Werner and Smith (1982), resilience is a process of a multidimensional nature that depends on the adverse circumstances that are faced as well as the situated realities and type or vulnerability experienced. In other words, resilience is triggered by an external adverse event (a disaster). On the other hand, social dynamics constitute a vast conglomeration of actions that have an evolutionary nature; are the product of multiple human interactions and, in most cases, are ruled by cultures and religions among other social constructs (Schelling, 1998). However, both concepts might intertwine – as previously stated – since the process of resilience might be carried forward by the same individuals that have evolved under specific social dynamics. In fact, resilience is believed to be divergent to social dynamics since it prompts unique processes of adaptation that might even go against social norms (Moreno and Shaw, 2018). In the 2018 study conducted by Moreno and Shaw in a coastal community in Chile after the earthquake tsunami in 2010, it was revealed that a disaster could promote feminist movements among rural low-income populations – recognised as highly patriarchal social groups – as part of the resilience process. These findings revealed that even in male-controlled social groups after a disaster, when the resilience process is experienced, the traditional social dynamics could be altered or changed to give rise to unique micro-processes of development (i.e. female grassroots movements) (Moreno and Shaw, 2018).

This exposes the problematic assumption of similitude between social resilience and social dynamics in resilience research put forward by Cote and Nightingale (2011) that tends to oversimplify how resilience occurs and overlooks the micro-processes that arise – and in some cases challenge the traditional social dynamics. Furthermore, the lack of critical social science literature that identifies those micro-processes has led to the development of urban planning policies and models that often ignore the '*processes and political changes*' that occur within the community adaptive dynamics. In other words, the resilience frameworks

have overlooked the social phenomenon (Cote and Nightingale, 2011). This has transformed resilience into a vague and normative concept that has been lost in the application of governance, in social learning, or in the leadership of ideas (Brown and Westaway, 2011), and has overshadowed the multidimensional nature of resilience that is heavily influenced by factors innate to the human capacity to adapt in the face of disasters.

Looking at the epistemological side of resilience, Berkes and Ross (2012), Brown and Westaway (2011), Cutter *et al.* (2008), Gaillard, (2010), and Norris *et al.* (2008) have suggested to shift the topic of resilience towards a more local and in-depth comprehension of the adaptation process among individuals and communities after environmental stressors. This idea, in fact, has been prevailing among resilience researchers who investigate how local and vulnerable communities adapt to drastic changes after natural disasters in developing countries (Gaillard, 2010, 2007; Amundsen, 2012;Amundsen, 2015; Moreno and Shaw, 2018). These studies have opened the doors towards an exploration of resilience within communities after disasters as part of a cooperation process instead of a self-centred or an individually constructed one. In fact, the introduction of resilience as a collective concept has emerged embracing the multidimensional nature of human response to crisis in a social manner, implying that resilience has started to be understood as a social construction (Aldrich, 2012: 13).

From this socially constructed exploration, several researchers have converged to espouse a principle considered to be fundamental in a resilience process and which could also be considered intrinsic to our human nature. This principle according to Berkes and Ross (2012) is closely associated with how ecological systems work, which in the face of disturbances have the capacity to regain – and sometimes retain –the same function by working collectively as part of a contributory process (Walker *et al.,* 2004). This process, according to Berkes and Ross (2012: 8) is, in fact, a mirror of a resilience process within social groups, however, one of the key aspects is the opportunity to learn and adapt to new circumstances by working collectively or 'ecologically'. Furthermore, Berkes and Ross (2012) and Aldrich (2012) also explained that this process is defined by a network of interactions among individuals that integrate the system and whose decisive role is part of a collective consciousness focused on recovery.

Also known in the field as 'community resilience' this process has been widely investigated by scholars in different areas of knowledge in the social sciences (e.g., Tobin, 1999; Paton and Johnston, 2001; Chaskin, 2008; Cutter *et al.,* 2008; Norris *et al.,* 2008; Magis,

2010; Berkes and Ross, 2012; Eiser *et al.,* 2012; Barrios, 2014). These studies have established some of the main factors necessary to achieve resilience at the community level after natural disasters (e.g., Paton and Johnston, 2001; Adger *et al.*, 2005; Gaillard, 2007; Norris *et al.,* 2008; Berkes and Ross, 2012; Eiser *et al.,* 2012). Among the main factors that have been highlighted in these studies are, respectively, sense of community (community attachment) (Paton and Johnston, 2001; Cutter *et al.,* 2008; Norris *et al.,* 2008; Eiser *et al.,* 2012), self-organisation (Paton and Johnston 2001; Cutter *et al.,* 2008; Berkes and Ross, 2012; Eiser *et al.,* 2012), community participation (Paton and Johnston 2001; Norris et al. 2008; Berkes and Ross, 2012; Eiser *et al.,* 2012), and coping style or adaptive capacity (Paton and Johnston, 2001; Engle, 2011 Berkes and Ross, 2012, 2013). Considered as the core guiding principles found in community resilience frameworks, these factors have been applied in human behavioural research, urban policies, and many developmental projects after disasters such as disaster risk reconstruction (DRR), climate change adaptation (CCA), reconstruction from below, and grassroots interventions, among others (Chambers, 1994; Davidson *et al.*., 2007; Majale, 2008 Hilhorst *et al.* 2010). Nevertheless, although it has been posited that these community resilience components are at the core of any resilience process (Paton and Johnston 2001; Cutter *et al.,* 2008, Norris *et al.,* 2008) researchers should be aware that if the focus while investigating community resilience in isolated social groups is just on those specific factors (i.e. urban informal settlements, rural communities), the micro-processes occurring at the local level – or what Cote and Nightingale (2011) identified as '*processes and political changes*' – might be overlooked (Norris *et al.,* 2008: 144; Amundsen, 2012; Brown, 2014). For example, although Moreno and Shaw (2018) acknowledged resilience conceptual frameworks their study was not restricted to these. This led to the identification of female empowerment grassroots actions that emerged as part of a unique resilience process (Moreno and Shaw, 2018). In other words, the '*processes and political changes*' that emerged during the reconstruction process were shown to be an important contribution for further grassroots movements in patriarchal communities that undergo resilience processes after natural hazards.

Additional criticisms on the nature of the current resilience concepts that have governed the studies conducted within vulnerable and isolated social groups (i.e. informal communities) have been made by a few academics (Brown and Westway, 2011). According to Brown (2014), the normative concepts developed in research that are later applied in urban policy frameworks have been manipulated as strategies of governance and politics. Likewise, Mackinnon and Driscoll (2012: 259), claimed that resilience has been applied as a

'pseudo-scientific discourse' that presents a *'paradox of change'* in which the prevalence of crisis is emphasised and accepted passively; however, in this context, the responsibility is placed on the communities that must initiate processes of adaptation (Evans, 2011). In other words, the naturalisation of crisis at the same time resonates with neoliberal discourses that support hegemonic modes of thought of global capitalism (Mackinnon and Driscoll, 2012). In fact, Tobin (1999) questioned the ethics of such hegemonic practices in societies that have significant social injustices, in which subsidised local and international programmes take advantage of the marginalised condition of the communities and condemn them to serve the purposes of neoliberal economic schemes.

Similarly, Cote and Nightingale (2011) suggest to understand resilience from different levels of political interactions outside of the institutional agendas. Kaika (2017) highlights the importance of analysing how resilience occurs outside of academic and policy agendas that have being caught in defective techno-managerial frameworks (IBID). According to Kaika (2017), to talk about resilience, it is necessary to break from the subordinate positions that communities occupy. Instead, the *"real smart solutions and real social innovation"* emerge in the alternative methods and actions of people that have refused to use the "*pre-described development practices"* (IBID: 99). In other words, resilience is manifested in the discernment and action of citizens towards improvement. The acknowledgement of these actions could be of crucial importance to understand the differences between ecological systems (i.e., systems that discern, act, and adapt creating new forms of resilience) and human-dominated systems. According to Vale (2014) these systems rely on external human symbols of power that promote dependency. Since ecological systems reflect a new picture of interactions and politics that are threaded through a proactive and self-reflective approach (IBID), they could reveal new indicators that help improve practices and *"global socio-environmental equality"* (Kaika, 2017: 99).

2.2 The Mirage of Participatory Design: Empowerment or Patronage

A clear example of how such neoliberal practices occur can be found in the so-called 'participatory programmes' that are developed by governments and international aid agencies. In these programmes, some of the conceptual frameworks and principles developed in resilience research are adapted and implemented with communities – for instance, projects that allow participation of citizens in the design and construction of

projects/buildings in the settlements (Davidson *et al.,* 2007). In fact, in the last decades, several programmes that integrate citizen participation have been developed with urban informal communities in Latin America. In Brazilian slums, several programmes have adopted the principles of community resilience into schemes that allow citizen participation; some of these programmes have been used as strategies for disaster risk mitigation and been integrated within urban practices for informal segregated settlements. An example is the participatory planning method called Plano Global Específico (PGE; Specific Global Plan) applied since 1995 in villages and favelas in Bello Horizonte (Kapp and Baltazar, 2012). In this scheme, the projects are developed by private expert organisations and the communities are invited as part of an informative process; nevertheless, autonomy or empowerment of the communities is not generated since all the planning and construction process is top-down or '*heteronomous*' (Kapp and Baltazar, 2012: 167). In other words, since citizen participation is institutionalised, any chance of citizen control or autonomy is annihilated by the top-down planning structures (Kapp and Baltazar, 2012). A second programme developed to promote citizen participation and empowerment of the community associations in Brazil is known as *Minha Casa Minha Vida Entidades* (MCMVE). This programme has been recognised to lead to positive outcomes, as it incorporates improved spaces of the peripheries into the regularised city and promotes home ownership (Caldeira, 2017). Nevertheless, Friendly and Stiphany (2018), and Rizek *et al.* (2014) identified this programme to be involved with exploitative and predatory lending practices that favour the government and private sector.

A similar programme can be found in the city of Medellin (Colombia). Under the name of 'social urbanism' (SU) since 2007, the local government has implemented an innovative initiative in urban informal settlements (comunas) that integrates some of the principles of citizen participation defined by international frameworks. The outcome is the definition of participatory design strategies (PDS) that have been applied in the last decade with the residents of the comunas in the design process of infrastructural projects (Echeverri and Orsini, 2010). The aims of the projects – among other aspects – are to minimise violence and disaster risk exposure in the comunas and to enable citizens' empowerment in the process of space construction through the implementation of the PDS. Nevertheless, a similar scenario to the PGE in Bello Horizonte is found with the Medellin PDS, in which the false sense of empowerment is masked by a hegemonic process that ignores the community structures and local power (Montoya, 2014). In fact, as stated by Montoya (2014), the participatory strategies contained in the Medellin SU are part of an ideology in which the local government has grounded its actions in order to justify the transformation of the urban

space in these settlements. In this way, the government legally regains spatial and social control. Montoya sees this mode of intervention in the urban space from Lefebvre's ideas of the occupation of the urban space, in which the urban space is a social product that is conceived through dialectic methods, since it is politicised through conscious or unconscious strategies. In other words, the intervention of the urban space through PDS, inevitably creates new politics and governances over the improved territory; however, those are not returned to the residents, instead they are transferred to the government.

A very interesting scenario emerges when analysing how successful PDS could be. As a general statement, the process of participatory design with low-income communities has been recognised to be extremely challenging (Cooke and Kothari, 2001; Manzo and Perkins, 2006; Sanoff, 2008). Many scholars have highlighted that the nature of such challenges is rooted in the sometimes-internal political agenda of such programmes, and the evident management of the top-down initiatives (Cooke and Kothari, 2001; Umemoto, 2001; Miraftab, 2010). Research in these participatory processes has thoroughly examined the flaws of such practice defined by Cooke (2001) and others as 'induced participation' (Vallance, 2015), which refers to the participation that is controlled and managed from the top down. It is believed that the participatory nature of such programmes, for instance the SU in Medellin, is to create a sense of 'empowerment' among disadvantaged groups. Nevertheless, several studies conducted in different socially isolated groups that have received aid through participatory design strategies – either after a disaster or just as part of a local developmental project – have revealed that the sense of empowerment of these groups has been disrupted. This is because the local capacities (or local resilience) are ignored, creating inequalities, impositions and dependency of the social groups on the benefactor (i.e. local government, or external organisation) (Arnstein, 1969: 216; Mehretu *et al.,* 2000; Williams, 2004; Gaillard, 2007; Harvey, 2008; Hilhorst *et al.* 2010: 1112; Marcuse, 2009: Varley, 2013).

This focuses the discussion of PDS into a political domain since the main aim of such strategies is to promote and encourage 'empowerment' (Echeverri and Orsini, 2010). According to Miraftab (2010), the concept of empowerment in top-down projects that develop under the umbrella of participatory programmes in urban informal settlements are often laden with political agendas of control. The misleading benevolence of such programmes often hides the purpose of fitting political intentions that favour private sectors. An example of this was exposed in the study conducted by Faranak Miraftab in Cape Town, South Africa, with the '*community-based strategies for post-apartheid waste collection*

programs' – where the communities were falsely dragged into such programmes as volunteers; however the underpaid or unpaid labour of poor people in the townships was to fit with the cutting costs of the state's agenda (Miraftab, 2010: 240). In this case, the hidden agenda responded to the state's mode of control and manipulation by using symbolic and ideological metaphors ingrained in the concept of community participation. Similar cases are seen in programmes in which poor communities are involved in participatory projects in order to be relocated to other areas of the city. While the communities are dragged into this false mirage of citizen participation, the local government and private contractors share mutual benefits and profits through the construction of new private developments (i.e. condominiums, shopping malls, etc) – a clear form of gentrification (Clark, 2005). A more aggressive and clearer example of this was seen in the phenomenon named *'favela gentrification'* in Rio de Janeiro after the world cup in 2014 (Cummings, 2015: 81), in that, after the investments in urban infrastructure and tourism, new opportunities for land speculation and commercial development were created. However, the participation of the residents was reduced to a minimum. As a result, several favelas were razed since they did not fit the plans of the new developments (Cummings, 2015).

Although the focus of this research is not on this type of anomaly of participatory agendas (i.e. gentrification), it is important to reveal the problematic nature of induced participatory programmes and the consequences of misusing participatory strategies when these are permeated with secondary agendas that usually seek social, spatial or financial control. In fact, this research is more aligned towards understanding whether such strategies, such as PDS, can indeed generate empowerment and allow the creation of community resilience under heavy neoliberal urban practices, such as SU Medellin.

2.3 **Conceptualising Resilience in Urban informal Settlements**

This research builds upon the notion of resilience as a multidimensional concept (Luthar *et al.,* 2000) and proposes to overcome its oversimplification (Brown and Westaway, 2011, Brown, 2014:113) by moving beyond the static concepts and factors that for more than two decades have governed the understanding of resilience in planning and urban matters. To do this, an integrated novel and parallel exploration of resilience is proposed that acknowledges the processes and political changes that occur within the communities (Brown, 2014); in other words, an investigation of the unique and localised factors that emerge after disasters in social isolated groups, for instance, the urban informal settlements (Gaillard, 2007: 539). Furthermore, in close agreement with Brown's idea of demystifying the

term ‘resilience’ that has been heavily entrenched in inflexible definitions (Brown, 2014:114), it is considered of imperative importance that this research introduces a more flexible understanding of resilience, by creating ‘*creative alternatives’* that could significantly open important debates for the up-coming ‘*uncertain futures’,* and could ultimately help in finding alternative routes to resilience in urban informal settlements.

The idea of understanding resilience from a more creative perspective comes from a plethora of claims in urban informal settlements research that has indicated the need for a thorough examination of the micro-processes that occur at the local level in these communities (Lombard, 2014). Furthermore, it has been of central interest to shift the perception of these settlements as being chaotic (Huchzermeyer, 2004) towards a more positive view that recognises the resourcefulness and ingenuity of these communities that are capable of initiating processes of resilience after disasters (Roy, 2005). In fact, previous research has described urban informal communities as highly dynamic and resilient groups that reflect their ingenuity in the ability to adapt multiple times after adverse circumstances, such as natural disasters or evictions (Dovey and King, 2011, 2012a, 2012b). Nevertheless, these settlements are often seen as parallel societies that are outside the urban norms, often defying the societal order (Turner, 1972; Perlman, 1976; Castells, 1983, Gilbert and Ward, 1985; Brand, 2002; Lombard, 2014; Hernandez and Becerra, 2017, etc.). Consequently, any intent of internal resilience process in these settlements is often cast as unworthy or having an insurgent nature and is therefore rarely integrated in urban planning frameworks (Holston, 1995; Caldeira, 2000; Miraftab, 2005; Lombard, 2012).

2.3.1 **Informal Planning and Insurgent Planning**

Research conducted in informal settlements in Latin America has widely documented the process of development of these communities. It has been argued that the transformation of the built environment in these settlements is mainly bottom-up through grassroots mobilisations deeply rooted in community self-organising practices, leadership, and self-building (Turner, 1972; Gilbert and Ward,1985; Watson, 2009; Caldeira, 2000; Gough and Kellett, 2001; Hernandez *et al.,* 2010; Anguelovski, 2012; Lombard, 2014; Hernandez and Becerra, 2017). The organised actions of these communities to build their physical environment is sometimes understood as rebellious actions against the government that constantly threatens these communities with eviction. Several discourses in urban planning theories have illustrated these actions as radical planning (Friedmann, 1987), insurgent citizenship and insurgent practices (Holston, 1995; 2008), insurgent urbanism (Sandercock, 1998), and insurgent planning – invited and invented places (Miraftab, 2005, 2009, 2012a,

2012b) – which is characterised by counter-hegemonic and transgressive grassroots actions (Shrestha and Aranya, 2015). In essence, all these concepts refer to the celebration of citizen participation that challenges centralised capitalism and develops alternative channels of development, socially constructed and transformed by the communities (Holston, 1995). The idea of insurgent planning has a core ideology of inclusion of citizens through grassroots actions, which defy the state's attempts of eviction or marginalisation from general participation in the making of cities.

The insurgent actions of residents of urban informal settlements have been distinguished in two categories in the work of Miraftab (2005, 2009) as *'invited'* and *'invented'* spaces of citizenship. In the former, community grassroots actions are supported by allies such as NGOs or donors to help them cope with adverse situations. The second refers to the collective actions directly initiated by the community to confront the authorities. These spaces of citizenship – although introduced by Miraftab as counter-hegemonic actions of informal communities to defend their territory and create mechanisms of negotiations with the state – are worth exploring in the physical domain. Investigation of how the existence of both spaces, invented and invited, could give rise to the creation of community *grassroots places* in which the community creates shared meanings of citizenship, could add to the understanding of place-making in urban informal settlements. Understanding that, the materialisation of invited and invented places in urban slums represents the internal capacity and organisation of marginalised communities for creating innovative channels of development rooted in their own insurgent movements (Castells, 1983; Holston, 1995), which helps them to claim inclusion and preserve their collective history. In fact, it could be argued that through this understanding, future planning theories and policies could have a more intimate connection with the history of conflicts and social movements of these communities that have struggled when claiming their right to the city (Castells, 1983: 319; Lefebvre, 1967).

Besides arguing that research that explores how informal settlements in Latin America initiate the process of resilience after major disruptions in the built environment, such as natural disasters, is urgently needed (Berke and Campanella, 2006; Cutter *et al.,* 2008; Lombard, 2014; Roy *et al.,* 2016), Davidson *et al.* (2007) and O'Hare and White (2013) argued that the abstract concept of community resilience remains difficult to apply in urban planning policies in Latin American countries in these communities. Furthermore, the projects developed in these settlements by local governments and external organisations have often failed to explore how these local groups develop organic strategies of resilience in the

aftermath of disasters and how these strategies evolve over time (Hernandez and Becerra, 2017). Consequently, the top-down interventions through participatory programmes like PDS after disasters tend to dislocate the internal processes of resilience that might develop in the communities, creating further implications for their social structures that, in the long term, could deter participation and active self-organisation (Brown and Perkins, 1992; Davidson *et al.,* 2007; Sengupta and Sharma, 2009).

Nevertheless, as argued above, to conduct this type of research in urban informal settlements, it is imperative to recognise the highly active and political social nature of these communities. Therefore, using the conventional routes of resilience research that strictly recognise specific 'resilience factors' might constrain the research, and neglect the opportunity to explore the micro-processes that occur at the community level in their socio-cultural context (Brown and Westaway, 2011; Amundsen, 2012; Cote and Nightingale, 2011). Consequently, the researcher intends to stretch the concept of resilience to use it as a bridging concept (Brown, 2014), to help understand an extremely relevant and understudied subject in Latin American informal settlements. For this, the literature in insurgent planning in informal settlements could trace the route to understand how community resilience after disasters unfolds in these settlements.

Magis (2010: 235) argued that resilience comes from the '*everyday magic of the ordinary'* and highlighted the idea that the internal normative human resources that are embedded within individuals and communities are part of the representation of resilience. Additionally, Cote and Nightingale (2011) suggested the examination of resilience through the lenses of the sociocultural contexts and powers embedded in the communities, which would help capture the underlying heterogeneities in the social dynamics that give rise to resilience. These two interpretations of resilience open the door for 'insurgent planning' literature (IP) as a vehicle to understand how resilience might occur in Latin American informal settlements, since IP could be considered part of the everyday magic that constitutes the reality of these communities.

To use IP as a conceptual support to explore how resilience works in informal settlements after natural disasters, it could be helpful to initially position IP as an emergent counteracting force of informal settlements against the oppressive capitalist modus operandi of the local governments. IP works through grassroots actions and social movements organised directly by the communities. The outcomes could be significant, however, as the most prominent and relevant for this study are the self-building and planning actions that have allowed the

communities to assemble their own neighbourhoods; in other words, the actions, previously mentioned, defined by Miraftab as invited and invented spaces. The uniqueness of how these processes occur has been described by Castells as the representation of the *'singular pattern of behaviour'* of these communities that at the same time behave in divergent ways and have diverse social effects (Castells, 1983: 328). By this, Castells cautions us against assuming an absolutist position that could be entrenched in homogeneous discussions of how the grassroots processes occurs. In fact, although Castells recognises that these social movements are part of a homogeneous phenomenon, there are very different forms of mobilisation that are locally-based and respond directly to history and social reality (Castells, 1983: 328).

2.4 Research Problem: Re-scaling PDS and Community Resilience in Medellin Urban Informal Settlements

According to Cooke and Kothari (2001:4), all forms of induced participation introduce in one way or another a malformed definition of empowerment since the top-down has its own agenda and interest in normalising or legalising the settlements. The problem with such programmes is their hidden neoliberalist approach which, according to MacKinnon and Driscoll (2012) in the context of austerity, which tends to produce low income communities, these urban policies are often permeated by reinforced neoliberalism and influenced by expert knowledge. As a result, these policies reproduce the social and spatial relations that generate inequality (Davidson *et al.,* 2007; MacKinnon and Driscoll, 2012). In other words, the instances in which the PDS are defined by external experts and policy makers are inadequate strategies underpinned by a notion of '*adaptive management that subordinates communities'* (Mackinnon and Driscoll, 2012).

In principle, it could be argued that although induced participation might introduce hidden agendas that serve the local government's purposes of legalising informal settlements, on the other hand, these programmes also introduce latent improvements in the settlement's infrastructure (e.g., access to public services, transport, community facilities, among others) (Caldeira, 2017;Anguelovski *et al.,* 2018). However, the ambiguity of this matter directs the research inquiry of this study towards understanding, in the first place, whether PDS are indeed the best solution in these communities (Montoya, 2014). Furthermore, understanding that urban informal communities have developed internal micro-processes of adaptation – also recognised as insurgent planning (Miraftab, 2005) – and

that these processes are part of a bigger structure of grassroots actions, it is imperative to investigate how community resilience in these settlements occurs.

In fact, it could be argued that for the case of Medellin informal settlements a unique process of resilience was developed, which was not only triggered by natural disasters, but also by the long history of crime and war in which these settlements have evolved (Wisner *et al.,* 2004). Nevertheless, only a few studies have investigated how exposure to natural disasters is perceived in Medellin informal settlements but have not identified how the process of resilience after natural disasters might be correlated with violent crimes. In the work of Francoise Coupe conducted in the settlement 'Villatina' at the North Centre of the city (Comuna 8) after a massive landslide in 1987 – recorded as the most catastrophic disaster in the country (Coupe, 1993, 1997; 2007) – it was identified that residents associated the cause of the disaster with the criminal events that were affecting the settlement. Although the technical reports confirmed that the cause of the landslide was due to water accumulation in the base of the Pan de Azucar Hill (Alcaldia de Medellin, 1987), residents believed that the landslide was caused by a dynamite explosion triggered by the rebel group ELN (Ejercito de Liberacion Nacional (The National Liberation Army). In this context, the arguments of Coupe tend towards an understanding of natural disasters in Medellin informal settlements as not separated from the violent events in which residents have evolved. In fact, in her work, Coupe asserts that both types of disaster are co-related; therefore, any process of adaptation arises as a response to both (Coupe, 2007). In this line of ideas, to understand how the process of community resilience might occur in Medellin informal settlements after a natural disaster, violence needs to be considered in parallel to the investigation of natural disaster and understood as a second disaster that influences, equally, the community resilience process triggered by a natural disaster.

Although natural disasters and civil war conflicts constitute two different types of phenomenon, in the work of Wisner *et al.* (2004: 10) a clear relationship between them was provided. Wisner and colleagues claimed that civil wars and conflicts clearly could exacerbate natural extreme events; for instance, mass displacement to urban areas and other violent conflicts could generate new risks (exposure to crime, unfamiliar hazards in new urban environments, etc.) (Wisner *et al.,* 2004:24). Furthermore, violent confrontations at the same time undermine the local environment and prevent new sustainable practices from emerging (Wisner *et al.,* 2004:25). From this perspective, clearly there is a strong association between civil conflicts and natural disasters – as was identified by Coupe (2007). Nevertheless, perhaps the most detrimental aspect of these two interrelated phenomena is

the limitations that it poses in the implementation of recovery programmes, since violent conflicts could make it very difficult to apply participatory methods of citizen empowerment (Wisner *et al.,* 2004: 25). This could clearly become a major problem for the implementation of PDS.

With the implementation of PDS in informal settlements in Medellin, the question that emerges is to what extent the local organic grassroots strategies of development that are commonly developed by slum residents during self-building processes are considered and integrated by the local government. Years of research conducted with residents of these types of settlement across the globe have indicated that residents of informal settlements organically develop strategies of place-development through self-building processes (Turner, 1972; Perlman, 1976; Castells 1983). In the Latin American context several scholars have documented how the process of self-building occurs (Castells 1983; Gilbert and Ward, 1985; Brand, 2002; Lombard, 2014; Hernandez and Becerra, 2017) and some studies have even demonstrated that the strategies developed by residents could be considered as demonstrations of grassroots actions that give rise to political grassroots practices (Castells, 1983, Caldeira, 2000; Holston,2008; Friedmann, 1987, 2011; Anguelovski, 2013 (b)). Furthermore, it has been extensively argued that slum residents might ground their grassroots strategies of development under principles recognised as part of a process of community resilience (Dobson *et al.,* 2015), such as place attachment, community attachment, community activism, and sense of belonging, to name a few (Brown and Perkins, 1992; Davidson *et al.,* 2007; Foland and Lewicka, 2007; Gaillard, 2007). Therefore, it could be assumed that Medellin slum residents have organically developed strategies of place-development that are grounded in community resilience principles, although these have not been clearly identified.

Furthermore, examining the PDS projects applied in informal settlements in Medellin from a practical perspective, one may wonder if indeed these massive infrastructural projects have contributed to the reduction of violent crimes and improved the high exposure to natural disasters – as it has been claimed (Echeverry and Orsini, 2010). These doubts are grounded on simple ethnographic and demographic observations of the current situation of these settlements, in which a contrasting scenario of impressive PDS new-built projects next to houses that are close to collapse generate reservations about how PDS strategies operate. For instance, it has been estimated that 180,000 families live at risk of landslides and floods (Alcaldia de Medellin, 2014) in these settlements. Furthermore, between 2017 and 2018, new forms of violence caused by drug gangs started to emerge in some of these settlements

(Martínez, 2017); the gangs are using public spaces (also known as plazas) to trade drugs, causing confrontations with the police.

Research conducted by scholars in Colombia and other countries has described some of the positive impacts of PDS developed projects, among them studies conducted by Montoya (2014), Echeverry y Orsini (2010) and Brand (2010). These have highlighted the usefulness and replicability of the participatory strategies in other countries with similar problems in urban slums. Conversely, a critical stream of research has questioned the mode in which PDS are conducted and developed and makes a claim for a further inspection of these strategies, as they seem to consider imported ideas of participation that could be disregarding the locality and capabilities of urban slum residents (Montoya, 2014; Hernandez and Becerra, 2017). Furthermore, the recent recognition of Medellin as a resilient city that promotes community resilience through PDS developed projects, has enabled researchers to question to what extent community resilience has been achieved and if the political and economic processes occurring at the community level are modified after intervention of the local government (Anguelovski *et al.,* 2018).

Although the projects developed through PDS have created multiple benefits for slum residents, for instance transport connection, access to education and health services, these services are part of a long debt that the government has acquired with residents of these settlements. Furthermore, these are basic services that any government should provide to their citizens regardless of the condition of formal or informal. However, in the wake of an important post-war period that officially started in 2017 with the peace agreement with the rebel group LAS FARC, nearly half a century of civil conflicts have come to an end, and thousands of ex-rebels will be re-integrated into civil life and are expected to settle in the slums. This reveals new challenges that have started to emerge in cities such as Medellin, where, although it has achieved important progress within slum settlements, other problems have been overlooked for years; for instance, the extreme exposure to landslides and floods with more than 58,784 houses estimated to be at risk by the UNAL.

2.5 Research Aims and Questions

In Medellin, although nearly 70% of slum residents are situated in areas prone to natural disasters such as landslides and floods (Alcaldia de Medellin, 2014), research that identifies how residents of these settlements might create organic processes of resilience after natural disasters has not yet been conducted. In Section 1.3.1 it was noted that some researchers

have identified internal processes such as insurgent planning practiced by residents of these settlements, which suggests the existence of micro-processes based on community action (Holston, 1995; Caldeira, 2000; Miraftab, 2005; Roy, 2005; Lombard, 2012). In fact, the Medellin context offers a long history of insurgent planning in these settlements previously investigated by scholars (Lombard, 2012; Urán, 2012; Sanín, 2018) that have explored the impact of the civil war in the comunas. Nevertheless, no studies have been found that investigate whether residents of informal settlements create community resilience after natural disasters.

Given the strong community actions of these settlements (Gilbert and Ward, 1985) and the extreme exposure to landslides, floods and violence, the researcher hypothesises that residents of urban informal settlements in Medellin might initiate internal processes of community resilience in the aftermath of natural disasters. It will be argued that such processes are grounded in insurgent planning principles that are exclusive to their social structure. Therefore, their identification is imperative in order to understand how the urban and social spaces are experienced and materialised in these settlements. Furthermore, the research explores whether the recent PDS projects have created empowerment among the communities and enhanced community resilience. In this order of ideas, the aims of this research are:

1. To explore if the residents of informal settlements in Medellin can initiate a reconstruction process in the built environment by using community resilience strategies after a geological disaster;

2. To determine if bottom-up and top-down developed places are generating community resilience or otherwise;

3. To determine the differences between the places developed through PDS and bottom-up strategies according to the residents of informal settlements;

4. To provide a conceptual model use to understand how post-disaster bottom-up and top-down actions could be part of a cyclical and feedback process in which communities are empowered through the actions and support of local government.

In line with these research aims, the research questions for this investigation were formulated to explore:

- How do the residents of informal settlements recover from natural disasters and to what extent can they create community resilience strategies to initiate the process of recovery and reconstruction of the built environment?
- Are the top-down projects developed through PDS enhancing community resilience and empowerment of the communities, and if so, in what way?
- Do residents of these settlements perceive any differences between bottom-up developed places and top-down developed places (PDS), and if so, what are those differences?

2.6 **Case study**

In line with the aim and objectives of this investigation, this case study was selected in order to gain in-depth understanding of the social phenomenon occurring in urban informal settlements in Medellin Colombia. Case study research was the core basis to establish the criteria of selection and numbers of cases. According to Yin (1989, 2011), case study research is part of an empirical inquiry that helps investigate contemporary social issues within its own context and reality through multiple sources of evidence (interviews, surveys, observations) (Noor, 2008). The 'why?' of things happening is investigated through the contextual realities that are contrasted against 'what' was originally planned and 'what' actually occurred (Anderson, 1993). In this case, since the aim of this research is to investigate resilience at the community level in informal settlements, and to find out whether PDS top-down projects are empowering and promoting community resilience in these settlements, the case study selection was focused in one particular location.

Focus on one case study is advised for projects that aim to provide in-depth exploration of one area of interest, for this is suggested to identify a rich-in-information case study (Noor, 2008). Although research in social sciences emphasises '*rigour*' when choosing case studies (Seawright and Gerring, 2008: 295), when the case study selection is based on '*intensive*' analysis of a social phenomenon (i.e. single unit or case study), the problem of case selection does not exist – *'or is at any rate minimized - for the case of primary concern has been identified a priori'* (Seawright and Gerring, 2008: 296).

The selection of the single case study herein was heavily influenced by *pragmatic* and *logistical* issues (Seawright and Gerring, 2008: 296) that not only included theoretical considerations abstracted from the literature review but considered the accessibility of the setting to collect the data. On this basis, the case study selection was primarily ruled by two

underlying principles: 1) an informal settlement that has undergone a process of reconstruction after a natural disaster; and 2) a settlement that has been benefited by PDS projects in the last decade.

According to previous studies conducted in community resilience with vulnerable communities, the best scenarios to identify whether a process of resilience was followed by communities are those that have been affected by large natural hazards (Moreno and Shaw, 2018; Masten *et al.*, 1999; Gaillard, 2007; Donner and Rodriguez, 2008; Amundsen, 2012; Muggah, 2014; Tuan, 2015). In fact, many of the studies conducted with vulnerable and segregated communities after natural disasters have helped us to understand internal social processes of resilience that were previously neglected in urban studies and research (Gaillard, 2007; Moreno and Shaw, 2018; Cueto *et al.,* 2015; Tuan, 2015). Furthermore, the study conducted by Lombard in 2012 in three informal settlements in Mexico revealed that in-depth investigation of the internal micro-processes that shape the construction of the built environment (i.e. placemaking) – in particular the social aspects that influence such constructions – is best facilitated by direct interaction with the residents (Lombard, 2012). According to Roy (2005), in order to unveil how residents of urban informal settlements create their own places through their socially constituted spectrums, the internal practices of such settlements (i.e. politics, social and spatial distributions) need to be understood from the bottom-up. Therefore, the basis of this study is to conduct an in-depth exploration – from the bottom-up – on how an informal settlement in Medellin followed a process of reconstruction after a natural disaster.

2.6.1 **Villatina Neighbourhood: Comuna 8**

The investigation was conducted in "Villatina neighbourhood" located at the north-west of the sector 8 – Comuna 8: Villa Hermosa (see Figures 2-1, 2-2, and 2-3). The neighbourhood has a total area of 418102 m2 and it is nested at the foot of the Pan de Azucar Hill, a natural landmark of Medellin, at approximately 1700m of altitude. A total of 3481 houses and 15,666 inhabitants reside in the neighbourhood (Alcaldia de Medellin, 2011); however, according to the Territorial Ordering Plan in Medellin, nearly 40% of the neighbourhood is landslide-prone areas.

According to the Medellin territorial ordering plan (POT – Plan de Ordenamiento Territorial de Medellin) Villatina is among the most exposed areas to hazards with severe problems of structural deterioration (POT, 2008-2014: 637). According to the history of occupation of this settlement, the extreme exposure to hazards is the result of the illegal

occupation of this area, which created severe environmental damages caused by deforestation and soil erosion. For instance, Jaramillo *et al.* (2010) recorded that, since 1960, hundreds of families began to settle in the intersections of river streams and unstable highlands. The new settlers started an uncontrolled deforestation of the natural environment, which led to severe problems of soil instability.

The causes of landslide exposure of nearly 70% of informal settlements in Medellin are linked with the illegal process of occupation and deforestation (POT, 2008-2014). In this sense, it should be accurate to recognise the exposure to landslides of Villatina as the consequence of historical illegal land occupation. In fact, it could be determined that the original cause of such exposure is man-made (Wisner *et al.*, 2004; Jaramillo *et al.,* 2010). Although some landslides events are triggered by strong raining seasons, in this research, the discussion focuses on the disasters caused by landslides that have originated from or been caused by illegal occupation processes.

2.6.2 **The Emergence of Grassroots Actions**

Villatina was selected as a main case study due to the long history of grassroots actions that have shaped the neighbourhood after a landslide in 1987 (Serna-Quintana, 2011). This event generated drastic social and physical changes in the community, which were heavily influenced by the extreme violence period experienced in Medellin between 1990 and 2010. The outbreak of the civil war and territory domination of drug gangs (Insuasty *et al.,* 2010) complicated the disaster reconstruction process, forcing Villatina residents to create unique grassroots mechanisms to transform the local environment. Nevertheless, from 2007 the neighbourhood has benefited from several projects developed by the local government that has implemented PDS strategies with the residents.

In total there are seven projects that include two learning centres, two leisure parks, ecology paths and viewpoint at the top of the Pan de Azucar Hill that are part of a regional plan (i.e. Jardin Circumvalar) that aims to protect the hills of Medellin from illegal invasions. An additional project initially built by the community and reformed by the local government through PDS strategies (PUI Comuna 8) is the 'Campo Santo Memorial Park'. This project was recognised internationally by the 'Santiago de Compostela Urban Corporation' (Spain) in 2010 (ACI, 2011:224). Currently the Campo Santo is considered a landmark in the neighbourhood**.**

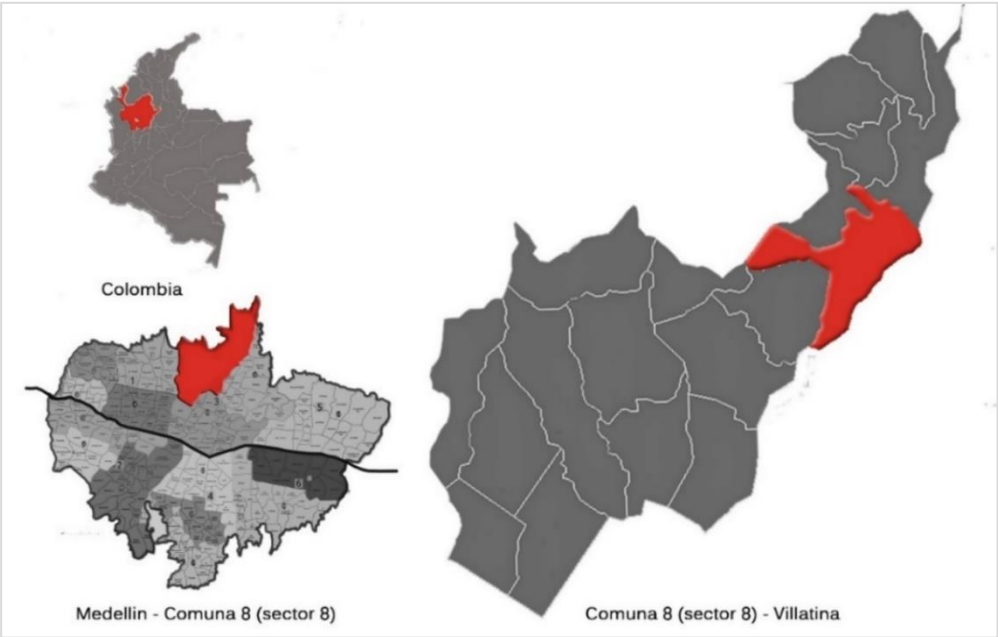


Figure 2-1. Villatina location

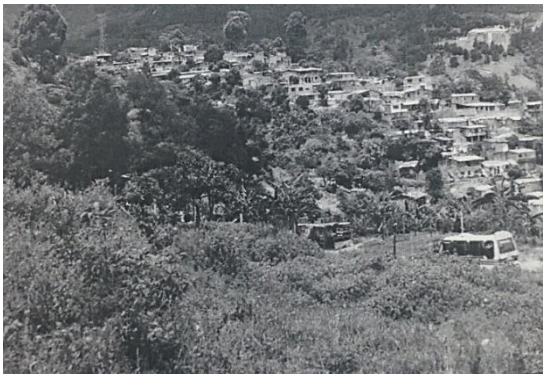


Figure 2-2. Sector la Torre (Sources: Pasado con Futuro Historias del Barrio Villatina; Convenio 008 de 2000. Municipio de Medellin: page 32); **Figure 2-3.** Villatina 2016 – Field trip 2016

2.6.3 **Disasters and Violence: x-ray of a history of resilience**

Sunday 27 September 1987 is remembered with grief and sadness by the survivors of the biggest landslide recorded in Medellin. At 2pm in the afternoon nearly 500 people perished, suffocated by 25,000 m^3 of soil that covered the neighbourhood and affected nearly 2000 residents. The cause of the disaster according to a technical report delivered by the local government was attributed to a 'badly constructed water channel', which caused geological damage and soil erosion in the middle section of the Pan de Azucar Hill (Alcaldia de Medellin, 1987).

The landslide buried 100 houses that, at that time, were not considered to be located at risk for natural hazards (Coupe, 1997). Nevertheless, after the disaster, a great part of the neighbourhood was declared at risk, forcing 402 families to relocate from the area (2,343 people in total – Coupe *et al.* (2007) see figures 2-4 to 2-10.

Figure 2-4. Area where the disaster occurred in 1987 (Source: Technical report Alcaldia de Medellin)

Figure 2-5. Illustration of the report released by the local government. Red demarcates the area covered by the landslide; green shows the areas that needed to be relocated (Source: Municipio de Medellin technical report)

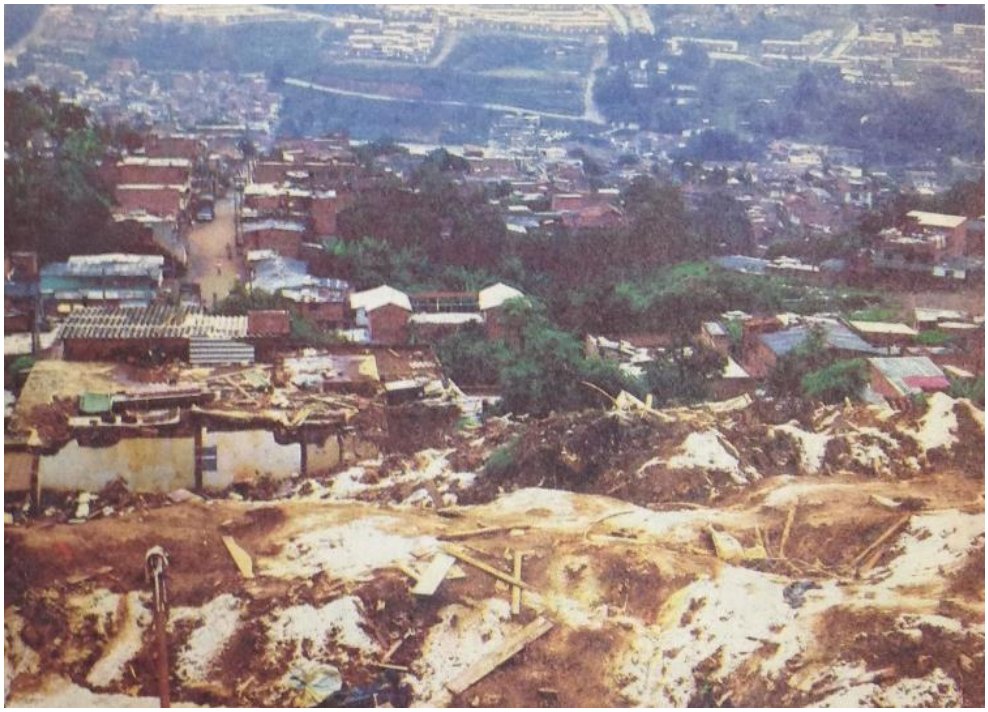


Figure 2-6. Villatina after the disaster (Source: El Colombiano newspaper October 27th, 1987)

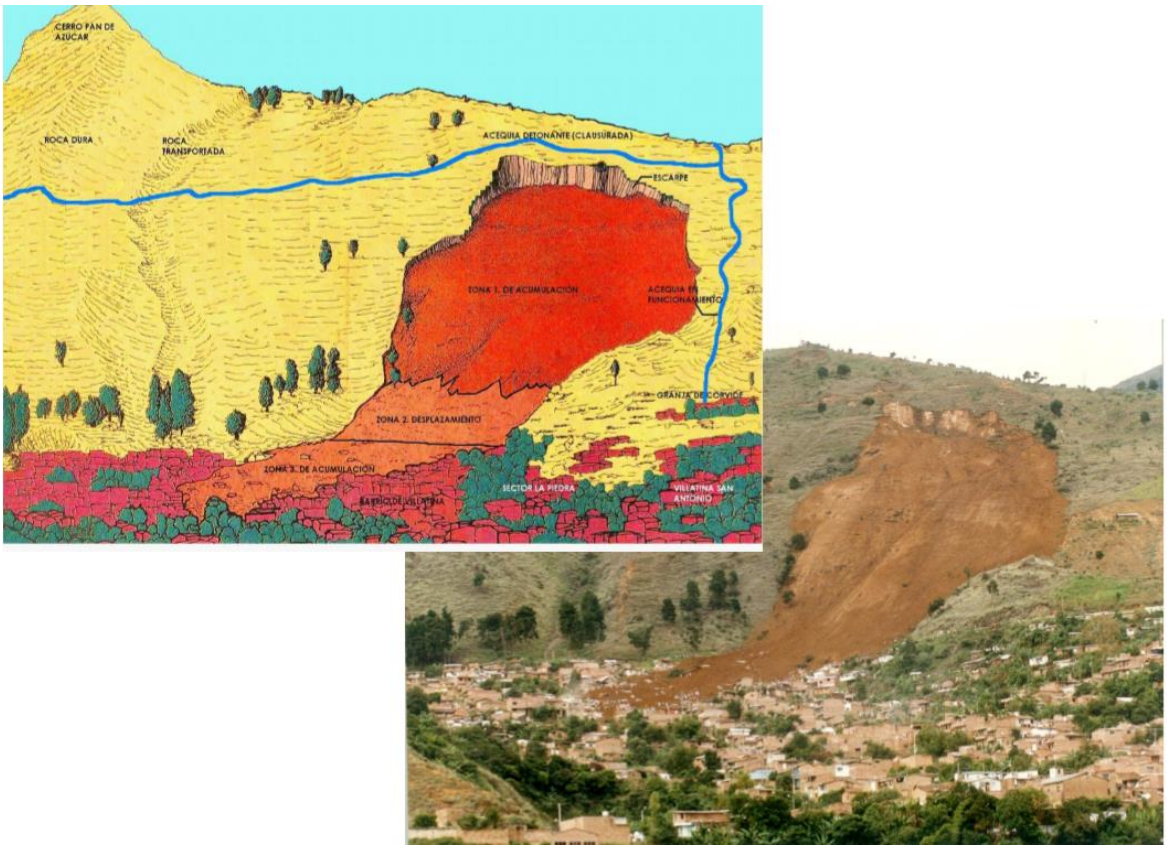


Figure 2-7. Soil erosion after the landslide (Source: Coupe, 2007:10)

The process of reconstruction after the disaster coincided with the most violent periods in Medellin caused by drug gangs, and the civil war, creating what Wisner *et al.* (2004), defined as a double-disaster exposure that in this case was caused by landslides and extreme violence.

Villatina was in fact among the most affected neighbourhoods for violence caused by the multiple confrontations between the police, rebel groups, and criminal gangs. By 2009, nearly 7% of the homicides rates reported in the city of Medellin occurred in the comuna 8, which according to Insuasty *et al* (2010) were caused by the confrontations between the criminal gang 'La Sierra' – located in the proximities of Villatina - and demobilised rebels from the groups: Paramilitares and M-19.

Despite the multiple attempts of the police and local government to regain control over the territory and bring safety to Villatina through SU projects, violence has created deep roots in the social dynamics of this settlement. This has resulted in an extreme environment in which new forms of violence are constantly emerging. According to Insuasty *et al*

(2010:131) crime in Medellin informal settlements remains and evolves in accordance with the social dynamics of the city and it always adapts to new circumstances (Insuasty *et al.*, 2010:131). In other words, any change in the social fabric or local environment of these settlements could give rise to new forms of violence in the urban space.

From this point of view, the analysis of Villatina, a settlement that has been heavily affected by violence, geological disasters and benefited from the intervention of the local government through SU projects, will help to analyse to what extent drastic changes in the social and urban environment in these settlements might create new forms of violence in the urban space or otherwise.

Figures 2-8, 2-9, 2-10: After the disaster (Source: El Colombiano newspaper October 27th, 1987)

2.7 **Summary**

In Villatina the long process of grassroots place development after the disaster might have triggered community resilience behaviours that helped residents create protection strategies from violence and strategies to start the reconstruction of the built environment. However, it is unknown whether those behaviours have been enhanced or disrupted since the intervention of the local government in the last decade, and whether the community has continued to manifest local action within the neighbourhood. Furthermore, the emergence of new forms of crime in Villatina suggests that the strategies of development applied by the local government are not accounting for the changing social dynamics in the slums, which have been severely affected by the internal armed conflict. On this basis, investigation of the built environment of these settlements needs to integrate a thorough understanding of the social dynamics that affect the occupation of the urban space, particularly when two latent

threats are in constant exchange with the urban life: *violence* and *landslides*. Therefore, this thesis sets out to initially understand how the social movements of Villatina residents (i.e. community activism) that are grounded in social behaviours of place and community attachment have helped Villatina residents to cope with both threats: violence and disasters. From this understanding, it will be possible to establish whether the grassroots mechanisms could be integrated within planning participatory strategies.

3 Chapter Three: Research Methodology

3.1 Introduction

The research methodology of this investigation was structured to help gather as much information as possible from the social domain by implementing a variety of research methods in a sequential order. Following a socio-constructivist approach (Creswell *et al.,* 2003) the study integrated a mixed epistemological orientation, whereby an inductive and deductive principle common to mix-methodologies research was integrated (Bryman, 2016).

Different studies in urban planning have integrated diverse methods to investigate the social background of the built environment in very complex settings. For instance, the studies conducted by Janice Perlman (1976) and Teresa Caldeira (2000) in Brazilian informal settlements showed that by integrating quantitative data with qualitative data and following deductive and inductive principles for data analysis, the researcher can gain a thorough understanding of the built environment based on social facts. More contemporary studies have continued to apply social research methodologies in order to arrive at more situated conclusions that could be applicable in informal settlements with similar characteristics. These are the studies conducted by Satterthwaite (2011) and Da Silva *et al.* (2012) in informal settlements that have shed light on important insights into how residents of these settlements behave and shape the built environment.

According to this, the research methodology of this study was structured following social research methodology principles with a combined data collection approach. For this, a sequential exploratory design that combines a set of mixed methods (qualitative and quantitative) was applied (Creswell, 1999). The sequential principle of this methodology entails an iterative process of data collection that builds upon the information gathered in the previous stages of the study (i.e. the first method informs the next). Each method is considered to have equal weight, and the data are connected and triangulated across the qualitative and quantitative findings. For each of the stages, specific methods of data collection and analysis were applied.

The research was divided in four phases of data collection. Initially qualitative data (First phase) were collected through the exploration of historical archives that documented the disaster in 1987 and the neighbourhood development after the event. The documents comprised official documents derived from the state, official documents derived from private sources, and mass-media outputs. After a rigorous examination of all documentation

and acquiring a general understanding of the event in 1987, the researcher moved to site field work that was conducted for a period of six months. An emergent ethnographic approach (i.e. getting to know the context) (Section 3.4) was conducted in this stage. Unstructured and semi-structured interviews were performed during the site visits (Section 3.4.2). Community members and leaders were approached and were asked to engage in informal conversations about the neighbourhood dynamics and experiences after the disaster in 1987. For safety reasons, in-depth field observations were not conducted; instead a walking tour was conducted at the beginning of the field work (Section 3.4.1). Finally, the researcher attended a workshop with public institutions and community leaders organised by Medellin city hall and the UNESCO in order to gain more understanding of the neighbourhood and establish contact with key community leaders.

The results obtained from the analysis of the qualitative data helped to inform and structure the second phase of the investigation (Section 3.5) that consisted on the collection of quantitative data (i.e., 149 questionnaires) gathered for four weeks in September 2016. The results from both qualitative and quantitative exploration - first and second phases – guided the third data collection phase (Section 3.6) that comprised an in-depth qualitative exploration of how the process of post-disaster occurred and what was the involvement of the community in the process. Additionally, the results from the first and second phase yielded important findings of the present conditions of the neighbourhood and the impacts of top-down projects. On this basis, in the third phase key community leaders and community residents were interviewed in six focus groups discussions (5-6 people in each group). Interviews with the local government were also conducted in this phase. The results of the qualitative analysis were used to structure a final quantitative phase (Section 3.7) used to triangulate the results obtained in the previous phase and to statistically understand residents' perceptions towards bottom-up and top-down places. In total 155 questionnaires were collected in the community for eight weeks in 2017.

Figure 3.1 depicts the research methodology sequence of data collection conducted between 2016 and 2017.

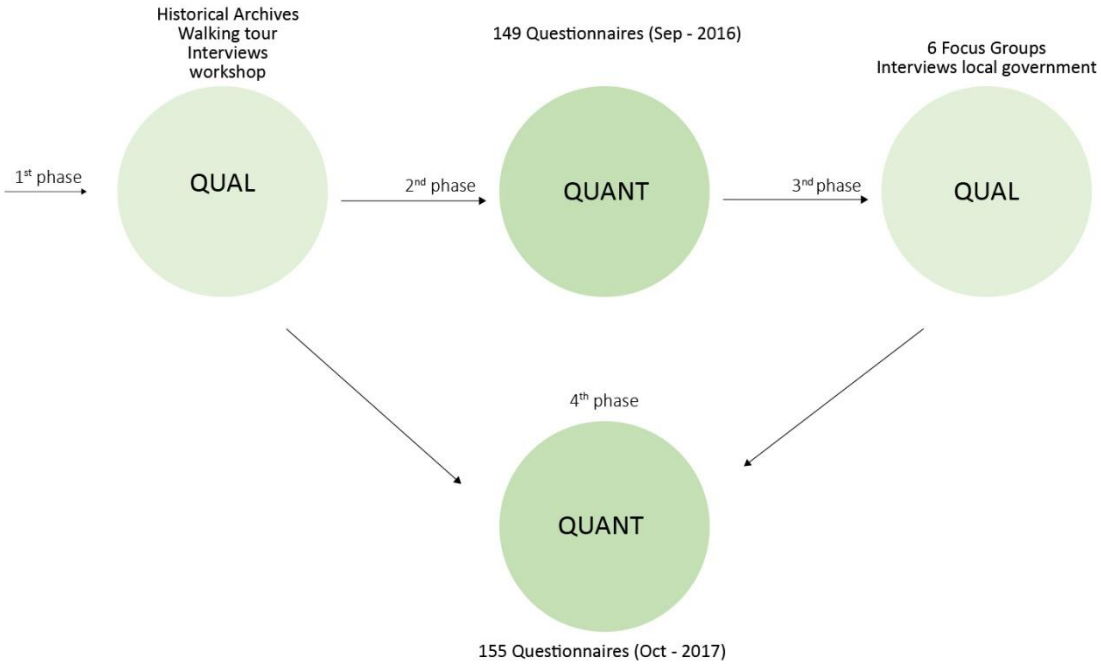


Figure 3-1. Methodology diagram

3.2 **Research Motivation**

Throughout my life, I have been compelled by the human capacity to overcome adversity in the middle of extreme events, or what in common terms is known as *resilience.* This capacity, as some scholars believe (Gaillard, 2007; Berkes and Ross, 2012; Fayasi and Lizarralde, 2013), can impact directly the construction of the urban built environment since we are the main designers of our local space (Lefebvre, 1996). However, what has been my source of inspiration is the capacity of the *dispossessed people* or *segregated populations* to showcase the most amazing forms of adaptation and resilience even when the economic resources are scarce. Being born in a developing country like Colombia in the middle of a civil war, could have perhaps influenced my interest in working and conducting research with disadvantaged populations which are extremely exposed to disasters (i.e., war and natural disasters). I have witnessed how the poorest communities in my country are often the most resourceful in the middle of crisis. However, I have also seen how these communities have been denied a voice and even have been given apocalyptic descriptors. Perhaps this could be one of the cultural consequences of the Spanish colonization, as Gabriel Garcia Marquez portraited in his book '*One hundred Years of Solitude'* (1967), and Pablo Neruda vehemently claimed in his writings that caused his exile. These disadvantaged populations have rarely been given a voice to take part in the construction of Colombian cities, until the SU projects were initiated in Medellin.

Since 2007 I have been following closely how the participatory strategies promoted by the government in Medellin have shifted years of exclusion and segregation of informal settlements. The residents of the Comunas or informal settlements were finally recognised as part of the Colombian cities. However, were they not always part of the cities? Since when the residents of informal settlements were restricted from that right, and why it was assumed that they needed to be enabled by the top-down to be part of the city? These queries started to emerge after reading Paulo Freire's work. He was perhaps one of the most influential educators in Brazil to talk about participation of the poor in the construction of cities, and to recognise the internal micro-political processes that occur in the favelas in Brazil. In line with Freire, prominent scholars that have investigated how such micro-political processes have allowed residents of informal settlements to claim their right to the city and recreate their own physical space have influenced my work. For instance, among others: Castells, 1983; Douglass and Friedmann 1997; Caldeira, 2000; Sandercock, 1998; Holston, 2009; Miraftab, 2009. Nevertheless, as the criticism of participatory top-down programmes in these settlements started to emerge (Cooke and Kothari, 2001; Manzo and Perkins, 2006), since they seemed to affect the internal empowerment of the communities, in the same vein, scholars started criticising the notion of *resilience* as something that should not be given or enabled by the top down (Mackinnon and Driscoll, 2012).

After the recognition of Medellin as one of the 100 resilient cities given by the United Nations in 2015 (Resilience Office, 2016), I started to attend workshops with local planning institutions in Medellin. I also interviewed key members of national and international organizations that apply participatory programmes, for instance Architecture for Humanity London and Bogota, The Resilience Office Medellin, EDU Medellin, UN Habitat, among others. Attending these events and engaging in conversations with all these people led me to understand that although the Medellin model (SU) has been widely recognised for its use of participatory design strategies in informal settlements, these strategies continue to miss something. The something that I am referring to was better described by Freire (1970): *'The truth is, however, that the oppressed are not marginals, are not people living outside society. They have always been inside – inside the structure which made them beings for others. The solution is not to integrate them into the structure of oppression, but to transform that structure so that they can become beings for themselves'* (p. 74). In other words, these communities have always been resourceful, resilient, and have their own internal participatory mechanisms however, these do not seem to be recognised by the top down.

In this order of ideas, I decided to conduct an in-depth exploration of how residents of Medellin informal settlements have created internal micro-processes of resilience that according to some scholars might be grounded in participation (Lombard, 2014). Furthermore, I attempted to understand the differences between bottom-up interventions, which for the context of this thesis refer to the actions of the communities, and the top-down or the government interventions through participatory design programmes (SU). In alignment with my personal research interest (see the beginning of the section), and to contribute to a better understanding of how these communities have adapted and created their built environment, the investigation was oriented towards the exploration of the human capacity to overcome adversity in the middle of extreme events. To achieve this, it was decided to conduct a rigorous research by applying different social research methodologies that combine both qualitative and quantitative methods. The reason behind this was to approach the 'truth' by applying different forms of interpretations (Creswell, 1999). However, it was also of paramount importance for this thesis to allow the residents of the selected case study (Villatina) to have a voice in this thesis. Therefore, I conducted extensive interviews and focus groups with Villatina residents and local leaders.

Ultimately, the motivation of this thesis is to provide an alternative interpretation of what residents of informal settlements are capable of in the aftermath of extreme events. This will help us to understand that these communities do not necessarily need to be given help, but they need to be part of a solid structure. However, to achieve this, the structure in which the programmes are run need to be transformed so that residents of these settlements can become beings for themselves, as Paulo Freire (1970) believed.

3.3 **Accessing the community**

An important part of the methodological process was to gain access to the research setting. Since the area of investigation is focused on a hard-to-reach community (Emmel *et al.,* 2007), different methodological and safety considerations were put in place. Initially, it was necessary to acknowledge the current social situation of the neighbourhood and understand the potential limitations that could be faced during the field work. This showed that the current socio-political situation triggered by the peace agreement with the rebel group Las FARC (Fuerzas Armadas Revolucionarias de Colombia – Colombian Revolutionary Armed Forces) increased the risk levels attached to conducting research in informal communities in Medellin due to the several criminal attacks reported in 2016 and 2017. In

fact, Villatina (the case study under investigation) was among the most affected neighbourhoods according to the security reports released by the local police in 2017.

Studies conducted in hard-to-reach settlements suggest that one of the key aspects to facilitate the researcher's access to the neighbourhood is contact with the gatekeepers (i.e. local institutions working with the communities, local leaders, NGOs, etc.) as they play a significant role in the community and have continuous contact with residents (Kuebler and Hauser, 1997; Elliott *et al.,* 2002, Emmel *et al.,* 2007). These gatekeepers determine whether permission is given to conduct research in these settlements, however, establishing contact with them poses diverse challenges that have been previously acknowledged in ethnographic research. For instance, Sixsmith *et al.* (2003) suggest that credibility of the researcher is key in order to gain/maintain a relationship of trust with the gatekeepers (Elliott *et al.,* 2002, and Kuebler & Hauser, 1997). These relationships – according to Sixsmith *et al*. (2003) – are built through 'immersion' of the researcher in the site, implying that a considerable amount of time is spent with residents, who are invited to take part in research activities. Nevertheless, in the face of the extreme violent events taking place in informal settlements in Medellin at the time the research was conducted (i.e., confrontations between drug gangs and the police), immersion of the researcher in the neighbourhood was impossible. Therefore, a parallel strategy was employed to establish contact with gatekeepers in Medellin and access the neighbourhood.

Initially, the General Prosecutorial Office of the Nation in Medellin (Fiscalia General de la Nacion – Contexto Office), which is the national institution that investigates the civil-war crimes in the city of Medellin and Antioquia region, was contacted (Appendix 1). The Fiscalia provided the researcher with pertinent advice for conducting research in Villatina and facilitated the contact with a staff member of 'Futuro Colombia' an institution ascribed to the CTI (Cuerpo Tecnico de Investigacion – Techinical Investigation Team); that is, a division of the Fiscalia that takes care of the judicial functions of the police and organises and controls all police investigations. The person contacted had access to and direct communication with community members in Villatina and facilitated the connection of the researcher with the community.

After contact was established with a key community resident (gatekeeper) – a previously active community leader who witnessed the disaster in 1987 – the researcher proceeded to explain the scope of the study and the research activities that would take place in the neighbourhood in order to collect data. It was of paramount importance to explain the

nature of the research and who was providing funding in order to avoid conflicts of interest or false expectations (e.g., monetary compensation). Upon agreement of the gatekeeper to voluntarily help with the conducting of the research, a subsequent meeting with a staff member of the Fiscalia took place in September 2016 in order to establish the main limitations or restrictions that could be faced during the data collection. A set of security restrictions were identified that increased the level of complexity and access to primary data in the neighbourhood.

Initially, visits to the neighbourhood were limited to week days, and the researcher was advised to leave the neighbourhood before 5pm in the afternoon in order to minimise any potential risk. Furthermore, she was strongly advised to always conduct the field work in the company with the gatekeeper in order minimise the risk of intimidation by drug gangs. As another measure of precaution, expensive equipment to record or photograph the neighbourhood was avoided. Finally, she was advised to refrain from using clothes with institutional logos (e.g., t-shirts, IDs, etc), in order to preserve the integrity and anonymity of the researcher.

The gatekeeper facilitated the contact with key community residents and leaders who were interviewed at different stages of the research. Furthermore, with the collaboration of the gatekeeper, the participant recruitment process for the focus groups was facilitated. Previous research has identified that gatekeepers are a potential source of bias since they could attempt to influence the research with their own opinions of the reality by only indicating participants approved by them (Sixsmith *et al.,* 2003: 583). Nevertheless, to minimise potential biases, it was decided to contact as many people as possible who witnessed the disaster – as suggested by Sixsmith *et al.* (2003) – and to make contact with a second gatekeeper who also helped in the recruitment process of participants.

3.3.1 **Community-led data collection approach**

During the field work, the researcher identified that one of the major barriers when conducting research in Medellin informal settlements is obtaining direct access to the neighbourhoods and engaging directly with its residents. Some of these challenges are based on the residents' distrust of researchers attempting to collect study data. In addition, much of these data might be potentially sensitive and could expose residents' informal status and lead to reprisals from criminal gangs if residents share information about the neighbourhood. Also, residents do not always view their participation in research studies as having any personal benefit to them or the wider community. Therefore, in order to build

trust with the residents and to ensure participation in the research, a community-led methodological approach was integrated for the collection of the survey data.

Several studies conducted in hard-to-reach settlements have implemented similar approaches in the collection of the data. For instance, Sixsmith *et al.* (2003) employed researchers with similar backgrounds to those in the low-income settlement under investigation in order to create more empathy with the community. In another study conducted in informal communities in Cape Town by Barry and Rüther (2005), the researchers employed residents of the community to directly collect the data. The reason behind employing residents was due to the tensions and different agendas in the settlement that could incline residents to give false information to outsiders. Therefore, having residents collect the surveys, due to their intimate knowledge of the settlements – and assuming the collectors are providing trustful information – a high level of accuracy should be obtained (Barry and Rüther, 2005: 45).

A similar approach was utilised in this study in order to collect the survey data. For this, a group of five volunteers from the community who were contacted through the gatekeepers were trained by the researcher for a period of seven days. The training consisted in a detailed explanation of the method used in the study (i.e. survey), how to conduct the survey and ask questions, and how to approach participants. After the training was finalised, the data collection began. Two sets of data were collected using this approach. The first round of surveys was distributed in September 2016 for a period of four weeks (see Section 3.5); the second round in October 2017 for eight weeks (see Section 3.7). During the collection of the survey data, the researcher remained in constant contact with the research volunteers via text messages, and daily telephone calls. Furthermore, weekly meetings were held with the volunteers outside the neighbourhood (i.e. EPM Library in the city centre).

3.3.2 **Ethics and Safety**

Prior the start of the data collection activities, a rigorous process of ethical approval and risk assessment was undertaken by the ethics committee of the Faculty of Engineering of the University of Nottingham. For each of the research phases, an individual ethics application was submitted. Similarly, the risk assessment for the site work conducted in 2016 was reviewed and approved by the Departmental Safety Officer on 26 August 2016. The risk assessment provided enough information that guaranteed the researcher's integrity during the development of the activities. As a first measure, the researcher contacted the National Security Agency, and was provided with an official letter by the institution (Appendix 1). The

researcher is a native of Colombian and has family members residing in the city of Medellin; therefore she is familiar with the city and context.

One of the main ethical considerations was to gain full consent approval from the participants to use the data collected for this research. To accomplish this, the participants were debriefed and provided with enough information regarding the research as well as the contact number and emails of the researcher and supervisors. The participants could raise any questions before and during the data collection activity. Furthermore, participants were advised to contact the researcher if they had any further comments or enquiries about the study.

It was imperative for this study to always preserve the anonymity of the participants; therefore, for the excerpts abstracted from the focus groups discussions and interviews conducted with residents of the community, each participant was assigned an identification number according to the focus group number (e.g., FG1-1: Focus Group One, participant 1). For the interviews conducted with the local government, the participants were only identified according to institutions; however, personal identification was not included. In the interview conducted the 19 of October of 2016 with one of the community leaders, the researcher was given permission by the interviewee (Joaquin Calle) to include his name. This was registered in the voice recording for the 19 of October 2016.

All the hardcopy data collected including consent forms and surveys were digitalised and saved in the University of Nottingham secure data backup service. After the data were converted to digital form and saved in the university server, all the physical documents were shredded and disposed of.

All the data were transcribed verbatim from English and Spanish by the researcher. To check accuracy, a certified English teacher in Colombia reviewed all the translations. The data will be kept in the University of Nottingham server under safe conditions for a period of seven years – according to the ethical protocol of this institution.

3.4 Phase one: Ethnographic Emergent Exploration

3.4.1 Walking tour

The initial exploration on site was crucial for further development of the research. The first approach to the community and informal social engagement with some of the members was fundamental in order to build trust and gain full access to the social setting (Bryman, 2016). Additionally, a general understanding of the context, social dynamics, accessible

times, and walkable areas within the neighbourhood was gained during this stage of the research (Lofland and Lofand, 1995). Data collection started with a walking interview performed with two community members that took place during a two-hour tour during which the area where the disaster occurred was visited along with some representative buildings in the neighbourhood – chosen by the two community members. While walking, both community members were asked to provide further details of the places and relationships with the disaster. All the questions emerged according to the place that was visited.

Walking tour methods have been used by geographers and social scientists (Evans and Jones, 2011) to gather as much as information as possible in hard-to-reach contexts. Another variation of the walking tour method – that is widely used in urban development research and with vulnerable populations – is the 'transect walk'. This approach shares similar principals with the walkin g tour method. However, the transect walk often integrates mapping activities and passers-by are asked to participate in interviews (Hamdi, and Goethert, 1996).

The benefits of implementing the walking tour method is to generate richer data by having immediate exposure to the setting, which might trigger meaning and connections to the surrounding environment (Evans and Jones, 2011). This method is useful during the early stages of exploratory studies that aim to gather in-depth information of a setting or community. For this reason, the questions in the walking tour were open and did not follow a questions guide. Instead, the researcher allowed the data to emerge by letting residents provide their own views and feelings according to each of the places visited. This tour informed the subsequent semi-structured interviews questions.

3.4.2 **Semi-structured interviews**

Two types of interview were conducted during the data collection process; interviews with community leaders and interviews with local government members. The interview questions for the local leaders included topics related to the process of post-disaster reconstruction after the disaster in 1987 and the involvement of the community in the process. Additional questions aimed to examine to what extent the action of the community after the disaster has remained or diminished after the intervention of the local government with PDS projects. The questions included in the interview guide were reworded similarly in order to generate a friendly and comfortable interview environment (Appendix 3). Additional

questions not included in the guide emerged in response to some of the participants' replies (Bryman, 2016; 468).

The interviews with the local government were spontaneously developed following a conversational character. Two rounds of interviews with the local government were conducted. The first round was conducted between August and October 2016, which aimed to gather general information related to top-down projects and the participatory design strategies. The second round was conducted between October and November 2017, explored the most relevant top-down projects in Villatina and the impacts of those projects on the community action. In order to generate a comfortable atmosphere and to gather rich information about the top-down places, the interviewees gave official presentations of each project. This allowed flexibility in the interview questions that emerged as prompts during the presentations. Although the researcher directed the conversations towards the examination of specific topics, flexibility in the conversation was enabled by the active engagement of the interviewees using visual presentations. Since multiple topics could be discussed, this prove to be an important contribution.

Table 3-1 presents the research activities dates (i.e. qualitative data) and number of participants involved during the data collected between August and October 2016 with Villatina residents. Table 3-2 presents the data collection activities with Medellin local planning offices between 2016 and 2017.

Table 3-1. Research activities and dates with Villatina community members and leaders

Method	*Number of Participants*	*Role in the community*	*Date*
Walking interview	2	Community Leaders	08 Aug 2016
Interview	1	Community member	08 Sept 2016
Focus group	3	Community leaders	13 Sept 2016
Interview	1	Community Leader	13 Oct 2016
Interview	1	Community Member	14 Oct 2016
Interview	1	Community member	18 Oct 2016
Interview	1	Community Leader	19 Oct 2016

Table 3-2. Research activities and dates with local government staff

Method	*Number of Participants*	*Role in the community*	*Date*
Interview	3	EDU	August 2016
Interview	1	Resilience Office	August 2016
Workshop Villatina	10	Organised by City Hall and UNESCO	10-14 Oct 2016
Interview	1	Secreataria de Planeación	13 Oct 2016
Interview	1	Biblioteca Villatina	13 Oct 2016
Interview	1	EDU	18 Oct 2017
Interview	1	EDU	19 Oct 2017
Interview	1	Secretaria de Planeación	02 Nov 2017
Interview	1	Secretaria Infraestructura	03 Nov 2017

3.5 Phase two: Survey September 2016 community residents

Besides identifying whether the community was engaged in a resilience process after the disaster (Objectives 1 and 2), the researcher also investigated the main differences across bottom-up and top-down places (Objective 3). To do so, it was decided to implement an alternative open method of data collection, in which initially the most relevant community places across the neighbourhood were identified by the community members (see Chapter 6, Section 6.3). Upon identification of these places, they were categorised in bottom-up places (i.e. built by the community place) and top-down (i.e. PDS built place by the local government). To establish the main differences across the two categories (Objective 4), initially, a subjective exploration of the meanings of experience for each place was conducted in six focus groups discussions (phase three). Subsequently, a final statistical exploration was conducted in a final survey (phase four).

Procedure and Survey Structure

The surveys were collected following the community-led data collection approach (Section 3.3.1). For this, five volunteers distributed a survey across the residential areas where the disaster occurred (see Figure 3-2). Since the number of residents of Villatina after the disaster increased, and in line with the objectives of the investigation (objectives 1 and 2), it was important to only consider the individuals who lived near the areas affected by the 1987 landslide as these areas would have undergone drastic changes after the disaster and the residents of this area could have been closely involved in the reconstruction process after the disaster.

An area of 29.998 m² across the neighbourhood was surveyed (see Figure 3-2). The total estimate of population living in this area – according to the housing density of the neighbourhood of 251 houses per hectare (Universidad Nacional de Colombia, 2009: 95) and four habitants per house (Alcaldia de Medellin, 2014: 61) – is 3012 residents. The participants were randomly selected and approached by the volunteers within those areas. Since the survey aimed to identify individuals who are most informed or knowledgeable about the neighbourhood (UNSD, 2015: 9), only individuals above 18 years old took part in the survey; however, no other exclusion criteria were applied. A total of 350 questionnaires (11.62 % of the estimated population in the area surveyed) were distributed. The response rate obtained

was 42.57 %, equivalent to a total of 149 questionnaires (4.95% of the estimated population in the area surveyed).

Figure 3-2. Delimitation of the area studied

Table 3-3 shows the percentages, means and standard deviations of the 149 survey participants, given in gender, city of origin, age, and time living in the neighbourhood.

Table 3-3. Sample characteristics of the population

Variable	Condition	*N*	Percentage (%)	Mean	SD
Gender	Female	78	52.3	-	-
	Male	71	47.7	-	-
Origin	From Medellin	135	90	-	-
	Outside Medellin	14	10	-	-
Age	18-25	18	12	43	17.84
	26-35	36	24		
	36-45	30	20		
	46-55	28	18.7		
	56-65	14	9.3		
	66 and over	17	11.3		
Time Living	Less than 10	13	8.7	34	14.77
	11-20 years	17	11.3		
	21-30 years	26	17.3		
	31-40 years	44	29.3		
	41-50 years	25	16.7		
	51 and over	23	15.3		
Missing information		1			

An introduction to the research, brief description of the survey, and a participant consent form was provided to every individual who volunteered to take part in the investigation. All members of the research team spoke native Spanish to reduce any potential misunderstanding between the researcher and participant during the briefing stage. After this point, the participant was then given a copy of the survey. To monitor the integrity of the survey responses, at several stages during the data collection, the records and response rates were checked by the primary researcher (Bryman, 2016: 215).

The surveys begin with questions used to measure demographic factors of each participant (i.e. age, gender, region in Colombia). In addition, personal information related with their past experience (i.e. whether they witnessed the disaster in 1987; if they were displaced by war or natural disaster) was included. Exploring these demographic features allowed the researcher to perform a deep examination of the demographic conditions of the neighbourhood. The subsequent section instructed participants to list a maximum number of 10 places (see Appendix 2). Only places within the neighbourhood could be listed and were ranked based on the judged level of importance for the community (Schiavo 1988, in Nicotera 2007: 33 (see Chapter 6)). In other words, only places that had profound importance at the community level and that are recognised – according to Manzo and Perkins (2006: 342) – as places that might promote community action, interaction, and participation. Therefore, the first place listed corresponds to the most important place in the neighbourhood, and then the others were ranked in descending order of importance. Participants were asked to nominate any place that had a deep meaning for them at the community level when making judgments of place importance within the neighbourhood. It was considered that to provide enough variance between places for the same participant a reasonable number of places should be nominated. Therefore, the number of places that could be listed was limited to 10 (Droseltis and Vignoles, 2010: 26).

3.6 **Phase three: Focus Groups**

The focus groups were divided in two sections. Section one aimed to explore how the process of reconstruction occurred and to allow participants to construct and share their own interpretations, experiences and different perspectives in a participative way (Barbour and Kitzinger, 1991:5). Section two aimed to explore the subjective evaluation of the most relevant places in the neighbourhood selected in the surveys (phase two).

To achieve more in-depth insights on the topics discussed, smaller groups of five to six people were organised (Krueger and Casey, 2000; 74). Each group session lasted 120 minutes, with a five-minute break in the middle of the session. All focus groups were audio recorded with previous consent of the participants who were thoroughly briefed by the researcher about the nature and objectives of the study before the discussion session. Enough time was designated for the participants to raise any concerns, additionally, each participant was provided with the researcher's contact number in Colombia and the UK in case of any inquiry. After this, participants were asked to sign the consent forms that contained pertinent information related to the study and the investigation team (see Appendices 4 and 5).

Procedure

The focus groups took place in the home of one of the residents (Figure 3-3). This venue was both easily accessible and familiar to the participants. To facilitate discussions, reduce dominant subgroups, and to help participants feel content and more engaged with the discussions, the room was quiet and all group members were seated in a circle arrangement so they could see each other (Krueger, Casey, 2000).

The focus groups followed an **interview guide** that set the agenda for the discussions (see Appendix 4: Questions included in the interview guide). Some questions emerged as a response to some answers. Because flexibility in the pursuit of new questions is critical to the success of the interview, these prompts are valid and accepted in the development of focus group discussions.

At the end of each focus group session, the moderator (i.e. the researcher) debriefed and summarised the topics discussed and allowed participants to add any final statement. The focus groups were concluded after all participants were content with the summary and conclusions provided by the moderator. Refreshments and snacks were served at the end of the sessions; additionally, each participant was given a t-shirt.

Figure 3-3. Focus groups discussions field trip 2016

3.6.1 **Participants' recruitment**

The recruitment of research participants was identified as one of the biggest challenges for this study. Due to security reasons and the difficulty in establishing contact with Villatina residents, the researcher made used of the snowball technique, which is highly recommended when trying to sample populations that are difficult to reach (Bryman, 2016; 415). Initially it was identified that residents were reluctant to take part in interviews and surveys due to past experiences where studies conducted with residents used the information collected to benefit political campaigns. To overcome this, it was decided to ask a gatekeeper (community leader) to help establish first contact with secondary gatekeepers (i.e. community leaders who participated in the reconstruction of the neighbourhood after the disaster). Each person contacted was asked to identify and invite other residents who had witnessed the disaster and could be interviewed or take part in focus group discussions. Through this non-probabilistic technique, the recruitment process was facilitated; nevertheless, it is important to acknowledge different sources of bias that could have affected the recruitment process. For instance, for security reasons the researcher was advised to leave the neighbourhood before 5.00 pm; however, due to residents' working hours, interviews were only possible in the evenings. Therefore, only individuals who were available to attend the morning and afternoon activities took part in the study. Furthermore, due to the low rate of participation in the activities, it was not possible to apply gender- or age-exclusion criteria, implying that the focus groups were not evenly distributed by age or gender. Nevertheless, homogeneity was achieved by ensuring that each of the focus groups' participants were residents of the neighbourhood and had witnessed the landslide.

Table 3-4 presents the number of participants and dates of the focus groups conducted in Villatina between November and December 2016.

Table 3-4. Research activities and dates with Villatina community members and leaders

Method	*Number of Participants*	*Role in the community*	*Date*
Focus Group	6	Community Members/leaders	02 Nov 2016
Focus Group	6	Community Members/leaders	03 Nov 2016
Focus Group	5	Community Members/leaders	03 Nov 2016
Focus Group	5	Community Members/leaders	10 Dec 2016
Focus Group	6	Community Members/leaders	10 Dec 2016
Focus Group	5	Community Members/leaders	11 Jan 2016

3.7 **Phase four: Surveys September 2017**

Procedure and Survey Structure

A second survey was conducted in September 2017 for a period of eight weeks in Villatina in the same areas where previously the surveys were conducted (see Figure 3-2 and Section 3.5). The data collection process followed the same community-led principle (Section 3.3.1); however, two different volunteers distributed the surveys. Initial contact with the participants was made via text messages and phone calls to confirm their participation in the survey. To minimise the risk of sampling potentially vulnerable individuals, only participants identified and recommended by the research collaborators were included in the study.

A total of 350 surveys were distributed across the neighbourhood (11.62% of the population in the surveyed area). The research volunteers introduced the study and clearly explained the participant consent forms. Due to the length of the survey, each resident was asked to fill out the survey and consent forms and send them back to the research collaborators. A total of 155 responses were obtained (44.28% response rate).

The survey included a suite of questions used to establish demographic factors associated with each participant (i.e. gender, age, origin) (Appendix 3). A sequence of seven questions that evaluated some of the resilience factors identified in a previous qualitative analysis of the study (i.e. community self-organisation, community self-management, community action, territory protection, place attachment, and community attachment) were included to further explore the findings from the qualitative stage, and to investigate the impact of PDS top-down projects in the neighbourhood.

After this point each individual completed a section containing 32 questions. In this section the most important places extracted from the previous surveys were included.

Participants were asked to rate each of the listed places against a series of 32 statements reflecting the theoretical constructs abstracted from the thematic analysis of the qualitative information gathered in the focus groups (see Section 3.6). In other words, the statements included in this section were determined by the subjective evaluation of the most relevant places in the neighbourhood given by the participants in the focus groups discussions conducted in phase three. The statements were grouped into different categories established in accordance with previous studies conducted in *place attachment*: community integration, safety, nature and ecology, knowledge and learning, sports/leisure and recreation, community attachment, economy (Steadman, 2003, Nicotera, 2007), *place experience*: symbolism, aesthetic satisfaction, negative feelings, spiritual significance (Manzo, 2005), and community resilience: community leadership and action, social change after the disaster, strategies of protection, and link to disaster (Cox and Holmes, 2000; Agyeman, 2009; Anguelovsky, 2013 (a)). The rating follows a Likert-type scale, from 1 ('completely true of this place') to 7 ('not at all true of this place').

The sample comprised 155 residents of Villatina neighbourhood. To continue with the objectives of investigation, sample selection criteria were applied. Only individuals who were both above the age of 18 years old and those that have lived in Villatina near the area where the disaster occurred for more than 10 years or witnessed the disaster were recruited (see Figure 3-2).

Table 3-5 describes the sample demographics (i.e. gender, age, time living in the neighbourhood), means, and standard deviations (*SD*).

Table 3-5. Sample population demographics

Variable	Condition	*N*	Percentage (%)	Mean	SD
Gender	Female	91	58.06	-	-
	Male	63	40.65	-	-
Age	18-20	10	6.45	39	14.20
	30-40	55	35.48		
	40-50	35	22.58		
	50-60	22	14.19		
	60-70	15	9.68		
	70-80	18	11.61		
Time Living	18-30 years	24	15.48	35	6.39
	30-40 years	108	69.68		
	40-50 years	22	14.19		

3.8 Methods and Data Analysis

3.8.1 Data Analysis Surveys

In order to analyse the quantitative data obtained from the surveys conducted in 2016 (phase two) and 2017 (phase four) statistical analysis were performed using IBM SPSS statistics 22 software (see Chapter 6 Section 6.3.1). For the surveys conducted in 2016, the variables generated were nominal and ordinal; therefore, linear tests were applied (i.e. frequency tables, contingency tables with Chi-square and effect size). The analysis of the second set of surveys was undertaken using a non-parametric test, Wilcoxon signed-rank test, that allows the researcher to establish statistical differences across two sets of scores that come from the same participant (Field, 2013) (see Chapter 6 Section 6.5.2). The P values are reported in order to identify such differences, where values above 0.005 are considered to report no statistical differences and values below 0.005 report statistical differences across the items compared. The effect sizes (r) were calculated in order to understand the level of statistical difference or intensity (Cohen, 1985).

3.8.2 Data Analysis Focus Groups and Interviews

Focus groups and interviews were transcribed verbatim and analysed using NVivo PRO 11 where a comprehensive systematic data analysis and coding process was undertaken (Fereday and Muir-Cochrane, 2006). The guiding principle of the data analysis was to perform a comparative analysis of the narratives at different levels – personal and interpersonal, along with consideration of the historical context of the area after the disaster (Stephens and Breheny, 2013). The process of reconstruction of the built environment and the grassroots strategies of place-development were analysed and contrasted with the present conditions of the neighbourhood. Therefore, to conduct a systematic, analytical, and logical process of data analysis, and to minimise bias that potentially could occur during the focus groups data analysis, a combined deductive and inductive approach was performed (Ritchie and Spencer, 1994; 305).

The data-driven inductive approach stands for a thematic analysis that focuses on interpreting the data and analysing classifications and themes or patterns that are present in the data (Alhojailan, 2012: 40). The deductive approach corresponds with the specific issues to be explored in the study; however, space to discover other unexpected aspects of the participant's experiences or the way they assign meaning to phenomena are achieved through the inductive principle (Gale *et al.,* 2013). The combination of these two methods allowed the researcher to use visual techniques to see patterns in the data in the form of

charts, diagrams and other displays that helped to discern the differences and similarities among the groups; therefore, it was possible to draw conclusions according to convergence, divergence or contradictions among findings (Sandelowski and Barroso, 2003: 804). This visual data analysis is also known as 'framework analysis', which is a flexible method associated with thematic and content data analysis in qualitative research, and it is heavily used to systematically manage data and give structure to the analysis process (Ritchie and Spencer, 1994: 310). The output is a matrix that contains rows (cases), columns (codes) and 'cells' of summarised data that will provide a structure in which the data can be systematically reduced (Gale *et al.,* 2013) (see Appendix 6).

A comparative analysis of the narratives at different levels – personal and interpersonal, along with consideration of the historical context of the area after the disaster was conducted (Stephens and Breheny, 2013). This entailed a progressive and iterative process that included different phases of data analysis according to the specific analysis strategy (i.e. inductive or deductive).

3.8.2.1 ***Qualitative Data Coding process***

Phase 1: Summarising the data under question headings, generating initial codes

In this stage all the data were processed and summarised under the main topics examined in the focus groups. The raw data were scrutinised in detail and reduced into sub-codes that helped guide the subsequent phase of the analysis. A line-by-line inspection of the transcripts helped the researcher to reflect on the overall phenomena. This also provided an opportunity to determine potential themes in the raw data (Fereday, 2006).

Phase 2: Abstraction of themes comparison across groups (Identifying a thematic framework)

In this phase potential themes were articulated across different groups. The outlines generated in the previous phase were used to help perceive themes (Boyatzis, 1998; Braun and Clarke, 2006).

Phase 3: Clustering in themes and charting

To identify and organise codes the data were clustered into different themes (Boyatzis, 1998). The data were ordered in tables, following a principle of hierarchy (Boyatzis, 1998) and sequence of events. This means that themes were organised by categories according to each one's importance in the process of reconstruction and sequence in time. By following

these principles of data clustering, the identification of patterns in the themes was systematic and well-ordered. The categories were structured under the headings of 'neighbourhood protection and resistance', 'community grassroots strategies of place-development', and 'ground-up architecture'. Each of the categories contains the excerpts abstracted from the data (Ritchie and Spencer, 1994).

Phase 4: Connection of themes and sub-themes (mapping interpretation)

An inductive approach was applied in the generation of themes. This includes revision of the themes identified in the previous step (Boyatzis, 1998). The themes are then presented in tables that contain the sub-themes and main theme.

Phase 5: Defining and naming themes

Final refinement of the data: Here, the themes should be identified at this point and be part of a thematic framework or map (Braun and Clarke, 2006). For each individual theme a detailed analysis is provided.

3.9 Reflections and Challenges in the field: Conducting in-depth research in Medellin urban informal settlements

3.9.1 Safety and Being an outsider at home

I am a native Colombian citizen and I have lived most of my life in Colombia. This of course gave me a big advantage since I was conducting '*research at home'* (Unwin, 2006) therefore language was not a barrier. Nevertheless, I was aware that while I was inside my own country, at the same time I was in the position of *'outsider'* since I do not belong in and have never lived in a comuna in Medellin. Navigating through the city and communicating with the residents did not represent a major challenge; in fact, being native Colombian could have minimised potential cultural differences commonly faced by a researcher from a different nationality to the researched country (Lombard, 2012; Corbin and Strauss, 2015). Nevertheless, I would add that language and being a local are not the biggest barriers when conducting research in Medellin informal settlements. In fact, the biggest challenges faced during the field work were more associated with safety, which in many cases restricted the development of the research activities and forced me to immediately abandon the setting. For instance, there was one occasion during the field work conducted in 2016 when I was advised by the gatekeeper to immediately abandon the neighbourhood and board the first approaching bus. The reason was the unexpected formation of 'plazas' in the area where I

was conducting interviews. The 'plazas' – as called by the locals - are small groups of young people who sell drugs and usually stand in the corners of each street block. On occasions, they restrict residents from walking freely in the neighbourhood – also known as invisible borders. For safety reasons, I had to postpone the field work for a few days, until otherwise advised by the gatekeeper.

The unstable and unsafe condition of the neighbourhood at the time that I was conducting the study made it impossible for me to conduct in-depth field observations among other activities (e.g., more interviews, focus groups, etc). According to the interviewed residents, and Fiscalia, the unsafe condition of the neighbourhood could have been triggered by the Colombian peace plebiscite that took place at the time I was conducting the study in October 2016. Nevertheless, the residents participating in the research activities reported this to be the daily condition of the neighbourhood.

3.9.2 **Potential sources of bias**

My condition of 'outsider' to the neighbourhood could be considered a potential source of bias in the data analysis. The risk of assuming a top-down view or an 'outsider' view while analysing the data findings was always present. Therefore, it was decided to collect data in many forms (i.e. qualitative and quantitative) in order to undertake a neutral interpretation of the information collected. Nevertheless, the use of qualitative methods poses the risk of introducing biases since the interpretation of the data is often subjective and could reflect the researcher's opinions. In order to minimise this, it was decided to allow the residents' voices to be very active and direct the conclusions. Therefore, a considerable amount of direct quotations from interviews and focus groups are included in the presentation of the findings.

Due to the limitations faced during the participant recruitment process caused by the violent conditions of Villatina while the data were collected, it was only possible to interview key community leaders appointed by the gatekeepers. This affected the recruitment process of the focus groups in which some selection criteria (e.g., gender, age, etc) could not be applied. Instead, it was decided to follow non-probabilistic strategies for interviews and focus groups discussions. This was done by openly recruiting participants who witnessed the disaster and participated in the process of reconstruction.

The administration of the surveys could constitute a third source of bias. Although a community-led approach was integrated when the data were collected (Section 3.3.1), the research collaborators reported serious confrontations between the police and gangs in the

neighbourhood. This limited the amount of surveys collected. Furthermore, the community-led approach could have introduced another form of bias caused by the research collaborators conducting the surveys. Although intensive training on how to collect the data was provided, the risk of introducing personal views while explaining the surveys could have constituted a potential source of bias. In order to mitigate this, several meetings were held, and daily telephone contact was maintained during the collection of the surveys.

3.9.3 **Final Reflections**

While conducting research in Villatina was extremely challenging, having the opportunity to build empathy with the community helped this investigation to explore different social aspects that have impacted the urban space. Perhaps it could be argued that the methodology integrated in this investigation might be more aligned with anthropological and sociological studies instead of traditional urban planning methods. Nevertheless, in this study it will be argued that conducting field work in Villatina, provided the researcher with the understanding to use the most appropriate research techniques given the context and current situation of Villatina. In fact, the most important and influential urban studies conducted in urban informal settlements in South America, were conducted using multiple techniques and methods that pertain to the schools of anthropology and sociology such as the work of: Caldeira, (2000), Holston (2000), Perlman (1976); Lombard (2012) among others.

To conclude, I would like to reflect on the idea that researchers have the privilege to choose what to conduct in their research and *why* (Unwin, 2006). While conducting this study, I was compelled by the idea of Habermas (1974, 1978) that research '*should be used to make the world a better place, and this motive is often central to those undertaking research in the broad field of 'development'* (Unwin, 2006:108). In this sense, conducting research in urban informal communities – if the aim is to make a difference and improve the lives of these people – then – as suggested by Tim Unwin (1996) – we should seek to engage in an in-depth exploration that lead us to clearly understand the reasons for poverty, disaster exposure, and violence, '*and we should actively seek to shape and deliver policies and practices that will indeed make a difference to the world in which we live (Unwin, 1999). For those who accept such an agenda, there is a very clear justification for doing development research 'at home'* (Unwin, 2006: 108).

4 Chapter Four: Historiography of Segregation, Violence, and Resilience

4.1 introduction

The history of urban development of Colombian cities has been greatly influenced by mass rural-urban exodus caused by half a century of civil war. The rapid change of cities, specifically in Medellin – one of the most important Colombian cities – was stimulated by the industrial revolution, which prompted most of the urban development in the centre of the city and wealthy areas. In parallel, a wave of poverty emerged in Medellin as a result of the internal armed conflict that forced thousands of rural families to migrate to the city. This massive migration phenomenon that continued for several decades intensified the rapid proliferation of secluded areas formed illegally in the outside the urban boundaries. In many cases, some of these families would settle in the intersection of extremely risky areas for landslides and floods, resulting in multiple disasters and casualties. Nevertheless, exposure to natural hazards was not the only threat in these settlements. For over three decades, rebel groups operating from these settlements such as the M-19 (the 19th of April Movement – Movimiento 19 de Abril), the EPL (Popular Liberation Army – Ejercito Popular de Liberacion), Paramilitares (right-wing paramilitary groups acting in opposition to the Marxist-Lenin guerrilla), the ELN (National Liberation Army – Ejercito Nacional de Liberacion: a revolutionary left-wing armed group), CAP (Armed Commandos of the People – Comandos Armados del Pueblo), and drug gangs led by Pablo Escobar, caused extreme violence and fear among residents of these settlements.

To control the massive illegal settlements proliferation, the government initiated forced eviction campaigns of the displaced families located in disaster risk areas. As a result, hundreds of homeless families began to invade different areas or in some cases rebuild in the same place. In parallel to this, the violent confrontations between the police and rebel groups left thousands of casualties and victims, causing fear among the residents of these settlements who were highly affected by these confrontations. Nevertheless, to improve living conditions in informal settlements and help control violence, over the last decades new interventions that integrate methods for citizen participation were created. These interventions, according to the Resilience Office reports (2016) have helped to decrease violence rates by nearly 80% in informal settlements. However, the long history of segregation, oppression and violence has given rise to new forms of violence in the last years caused by drug selling in public spaces and forced territorial control by drug gangs.

The history of place development of Medellin informal settlements has been shaped by natural disasters and violence caused by rebel groups, drug gangs, and the police. Therefore, in the aftermath of a natural disaster, given that these environments are heavily exposed to extreme violence, any process of post-disaster reconstruction might trigger unique community resilience strategies (Dobson *et al.,* 2015). In this vein of ideas, the aim of this chapter is to explore how residents of Medellin informal settlements recover from natural disasters and to what extent community resilience strategies are developed by the residents in the process of post-disaster reconstruction of the built environment. To do so, this chapter portrays the historiography of development of Villatina after one of the biggest landslides in the city in 1987 as it was lived by the residents of this settlement. The process of reconstruction is at the centre of a narrative that unveils an insurgent planning process that helped residents of Villatina to survive the extreme violence and re-build their neighbourhood.

This chapter begins by introducing historical facts that influenced the development of Medellin and informal settlements (Section 4.2). For this historical recount, data obtained from secondary sources such as official documents, and demographic data are used. The subsequent section presents the period of development between 1980 and 1990, in which the disaster of Villatina took place (Section 4.3). Following this, the process of reconstruction of Villatina after the disaster in 1987 is presented according to the data obtained from the focus groups and interviews conducted with the landslide survivors (see Chapter 3, Section 3.6). In the following sections, data that explain how the bottom-up reconstruction occurred are presented (Section 4.5) in line with the community resilience strategies that were developed after the disaster. In sections 4.7 and 4.8 the present situation of Villatina is discussed with the support of relevant data obtained from the survey conducted in September 2017 with Villatina residents.

4.2 1940: The rise of the civil war revolution: Segregation and inequality

The development of the city of Medellin has been marked by periods of prosperity and decline brought by the industrial revolution and the civil war conflicts that started at the end of 1940. As many Colombian cities, Medellin was initially dominated by bourgeois elites who, under the influence of the Catholic Church, helped develop the initial urban grid. Education, agriculture and commerce were the main activities that followed the foundation of the city in the sixteenth century (Gonzales, 2007). Between 1900 and 1950, the city growth was

dominated by the industrialisation of agricultural activities as well as textile industries, which helped define most of the urban city structure at that time. The economic growth and industrial revolution contrasted with the nonconformity of the lower classes – which were mainly rural settlers that lived under extreme poverty conditions and were, in most cases, dependent on land owners who would not provide them with the necessary resources for education or health services (Palacios, 2007; Leech, 2011; Moncada, 2016).

After years of oppression, inequalities and government abandonment, the peasants with support of the Catholic Church and educated key minds, instigated the longest rebellion in human history, extending a civil war for over half of a century until the present day (Palacios, 2007; Leech, 2011). The series of insurgent events and influence of drug trafficking that followed the civil war marked the history of the country and particularly the urban development of Medellin, which was extremely affected by violent insurgent movements led by the criminal groups ELN, CAP, and M-19.

In parallel with the civil conflict taking place in the countryside, 1943 and 1958 were recognised as the most violent moments recorded in the history of Medellin (Fiscalia General de la Nacion, sentencia CAP, 2016). This coincided with the uncontrolled rapid urban growth of the city, which was populated by migrating families coming from the countryside in search for job opportunities. The lack of financial resources and support of the local government and institutions intensified the illegal occupation of land in Medellin, creating the phenomenon known as 'urbanizaciones piratas' (pirate urbanisations). Studies have described these processes of urbanisation as a common phenomenon in Latin America (Coupe, 1993: 5). The process of illegal land commercialisation begins with the subdivision of the land into smaller allotments by the landowners, which are sold to individuals at low prices. Since this process occurs outside urban regulations, adequate infrastructure is not provided. This results in uncontrolled developments (i.e., houses, roads, public spaces) being built spontaneously outside of construction norms (Ibid).

The pirate urbanisations proliferated rapidly in Medellin. However, the situation was left unattended by the municipality, which at that time was primarily focussed on improving the city centre and upper-class areas. Two international urban planners, Paul Lester Weinner and Jose Luis Sert, were tasked by the local government to project a future city plan (Schnitter, 1999). The result was a 'plan piloto' (pilot plan) conceived under modernist precepts that integrated several infrastructural projects in the city centre (Restrepo, 1981). Nevertheless, the plan was highly criticised by post-modern urban planners as it did not consider the

growth of the city or the expansion of informal settlements. As a result, these settlements continued to proliferate and developed in the form of pirate urbanisations. The lack of adequate infrastructure and public services, combined with the location of settlements in disaster prone areas (e.g. unstable highlands), extreme poverty, and segregation has transformed these places into precarious settlements in the hills of Medellin (Palacios, 2007; Jaramillo *et al.,*2010; Claghorn *et al.,* 2016).

4.3 **1980-1990: Narco-culture vs Neoliberal Urbanism**

Perhaps one of the most relevant phases in the development of Medellin was between 1980 and 1990, denominated in this study as the 'Projection of Medellin: Neoliberal urbanism'. In this period, the gap between rich and poor intensified. The result was a segregated city with two opposing realities: rich and poor. For the segregated communities that settled illegally in the hills of Medellin, their reality was a constant struggle to survive the confrontations between drug gangs, rebel groups (i.e. ELN, M-19, and CAP), and police. This period was known as the most violent in the history of Medellin (Levy and Dávila, 2017: 37), which was primarily dominated by the 'narco-culture', founded by Pablo Escobar (Riaño-Alcala, 2002). In contrast, the city centre and wealthiest areas of the city continued to grow and develop with the support of private and public sectors (Gonzales, 2007). During this time, it became evident that Medellin was divided between a 'formal' and 'informal' city (Betancur, 2007: 14) profoundly stigmatised by the continuous battles between the local government and drug gangs. According to the Office of National Security, these intra-slum confrontations left an estimated 45,577 deaths between 1992 and 2003[1]. Additionally, attempts to evict pirate settlements continued, intensifying the chain of violence and poverty in the slums. The informal settlements became precarious places abandoned by the local government, which at the same time were loaded with social conflicts caused by the civil war and extreme poverty. Villatina was a clear example of this.

For years, this neighbourhood was considered one of the most dangerous settlements in the city; this was due to the presence of the rebel groups ELN, M-19, and CAP that operated from the neighbourhood. To worsen the social situation, on the 27th of September in 1987, one of the biggest disasters recorded in the city occurred, which was to define the history of Villatina and its residents. On Sunday at 2 pm in the afternoon when families were gathering

[1] Homicidios En Medellin, la base de datos del IPC; los datos de los años 2000 y 2001 son registros de Decypol; 2002 Policìa Metropolitana; y 2003 pertenece a Secretaria de Gobierno Municipal. http://biblioteca.clacso.edu.ar/Colombia/ipc/20121210120342/conflicto.pdf

at home enjoying the regional football final, an explosion was heard. Few seconds later, debris and dust covered the upper part of the neighbourhood – according to the survivors. Nearly 500 people perished suffocated by 25,000 m^3 of soil caused by a massive landslide that covered the neighbourhood and affected nearly 2000 residents. Although the disaster was caused by geological damage and soil erosion in the Pan de Azucar Hill – according to the local authorities - the study conducted by Coupe in 1997 reported that residents attributed the cause of the landslide to a dynamite explosion orchestrated by the M-19 (Coupe *et al.,* 2007).

Due to the unstable conditions of the Pan de Azucar Hill after the landslide, the neighbourhood was declared in emergency and at risk from further landslides. To attend to the situation, 402 families were relocated in six different house-resettlement projects developed by local institutions (Corporacion Minuto de Dios, and CORVIDE). The houses were given as part of a loan scheme financed by the government; however, soon after the relocation, nearly 200 of those families could not sustain the loan and returned to Villatina.

Few families in Villatina with scarce economic resources could not access the government relocation-housing programmes. These families remained in the neighbourhood in extreme poverty and exposed to the violence unleashed by the local government eviction campaigns. According to the government, the evictions had to take place, since there was a high risk of a second landslide in the neighbourhood. Nevertheless, evictions against displaced families were executed for nearly eight years after the disaster as registered by the newspaper el Colombiano (date: April 21st 2001: source Sala Antioquia) (Castaño-Hoyos, 2001) (see Figure 4-1).

To deter Villatina residents from staying in the neighbourhood, the police restricted the entrance of the neighbourhood. Residents could not get in or out and were constantly intimidated by police forces. Participants FG4-2 and FG4-3 in the focus groups discussions noted:

> "After the disaster we have to squat near where the big water tank is today, it was very tough. The disaster happened on Sunday, and the next week the police were restricting people to stay in their houses, but we did not have anywhere to go, so we found a hill and squatted there with our families"; "For example the police were burning car tyres to deter people from reaching their houses, because they wanted to evict us. So, we had to take care of the neighbourhood and this area day and night".

Desplazados de Villatina, otra vez lanzados a la calle

● EN DOS meses, la Administración los ha sacado doce veces.

● AUTORIDADES DICEN que el riesgo de deslizamiento era inminente.

● DAMNIFICADOS DICEN que fuerza pública actuó con violencia.

José Alejandro Castaño Hoyos
joseca@elcolombiano.com.co
Medellín

Una retroexcavadora del Municipio se tragó ayer 125 ranchos en las ladera de Villatina sin ningún esfuerzo. Los débiles armazones

Jesús Abad Colorado

Figure 4-1. Eviction campaigns after the disaster (Source: Castaño-Hoyos, 2001)

To counteract the eviction campaigns, several families gathered to protect themselves from the police. They decided to organise into groups and take turns during day and night to subvert any attempt of eviction. Mothers and children took part in the process, by providing food and drink to those patrolling the area. For nearly two months residents remained vigilant, until the government temporarily ceased the attacks. Participant FG5-1 of focus group five described the events in his own words:

> "After the disaster, everyone was vigilant and taking care of their houses. Men were staying overnight because after the landslide there were constant emergency alerts of more landslides; therefore, the families that could move out with their families did so, the rest of us we had to stay here because we did not have any options. People that stayed had to take care of the sector overnight in case they could see something, landslide or police".

In the middle of confrontations with the police, the families managed to rebuild their houses on the same location. By 1993, the government created the first slum upgrading programme: PRIMED (Program for the Integral Improvement of Subnormal Neighbourhoods[2] – Programa Integral de Mejoramientos de Barrios subnormales) from 1993 to 2004 (Echeverri and Orsini, 2010:134) that benefited Villatina residents and other settlements. The process consisted of providing construction materials to selected families to improve or

[2] Subnormal neighbourhoods is the term often used by the local planning office to refer to informal settlements.

upgrade their houses. The construction was overseen by the residents who either self-built or hired local builders. The results of these interventions, however, were pieces of fragmented development that in most cases intensified the exposure to landslides since houses were built outside construction norms in the same hazardous location (Naranjo, 1992).

Five years after the disaster, the government announced a new relocation-housing programme for the families that rebuilt their houses in the same high-risk location. The residents refused to leave the neighbourhood and initiated a resistance against the government, which came to a successful conclusion for the families who managed to retain their houses. According to participants of the focus groups, the relocation-housing programme was part of a private project that aimed to use the area where the families were located as participant FG4-2 described:

> *"Years after the disaster, something unexpected happened, the government was going to make us move, because we are located in a disaster risk zone, however, next to this area that is also at risk there is another neighbourhood and the government is building a learning centre there. Days after, we found out that the government wanted to evict us to start building a residential project here, so we had to fight against the government and start a revolution".*

Focus groups participants who remained in the area under extreme risky conditions considered this as an act of *"community resistance",* manifested through the cooperation and actions of the community to protect their houses. In focus group six, participant FG6-2 defined the process of resistance as an act of rebellion, which was only possible through the strong community action: *"The community started a rebellion, we all acted together, we were all united and each of us has to patrol during day and night".* The resistance of the people that remained in Villatina after the disaster led them to create actions that are defined in the work of Miraftab (2009:35) as counter-hegemonic and insurgent actions. The defence strategies created by residents allow them to remain in the territory regardless of the adversity of the situation. These internal mobilisations that go beyond state control are organised actions of self-management that irregular settlements create to confront the government attempts of eviction (Miraftab, 2009). This is also explained by Holston (2009) as 'insurgent citizenship', a term that is used to describe how informal communities create strategies to fight against the conflicted regimens of inequality and marginalisation.

The insurgent actions of the community are explained by Gilbert (1994) as a clear image of the autonomy and action of a community that fights to defend its rights and to improve its position in society. In Villatina, the precariousness experienced after the disaster, together

with the abandonment and abuse of local institutions (i.e. eviction campaigns), acted as triggers in the community to create community actions to defend the territory and remain in the neighbourhood. In parallel to the insurgent actions, two new spaces of citizenship emerged during the process of territory protection, defined by Miraftab (2009) as '*invited and invented spaces of citizenship*'. The former refers to the spaces in which residents of informal settlements allied with external organisations (i.e. NGOs, and other institutions) to confront the authorities. In Villatina for instance, different external institutions provided financial support to the residents, such as the local university (Universidad Nacional), and other philanthropist groups (amigas de Villatina). The second are the spaces in which grassroots actions take place to resist the systems of hardship imposed by the government. These were manifested through collective protest, and the massive community mobilisation to remain vigilant day and night.

Nevertheless, the insurgent actions initiated by the residents were not enough to confront the second biggest threat in Villatina – violence. In 1993 the municipality of Medellin implemented diverse strategies to fight the extreme violence caused by criminal gangs and integrated more policies that promoted more citizen participation through the JACs – comites comunitarios de desarrollo integral (Juntas de Accion Comunal – Community Action Boards). These institutions were created in order to reach the most vulnerable populations and improve community welfare. Since then, informal communities in Colombia have a well constituted JAC that acts as the channel between the community and the local government. However, these institutions have been carefully controlled by the government, and regrettably they have been manipulated and politicised by unscrupulous politicians that use them as instruments to acquire votes in national elections (Gilbert, 1994). In Villatina, the JAC was officially constituted in 1994 with a president, officials and committee. This institution has been the legal representation of the community and has developed different programmes of community welfare sponsored by the government. Although this organisation has been politicised, it played a decisive role in the process of reconstruction after the disaster to mobilise resources and create connections with different organisations as a few residents stated:

> *"The junta de accion communal was the only institution that at that time existed, and I think any community or neighbourhood has one, so obviously the first institution that we approached was the junta, because there is where all external institutions come first to provide support. However, this institution has been disappearing gradually. After the disaster, it was a strong institution, but now nothing is left of it, because unscrupulous people have been in charge of it… people without sense of belonging and attachment for*

*this neighbourhood" (*FCCL-1); *"The junta really helped during the process of reconstruction, was a very important institution at that time" (*FG2-4); *"The junta helped a lot, because at that time the poverty here was extreme, it was so unfair that we were invisible to the state"* (FCCL-2); *"The junta de accion communal played a very important role at that time, when the leaders really cared about and felt for this neighbourhood" (*FG1-2); and *"Everything that was done at that time was because of the community, because everyone was working to improve this place, the junta de accion communal helped greatly because some of the external aid arrived there"* (FG3-4).

Following this, the neighbourhood received aid from external organisations. Most of this aid came years after the disaster and was managed by the JAC. Nevertheless, the residents believe that much of the money was stolen by members of the JAC: *"After the disaster a lot of external aid was administered by the JAC, unfortunately much of that help was stolen. It was very corrupt"* FG6-4. This situation generated great distrust among the residents and victims of the disaster.

In parallel to the process of reconstruction, several organised criminal gangs were operating in Villatina. To counteract the criminal actions, the government reinforced the presence of the police in the neighbourhood. Nevertheless, this resulted in multiple casualties of innocent people who were mistaken to be gang members and were brutally killed. These violations were recorded in 1992 in the tragedy known as the "Villatina massacre" (Comision Interamericana de Derechos Humanos, 2005; Insuasty *et al.,* 2010), where eight children and an adult were killed en masse by police agents (Figures 4-2 and 4-3). After this event, the community raised one of the biggest protests in the history of Villatina; hundreds of families condemned the situation, and formally requested the government to compensate the victims' families. To honour the people killed in the massacre, a public sculpture was placed in the city centre (see Figures 4-4) (El Tiempo, 1997). In addition, the government built the first health centre in Villatina. The investigations of the massacre led to the sentence of three police officers. Additionally, the Colombian state was condemned by the Inter-American Commission on Human Rights (Comision Interamericana de Derechos Humanos, 2005).

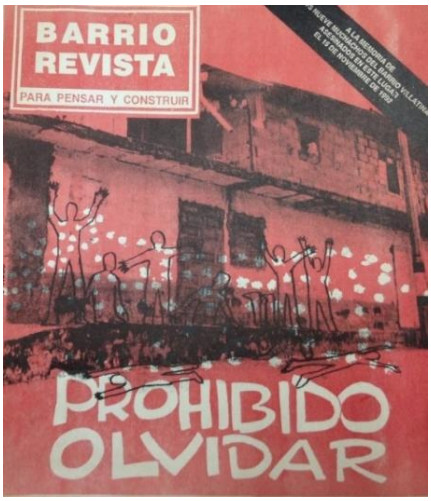


Figure 4-2, 4-3. The 15th of November 1992, eight child residents of Villatina were shot by police agents. The agents were found guilty and the community was provided by the local government with a health centre (Source: El Mundo newspaper Nov 1992)

Figure 4-4. Sculpture "Villatina massacre" (Source: https://telemedellin.tv/25-anos-la-masacre-de-villatina/229605/)

4.4 1995-2001: Violence, Displacement and Landslides, a Double Disaster

While Villatina residents were copping with the extreme violence coming from rebel gangs and police, the formal city was developing at rapid rates with the support of the private sector, which helped to consolidate the most efficient transport system in the country (i.e., metro). However, the slums remained segregated and in extreme poverty. The only support

provided to informal residents was given by the housing-upgrading programmes in the form of construction materials.

Between 1995 and 2001 the wave of violence intensified, as part of this current research it was estimated from Gil, (2010: 66) (see Ramirez, (2008: 103); and Seguridad por Comunas Observatorio de Políticas Publicas de Medellin that violent confrontations between criminal gangs and the police left a total of 1247 casualties in the Comuna 8 (see Table 4-1). One of the causes associated with the rise in violence in Villatina was the settlement in the neighbourhood of hundreds of rural families displaced by the rebel group FARC-EP (Revolutionary Armed Forces of Colombia – People's Army – Fuerzas Armadas Revolucionarias de Colombia – Ejército del Pueblo). The lack of economic resources and support from the local government led these families to settle illegally in the intersections of areas prone to landslides. To address this situation the government evicted hundreds of these families. It was estimated that nearly 125 houses of displaced families were demolished by the municipality. In total 420 people, of who 274 were under five years old, were forcedly expelled from their houses. The newspaper El Colombiano in the edition released on Saturday 21st of April 2001, registered the event, unveiling the attacks of the police*: "The police came and burnt our houses and furniture, now where should we go? What should I do with my family now? I can't leave my children alone in the streets"*. For nearly six years the evictions persisted, creating fear and distrust in the government. For the year 2004 it was estimated by the Unidad Administrativa Especial para la Atención y Reparación Integral a Víctimas a total of 14,080 of displaced population arrived in Medellin[3].

Table 4-1. Violent deaths in Comuna 8 (sector 8) 2001 to2015

Year	Number of Deaths
1995	206
1996	199
1997	155
1998	176
1999	218
2000	161
2001	132
Total	1247

Collated from sources: Gil, 2010: 66; Ramirez, 2008:103; Seguridad por Comunas Observatorio de Políticas Publicas de Medellin)

The massive intra rural-urban migration created new vulnerabilities associated with disasters – for instance more exposure to fires, landslides, disease epidemics, violence, hunger, sexual abuse, despair and unemployment (Wisner *et al.,* 2004). In the case of

[3] Unidad Administrativa Especial para la Atención y Reparación Integral a Víctimas - http://rni.unidadvictimas.gov.co/?q=node/107 Cálculos: Unidad Municipal de Atención y Reparación a Víctimas.

Villatina, participants in the focus groups identified that the arrival of displaced communities reinforced their exposure to natural disasters as these new settlers deforested natural areas that in turn became unstable terrains. Furthermore, the settlement of displaced families in Villatina intensified the social conflicts in the neighbourhood. According to Coupe (2007) this situation produced new vulnerabilities and caused a shift in the residents' perceptions of risk, where crime and violence became the biggest threats in the neighbourhood (Coupe, 2007). In other words, residents have associated crime and violence as the major threat, putting the risk of natural disasters into second place. An example of the extreme violence in Villatina, was the assassination of one of the main community leaders in 1993, see Figure 4-5. In his coat was found a list of people threatened by gangs along with a verse by Borges: *"We are already forgotten; we are the elemental dust that is ignored".*

Figure 4-5. Extreme violence in Villatina. (Source: Maria Victoria Zapata, 1994)

4.5 Community networks to counteract the effects of the urban war and rebuild the neighbourhood

In community resilience literature, social networks are found to be one of the most important stages of a resilience process (Amundsen, 2012). According to Berkes and Ross (2012) it is through networks that the communities act in order to find support to improve their well-being. Similarly, Brown and Perkins, (1992:299) asserted that when the communities take the initiative and action after disasters, the help of outside institutions rally residents together and make the process easier. In the case of Villatina, the eviction campaigns after the disaster and violence were triggers in the community to create

organised actions to continue with the process of reconstruction of the built environment and find self-protective strategies against violence. These actions were unfolded in three different levels of networks defined in the work of Chanan and Vos (1990) as internal networks, networks outside the community, and the establishment of local organisations.

4.5.1 **Internal networks**

The first level was characterised by internal networks created between the residents that survived the tragedy. These levels occurred at three core moments: 1) networks immediately after the disaster; 2) networks to defend the territory; and 3) community networks when the process of reconstruction was initiated.

In the first instance – networks immediately after the disaster – the residents of the community established different groups denominated by the residents as *'convites'* (a common term used by residents of these settlements that signifies community-work), assigned to perform different tasks to provide immediate aid to survivors and to help residents to find their relatives under the debris. For instance, a group of 10 men would help in rescuing people trapped under the mud, some groups would identify the victims, and some were designated to provide shelter and food to the affected families. This process took a long time according to FG5-1; however, the community unified forces to help the victims: *"That was a very long process I remember, everyone helping in groups rescuing people and dead bodies".* The second moment (defence of the territory) occurred after the landslide when the eviction campaigns were initiated. This moment was characterised by the residents organised actions to oppose the campaigns. The third occurred during the process of reconstruction. Although this process was highly dependent on the networks established with external organisations (as will be explained in the second level of networks), it was characterised by the internal connections that were established by the community in order to build specific community places. For instance, the collection of financial resources to build the church Sol de Oriente and community centre, was aided by diverse activities inside the neighbourhood (i.e. food and handicraft markets).

4.5.2 **Networks outside the community**

At the second level, the networks are beyond the boundaries of the community. They are believed to be the most visible part of the local action, since they represent and promote the interests of the residents and play an advocacy role in improving the life conditions of the individuals in the neighbourhood (Chanan and Vos, 1990). In Villatina for instance, these networks were crucial in the process of reconstruction. The connections created with non-

governmental institutions (i.e. church, amigas de Villatina), local government (i.e. Secretaria de infraestructura, Secretaria de Planeacion, politicians), and a local university (Universidad Nacional through Professor Fancoise Coupe) helped them to find financial resources for the reconstruction process. For instance, the University provided a housing design scheme to upgrade the existing houses that were built with the donation of construction materials by different institutions (i.e. church, politicians, and private institutions).

After the connections with external institutions were established, the process of reconstruction and improvement of the built environment began. Key community leaders that participated in the process were interviewed in a focus group discussion conducted on the 13th of September 2016. They shared their views on how the networks with institutions were established and how the community organised the rebuilding process:

> *"What happened was that many people in the community gathered to help. We saw the necessity to create committees in the community, like leaders. I was one of them and I used to go everywhere, institutions, and the government to ask for support"* (FCCL-1); *"The process of reconstruction was successful because we organised very well, and we created connection with different institutions and politicians that helped us with resources"* (FCCL-2); and *"The most relevant aspect in the process of transformation was the community organisation and action. The leaders that created strong networks with more institutions and brought a lot of progress. I believe if they had not intervened and helped the community the situation would have been worse, because the government never helped us"* (FCCL-2).

Similarly, residents of Villatina who participated in the focus group discussions manifested that the most important aspect in the reconstruction process was the union of the community and links with external institutions:

> *"After the disaster all the transformations were because of the community"* (FG1-6); *"The community had a very important role after the disaster, because everyone took care of each other, everyone was helping"* (FG2-5); *"It was the community and the external institutions that helped in the process of reconstruction, but the most fundamental aspect was the community union"* (FG4-1); and *"I think the most important aspect after the disaster was the union of the community, we all built community ties, we worked in teams and we were all collaborating with each other, if somebody needed help with a wall or a window we all were there" (FG4-3).*

4.5.2.1 ***House Self-building:***

According to the narratives of some of the disaster survivors who participated in the focus groups, the community created groups of house self-building. These groups or 'convites' were responsible for contacting external institutions that could provide materials to rebuild or upgrade the houses – according to the condition of the house – in the same site that they were before. Participants FG1-6 and FG4-3 noted:

"The community was organised in committees, everyone helped during the process of reconstruction. For example, if an institution was going to provide help then the community had to manage the aid and work. So, we all worked during the process; when we finished building one thing we would move to the next one and so on, that was called 'convites'"; and "After *the community acted together and managed to establish contact with external institutions, the process of house self-building started. For this a bigger group was formed by the community, and after that one many more were formed. The institutions donated the material and we used to attend to community meetings that the church organised".*

The construction management of the houses was entirely directed by the community. In this case the community managed the process of upgrading and utilised community engagement to finish the houses. Here, instead of giving the responsibility to transform their houses to each family, the community decided to build one house at the time with the participation of all the families. One of the community residents that led the process participated in the focus groups discussion conducted in November 2016. She noted that engaging the community in the construction of all the houses helped to strengthen community ties and be more active in the reconstruction process:

"I believe that the most important aspect was the community union. Here we did not have architects or engineers that helped us built our houses, we were just given some floor plans of how the houses could be distributed, and this was given by the students of the university, but it was the community that made possible the construction of the houses"; It was a beautiful process to see. Even the smallest child participated. Each family was engaged in building the houses, basically we became construction experts. We adapted our houses according to the floor plans that the university gave us, but I personally liked it. This was self-building with the participation of all family members and neighbours" (FG4-3).

Although only a few houses were upgraded under this strategy – approximately 15 at that time, the community leaders were successful in sustaining the connections with the church and other institutions that on occasions provided them with materials to improve other houses.

This unique process of community engagement and connection with external institutions demonstrates the adaptive capacity that this community had to adopt after the disaster. The strong participation and cooperation of the community was clearly manifested through the process of reconstruction. However, the exposure to disasters (i.e. landslides) was intensified by the self-build projects, which were built in the same site under the same risky conditions.

Additional groups created by leaders of the community were advocates to find support for the youth and aging population. The outcome was a community restaurant that was managed by women community leaders with resources donated by the local government for a period of six years. When the funding was discontinued, the leaders sought support from

the local church. For nearly 27 years this restaurant has fed the most vulnerable population in Villatina, and it continues to be managed by women community leaders. Two of these leaders participated in the focus groups and shared their experiences of how the creation of the community restaurant was totally a bottom-up initiative supported by external institutions:

> *"After the self-building process, we created a community restaurant in the lower part of Villatina. The restaurant was for school children and homeless teenagers, and elderly. But to be honest we did not have a selection criterion, we try to feed as many people as possible"; "Two of the leaders had really good connections with people in the local government, and at that time the government was subsidising the elderly living in poverty that benefited the project. After the government stopped subsidising the restaurant, we contacted the church – also many other non-governmental institutions helped us*" (FG4-2); and "We *fed nearly 250 children and it was open for seven years. We were six women in charge of the restaurant"* (FG4-3).

4.5.3 **Establishment of local organisations: Campo Santo Memorial Park**

The third level of networks was the formal establishment of local organisations (i.e. associations and corporations) (Chanan and Vos, 1990). Although the third level of networks was created nearly 10 years after the disaster, it coincided with one of the most decisive events in the history of the country. The rebel groups M-19 and Paramilitares ceased fire and demobilised in 2003 and 2004, respectively. This of course had a positive impact in Villatina that for years was affected by the confrontation of these rebel groups. During that time, a demobilised member of the revolutionary group EPL 'Joaquin Calle' promoted the recovery of the area where the disaster occurred among other social projects in Villatina (Alcaldia de Medellin, 2015). As a child, after losing all his family in the disaster, Joaquin at a very young age joined the EPL. However, from 2005, after deserting the EPL, he has led projects in Villatina that have provided support to children and teenagers exposed to crime and violence. In 2005, Joaquin established the 'Campo Santo Corporation[4]' (Corporación Campo Santo) that worked with the support of local residents, ex-rebels and external institutions. Among the projects promoted by *Campo Santo Corporation* are Campo Santo memorial park, school, church, productive lands, a youth learning centre, and the Values Hill (Figures 4-6 and 4-7) – an urban farming and sustainable project (Alcaldia de Medellin, 2015).

[4] Official website of the Corporación Campo Santo: https://corporacioncamposanto.weebly.com/quienes-somos.html


Figures 4-6, 4-7. 'Values Hill': sustainable and recreation park (visited in October 2106, field exploration)

One of the most visible projects of the Campo Santo corporation was the creation of the Campo Santo memorial park that was built in order to recover the area where the disaster occurred that at that time was occupied by displaced families (Figures 4-8 to 4-11). A participant of focus group two explained:

> *"After the tragedy it was all emptiness in the area, it was like walking in a desert, until Campo Santo was organised, and it was the best that could have been done, because before displaced communities wanted to settle there, because they did not know a tragedy occurred there" (*FG2-1). Furthermore, the creation of the Campo Santo helped the residents to overcome the fear attached to the site after the disaster. Focus groups participant FG3-2 noted: *"Campo Santo really helped us to overcome the fear of the area that we had after the disaster. People could then go and visit around, and we had a small church. Campo Santo really helped to recover that space again".*

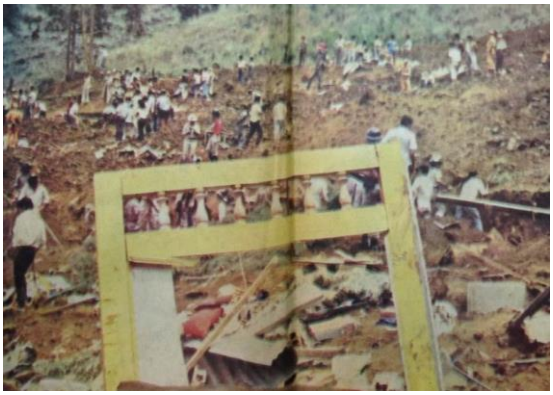
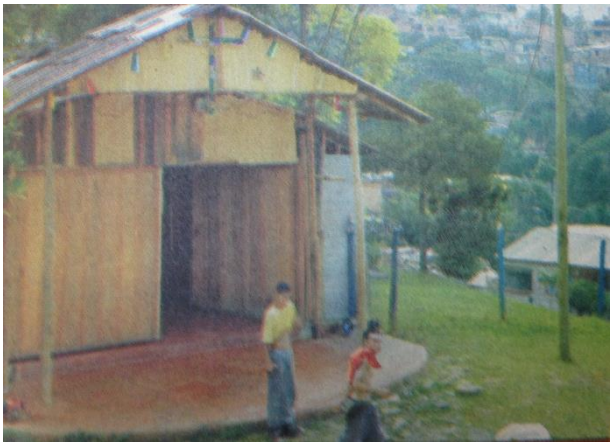



Figure 4-8. Area after the disaster (Source: Newspaper Colombiano, Tuesday 27th of October 1987);
Figure 4-9. Public space to defeat fear of the disaster (Source: Newspaper El Mundo, 27th of September 2007)

According to Joaquin Calle (the founder of the Campo Santo corporation), years after the disaster displaced families started to occupy the abandoned land where the disaster occurred. Observing this situation, Joaquin felt motivated to preserve the memory of those that perished in the 1987 event. In the interview conducted with Joaquin in October 2016,

he narrated how the recovery of the area was endured: *"I had to confront many people in this neighbourhood in order to build what we have now. Nevertheless, I persisted with my project, otherwise that space would be full of invasions and the memory of the disaster would be lost, because the government was never interested in helping us preserve the area".* Joaquin's initiative involved the construction of a public space, productive lands, a small church and a sanctuary that was represented by a sculpture built by the community itself.



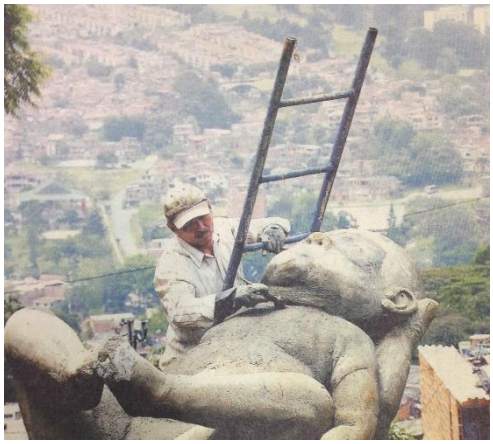


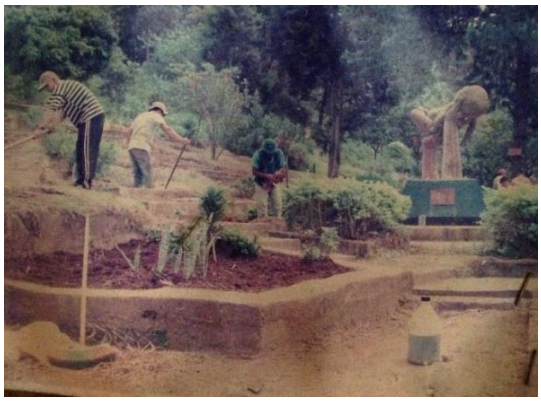
Figure 4-10. Church (Source: Newspaper El Mundo, 27th of September 2007)
Figure 4-11. Campo Santo sculpture (Source: Newspaper El Mundo, 27th of September 2007)

As soon as the place was transformed into a sanctuary, the community started participating in the creation of places for community interaction such as a church, and urban farming activities (Figures 4-12, 4-13). Several months later, the place was declared a holy field by a cardinal representative of the Catholic Church to honour the people that perished in the disaster. Today, this place is known as "Campo Santo" and is a distinctive landmark of the neighbourhood according to the focus groups participants*: "That area was always respected, and building was not allowed there because it was holy land".*

The protection and transformation of this place as a sanctuary demonstrates the capability of Villatina residents to create internal mobilisations to improve their built environment and preserve the history of the neighbourhood under the leadership of community activists. The preservation of that history was acknowledged by several participants of the focus groups, who highlighted how the Campo Santo is both, a reminder of the disaster and a manifestation of community union: *"For me the Campo Santo represents the memory of all the people that perished in the landslide. Many of them were close friends or acquaintances; it reminds me of those that on the day of the disaster I talked to in the morning, and after 2pm the same day, they were gone"* FG4-2.

Five years after the Campo Santo was built, the local government renovated the place. The project aimed to improve the terrain stability that was left in poor conditions after the disaster. Furthermore, ecology paths, an outdoor gym, and a multi-purpose place that replaced the old church were built. However, these changes in the Campo Santo were not always perceived positively by the community. Some participants noted that although the Campo Santo represents the memory of the disaster, after the intervention of the local government in 2010, the Campo Santo has been mainly used by drug gangs. Participant FG1-3 highlighted during the discussions that although the new facilities have improved the Campo Santo, the memory of the disaster represented in that space has been affected by the presence of drug gangs:

> *"Many people were motivated to help after the disaster to recover the place where disaster happened. Many of us planted trees, some people even got paid, the community union was evident. But now with the changes the government made, I don't see any use of the place for the community, it is only a place for drugs and gangs".* Similarly, participants FG1-4 and FG4-2 noted*: "It was a holy land which is supposedly for recreation but now is mainly for drugs consumption";* and *"I personally think that for the community it is important to remember the disaster, because it has a very deep meaning for us that cooperated after the disaster. Unfortunately, the memories seem to be vanishing because of* the new improvements".



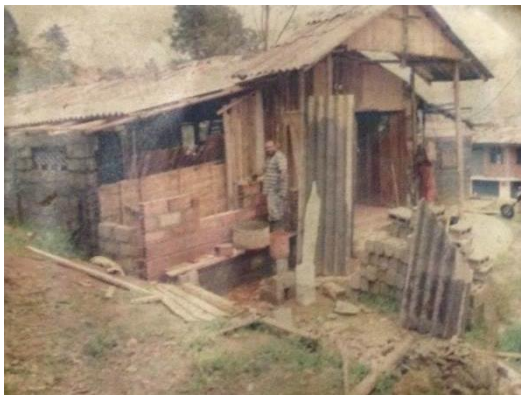


Figure 4-12. Construction of the Campo Santo by the community (Source: Joaquin Calle)
Figure 4-13. Chapel built by residents (Source: Joaquin Calle)

4.5.4 **Mechanisms of insurgent planning: Ground-up architecture**

Bottom-up processes in which disadvantaged communities initiate bottom-up actions to renew or transform the urban space were defined by Castells (1983) as 'paradoxical'. In his study conducted with Latin American low-income minorities in San Francisco that explored the bottom-up process of urban renewal, Castells found the experience of this community to be a '*paradox of a 'highly mobilized community' capable of achieving substantial changes in the urban and social level, while being totally unable to become politically influential in the local power system'* (Castells, 1983: 136). Castells found that when organised, disadvantaged

communities (in the case of his study highly discriminated poor Latin American minorities) can trigger powerful grassroots mobilisations in urban renewal projects with the support of external organisations (i.e. churches). These actions could be defined to be of a bottom-up or grassroots nature, since they are part of local collective action. Also, in the work of John Friedman (2011) these actions are identified as part of community movements that involve local external interactions for the achievement of a common goal. For instance, in Castells' case study it was found that the collective actions of the community in San Francisco helped to improve the urban space while preserving the residents' cultural identity and history, which was the indirect consequence of a *'very dense network of community organization'* (Castells, 1983: 137). In a similar vein, the study conducted by Brown and Perkins (1992) in Yungay, Peru after a landslide in 1970 found that, out of necessity, residents of this community initiated their own process of reconstruction in direct opposition to the local government. With the aid of external organisations, residents of these settlements managed to create a community action process that helped them in the reconstruction process (Brown and Perkins, 1992: 299).

A similar situation was experienced in Villatina where the grassroots actions of the community in association with external institutions made possible the transformation of the built environment. During this process, both networks with external institutions and action of the community created different mechanisms of development of the built environment. In this study four of those mechanisms were identified: bottom-up interventions, mutual development, mixed interventions, and top-down ones.

The first mechanism in Villatina, the '*bottom-up'* interventions, were characterised by the action of grassroots social organisations (i.e. community leaders and residents) and were developed under the first level of networks (inside the community). Projects developed through this mechanism include the Sol de Oriente church, and the library. The second mechanism identified in Villatina categorised as a '*mutual development*' was found to be created under the second level of networks (i.e. contact with external organisations). Although the financial support depended on the external institutions, the community fully managed the resources that were donated and executed the projects by applying self-building strategies. Among the projects developed through mutual development were the community restaurant, houses, pedestrian paths and roads, community centre, Campo Santo, and football pitch. '*Mixed interventions'*, the third mechanism of development identified was found to have a direct input from the local government. In these interventions, existing infrastructure that was developed through either the first or the second mechanism

is upgraded or fully reformed by the local government, which retains the authority and responsibility over the place. An example is the Campo Santo that was originally built through mutual development; however, in 2010 the park was redesigned and renovated by the local government. Other interventions are for instance improvement of roads and transport infrastructure.

The last mechanism, categorised as *top down,* occurs when the government completely manages and executes the projects. Usually, in this type of mechanism community involvement is neglected and the government manages all the resources or designates private contractors. In Villatina, top-down developed projects were applied in main road infrastructure, public services, leisure parks, health centres, learning centres, and schools.

Table 4-2 presents the four mechanisms of development identified in Villatina after the disaster. This information is complemented by Table 4-3, which presents the different mechanisms of development applied after the disaster and integrates the actual situation of the neighbourhood and the mechanisms applied. To conclude this section a series of before and present images are provided to explain each of the mechanisms with examples of real projects created in Villatina. The images that illustrate the past conditions were abstracted from secondary sources (i.e. official archives: newspapers and books) while the present conditions images were taken during field work (i.e. walking tour) conducted on the 8th of August 2016 (see Chapter 3, Section 3.4.1).

Figures 4-14 and 4-15, depict the Church Sol de Oriente built through bottom-up mechanisms. An example of a mutual development is depicted in Figures 4-16 and 4-17 that show the improvement of a main pedestrian path in the neighbourhood built by the community. The Campo Santo built by the community in 2005 is depicted in Figure 4-18 as an example of a mixed intervention. Figure 4-19 shows the Campo Santo today after the intervention of the local government. Figures 4-20 and 4-21 provide an example of a mixed intervention found in the self-built houses. Top down intervention is depicted in Figures 4-22 and 4-23 that show the area before the project Tinajas recreation park was built by the government and the present conditions of the park.

Table 4-2. Mechanisms of transformation of the built environment in Villatina

Mechanism	Economic Relationship	Social Organisation	Strategy
Bottom up	Community	Grassroots actions	Community manages and finds the resources through different strategies (i.e. bingo,

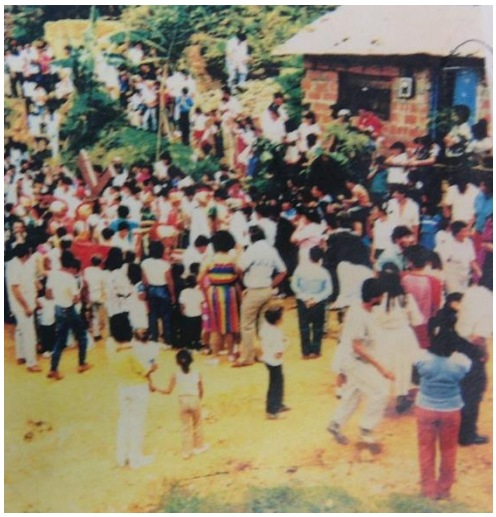
			selling food, events in the community)
Mutual Development	Community and external agents (i.e. private institutions, local institutions, politicians)	Grassroots actions, community leadership and management of resources	Community construction of infrastructure, financial support from external donors
Mixed	Community and local government	Projects initiated by the community and later improved by the local government	Combined approach: Bottom-up and mutual development with top-down approach
Top Down	Local government	Projects fully developed by the government	Management and execution of the projects controlled by the government, limited participation of the community

Table 4-3. Mechanisms of development after the disaster and today

After the disaster				Actual situation	
Place	**Mechanisms**	**Social organisation**	**Economic relationship**	**Exists today**	**Management of the place**
Church (campo Santo)	Bottom up	Grassroots actions	Community-government	Removed	
School upper part (disaster area)	Bottom up	Grassroots actions	Community-government	Removed	
Library	Bottom up	Grassroots actions	Community	Yes	Local government
Church (Sol de Oriente)	Bottom up	Grassroots actions	Community	Yes	Church and community
Houses	Mutual	External aid – self-development	Community-external institutions & government	Yes	Community
Community restaurant	Mutual	External aid – self-development	Community-external institutions & government	Yes	Church
Community centre	Mutual	External aid – self-development	Community-external institutions & government	Yes	Community-government
Football pitch	Mutual	External aid – self-development	Community-external institutions & government	Yes	Community-government (INDER)
Roads and pedestrian paths	Mixed	Grassroots actions	Community-Politicians (government)	Improved by the government	Local government
Public Services	Mixed	Grassroots actions – Institutions	Community-government	Improved by the government (EPM)	Local government
Transport	Mixed	Grassroots actions – Intervention of private institutions	Community-private sector	Yes	Private
Campo Santo park	Mixed	Grassroots actions – Institutions	Community-government	Improved by the government (EDU)	Local government
Learning Centres	Top-down	Local government (PPTs)	Local government	Improved by the government (UVA)	Local government
Leisure grounds	Top-down	Grassroots actions	Local government	Improved by the government	Local government

				(Tinajas, Morro Pan de Azucar)	

Bottom-up:




Figures 4-14, 4-15. Church Sol de Oriente, before and after (Source: Maria Victoria Zapata 1994, resident of Villatina contest: Write the history of your neighbourhood, organised by the local government).

Mutual:


Figures 4-16, 4-17. Pedestrian paths before and after improvement (Source: Maria Victoria Zapata)

Mixed:

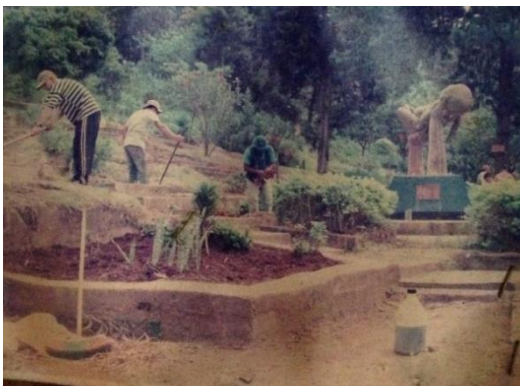



Figure 4-18. Campo Santo. Community building the Campo Santo (Source: Joaquin Calle); **Figure 4-19.** Campo Santo today after government intervention (Source: The Author)

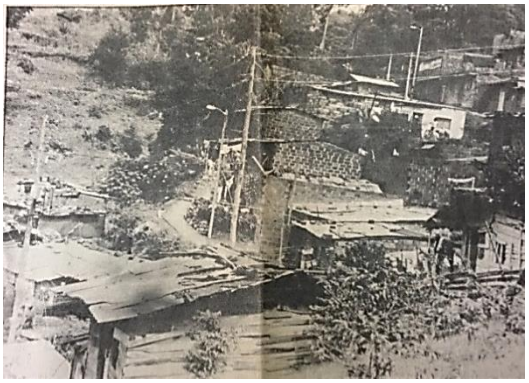



Figure 4-20. Houses before the disaster (Source: newspaper El Mundo, Oct 1994)
Figure 4-21. Houses today (Source: The Author)

Top-down:

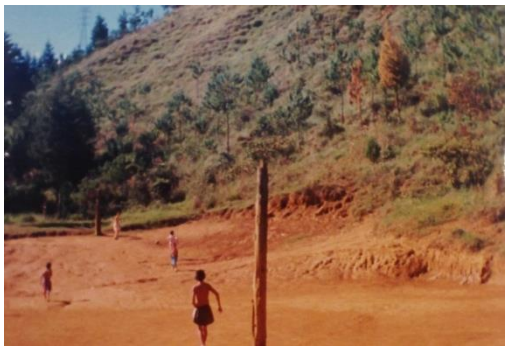



Figure 4-22. Tinajas la Torre before government intervention (Source: Maria Victoria Zapata)
Figure 4-23. Leisure park Tinajas la torre government intervention (Source: The Author)

4.6 The Need to Progress: Claiming the Right to the City

Studies investigating places created by activists in informal communities through grassroots actions are described as places that provide a sense of place, rootedness and safety (Anguelovski, 2013(a)). What motivates activists to protect their territory and find ways of creating safe places for the community is the strong place attachment for their territories; also, these places represent the resourcefulness of communities to overcome difficult situations of loss, grief, and fear (Anguelovski, 2013(b)). Furthermore, the need to progress has been recognised in resilience studies as a complement to self-improvement, and it is believed that in conjunction with place attachment work as spontaneous triggers to initiate a process of reconstruction (Paton and Johnston, 2001; Hilhorst, *et al.*, 2010). Extensively discussed in the work of Olsson et *al*. (2004, 2005), Walker *et al.* (2004) and Berkes and Ross, (2012), a process of reconstruction entails complementary active

behaviours of good leadership, trust between people, networks with external organisations, and organisational structures inside the community. Nevertheless, for these components to exist, a trigger of self-improvement is needed.

For instance, after the landslide, Villatina was left in extremely precarious conditions. The improvement of the neighbourhood was led by residents and activists that organised and found financial support to initiate the process of reconstruction and improvement of the built environment. During the focus groups it was identified that the participants constantly mentioned the progress of the neighbourhood after the disaster. In the views of some of the residents, the disaster became an opportunity for them to improve their living conditions, as participant FG1-5 attested: *"The disaster brought progress to the neighbourhood, because this was full of squatters, very poor. Now we have decent houses, beautiful, all built in materials, before we did not have asphalt roads, so definitely after the disaster it was all progress".* Similarly, some residents reflected on the idea of self-improvement, a component that was key to creating changes through community action. Participants FG6-1 and FG6-5 from focus group six shared their views: *"We also have to analyse what was positive after the disaster, because the reaction that the community had was very important, we realised that we could not stay in the misery we were living in, because we needed to react and improve our neighbourhood"; "I think residents had the need to improve their living conditions, they created an awareness that we couldn't live more in the same disadvantaged conditions".* Likewise, participants from focus groups FG3-3 and FG4-2 noted that after the disaster there was a strong community mobilisation to find financial support to improve their houses: *"after the disaster there a was a strong support among all of us, we started a mobilisation to find support, so we could improve our houses, we received construction materials, donations for instance";* and *"Before the disaster we were only just neighbours, but after the disaster we all were engaged in the process and willing to provide help. Definitely the disaster increased our level of solidarity, and union, that at the end gave us the motivations to build our houses and roads".*

A distinctive aspect constantly mentioned in the interviews and groups discussions was the need to improve their living conditions and change the image of the neighbourhood. Often, participants affirmed that after the disaster Villatina finally became visible; however not for the right reasons. Nevertheless, the aim to become a visible neighbourhood created enough motivation among residents to find support and improve the neighbourhood. Participant FG6-5 emphatically stated that after the disaster, residents of Villatina finally found the motivation to improve the bad image of the neighbourhood, which for years had

excluded them from local government attention: *"I think what really motivated the residents of Villatina to initiate the process of reconstruction was the need to change the image of misery that Medellin has always had of us. We wanted to be seen as real people, as warriors that have the intention to improve. We are not the squatters' people or the hovels residents; we are a normal neighbourhood, perhaps even much better that many neighbourhoods in this city".* Likewise, participant FG5-1 asserted that Villatina was a forgotten neighbourhood with only a few houses, the rest were hovels: *"I think one of the most important things after the disaster was that Villatina was finally recognised as a neighbourhood, because before we were totally forgotten. Only a few houses in appropriate construction materials were around. Due to the lack of infrastructure, in the rainy seasons mud was the only thing we could see. But when the disaster happened everything started to change, and we became visible, and help started to arrive".*

Participant FG2-1 was more critical about the process and reflected on the abandonment by the local government, claiming that catastrophes such as the one that occurred in 1987 should not have had to happen in order to receive support from the government. She claimed*: "It is unfortunate but disasters have to happen in these areas in order to create progress, it is quite unfair, and actually it is sad, but the government does not want to recognise many of the vulnerable groups that live in low-income neighbourhoods, because they don't care, so a disaster or a tragedy needs to happen in these communities to finally get the government's attention and they realise that we exist".* The reflection was oriented towards the long history of segregation that residents of informal neighbourhoods have been subjected to, and although Villatina became visible to the government after the disaster, there are still hundreds of families that live in precarious conditions that are totally forgotten by the local government.

4.7 Present time: The Role of Place Attachment and Community Attachment to Overcome Violence and Recover from the Disaster

Although the Campo Santo created a new sense of place, violence in the rest of the neighbourhood did not cease. In fact, new modes of violence started to emerge, and drug gangs took control over the illicit activities operated by the M-19. This caused fear, more segregation, and hundreds of innocent victims caught in crossfires. Between 2003 and 2015 the Medellin Secretary of Government and the Personeria of Medellin reported a total of 731 casualties in the Comuna 8, with an average of 81 violent deaths per year; Table 4-4 illustrates the numbers of violent deaths per year. In the study conducted by Jaramillo and

Gonzales (2012:24), it was found that Villatina was among the neighbourhoods in sector 8 with the highest homicide rates in the city.

Table 4-4. Violent deaths in Comuna 8 (sector 8) 2001 to2015

Year	Number of Deaths
2001	132
2002	141
2003	117
2004	52
2005	47
2006	39
2007	47
2008	59
2009	126
2010	120
2011	124
2012	110
2013	59
2014	32
2015	22
Total	1227

Collated from sources Gil, 2010: 66; Ramirez, 2008:103; Seguridad por Comunas Observatorio de Políticas Públicas de Medellín)

The investment in urban development in the city centre and other wealthy areas contrasted with the marginalised illegal settlements. For decades, residents of these settlements were subjugated to the internal conflicts caused by rebel groups, which took control over illegal activities (i.e. drug trafficking). The intra-civil war between rebel groups and gangs created what is known as *invisible borders* (Riaño-Alcala, 2002: 276). This term refers specifically to the demarcation of the territory inside the neighbourhoods between gangs. The communities were restricted by gangs to cross over different boarders (Riaño-Alcala, 2002: 277). The intimidation that these criminal groups imposed upon slum residents divided the territory into regions of fear in which the community was unable to act. Nevertheless, the extremely violent conditions of the neighbourhood in conjunction with the process of reconstruction created two emotional factors identified as 'place attachment', and 'community attachment' that helped the residents to remain safe from violence in the neighbourhood.

Literature on resilient communities integrates *place attachment* within the dimension of sense of community (Norris *et al.,* 2008), and it is counted as one of the most important components in the process of recovery after a natural disaster (Gaillard, 2007). The importance of place attachment primarily lies in the emotional connection of residents with the 'place' or neighbourhood that ultimately could motivate the community members to participate in the process of reconstruction of the built environment (Norris *et al.,* 2008). Gaillard (2007) and Cutter *et al.* (2008) asserted that the emotional bounds created with a

place can encourage actions among individuals to help in the recovery process after a disaster. The emotional interconnectedness with the place and the influence of emotions in people's behaviours has been extensively discussed in urban and place theories in urban informal settlements. It is believed that in the case of these settlements, the neighbourhoods are mainly self-built (Castells, 1983), which is believed to promote feelings of place connectedness or place attachment. In the case of natural disasters, in some cases – for instance Villatina – the process of reconstruction is driven by the residents, whose initiatives are supported by external aid and are part of the internal mobilisation of the communities that is ultimately influenced by their place attachment towards their neighbourhood.

In addition, place attachment has been identified as inherently interconnected with *community attachment*, specifically when the same group of people experience similar adversities (Scannell and Gifford, 2010). According to Woldoff (2002) people develop place attachment according to the level of social interactions that occur in the place. This idea grounded in Lalli's (1992) arguments poses the discussion of place attachment as a symbolic construction that happens as far as social bonds are created, which are dependent on the level of interaction in a specific place. In the long term according to Lalli, it is believed that place attachment evolves as a social construction and entails attachment to the social group that the place represents. Garcia *et al.* (1999: 731), affirmed that shared emotional connections with a place are manifested in the way people celebrate their history and achievements and unite through difficult situations. In addition, Cox and Holmes (2000) identified that place and community attachment promote healing behaviours and increases the probability of communities to rebuild after disasters, unlike some cases where a disaster could become a serious disruption to place attachment. According to Manzo and Perkins (2006), in some cases, a disaster could strengthen the attachment to place and neighbours who, in adverse situations, initiate processes of revitalisation or reconstruction.

Villatina residents have overcome what has been identified by scholars as place attachment disruptions that can be caused by natural disasters and geographic relocations (Brown and Perkins, 1992); for instance, the landslide in 1987 clearly constituted a form of disruption in the community's place attachment since it included the loss of lives and material possessions (Brown and Perkins, 1992: 291). According to Brown and Perkins (1992) in some cases, residents that experience a disaster channel their anxieties into '*community action*' that helps them to create a stronger sense of attachment towards their neighbourhood. According to focus groups participants, their sense of place attachment was strengthened after the disaster mainly because of the cooperation of the community and

determination to remain in the neighbourhood. Participant FG4-1 stated in the group's discussions: *"I think the attachment to this neighbourhood is more represented in the community union and action, because we have supported each other through the process, so we started creating strategies and mobilising so we could improve our houses, because in that time we lived in hovels".*

The improvement of the built environment after the disaster had a strong foundation in the place attachment that Villatina residents developed after the tragedy. Participant FG5-2 in focus group five attested to having strengthened her place connection after the event: *"My sense of attachment to this place is stronger than before, and now even more. Because we have been leaders in the community, we belong to different groups here to improve not only the infrastructure of the neighbourhood, but also the lifestyle of people. We have learnt how to be more tolerant and to educate ourselves".* This was ratified by participant FG5-3 who asserted that: *"My attachment stays, and I think is the same for us that witnessed the disaster and we suffered together, because we lived all that process together, we have fought for this neighbourhood, our attachment and belonging is very strong. But for those people that come from other parts of the country they do not have respect for this place".* Likewise, participant FG6-5 also manifested that the disaster strengthened her sense of attachment: *"I love this neighbourhood, and I feel much attached to it, even more after the disaster because we survived that tragedy, and now we have made so much progress, and all that progress is the consequence of our love for this place, and effort".* Participant FG6-1 explained that there is an emotional connection towards the neighbourhood that has helped them overcome diverse situations: *"We have gone through many things; almost everything has happened to us, extreme violence, a disaster, drug gangs, and we are still here because we love our houses and our neighbourhood".*

Participant FG4-3 explained that her sense of place attachment has been largely influenced by her constant action and contribution to improve the lives of Villatina residents: *"We have a group that has been active for more than 10 years. We help more than 150 children, we help pregnant women as well, and this is the same community, we manage everything, we create the project and we find the resources to make it happen, so personally, my attachment to this place is very strong".* Likewise, it was manifested by focus groups participants that the disaster definitely helped them to create special bonds with neighbours who, after the landslide, gathered together in order to create positive changes in the neighbourhood: *"I think after a disaster like the one in 1987, you start creating more attachment for this place and for the community and you feel so fulfilled when you fight for*

*something and finally you get the resources to help your people in the community. It is the greatest satisfaction, to bring progress to the community and for those that need it the most" (*FG4-2).

As previously mentioned, it was found that the level of place attachment of Villatina residents was proportional with the level of community attachment; in other words, one influences the other, as noted by participants FG4-4, and FG3-3:

> *"If somebody offers me a house in the richest area of the city, I simply wouldn't go. I would not leave Villatina, because of the people, the community, my children, and I don't want to live in any other place I know everyone here, good, bad, whatever they are, but for no reason I will leave this place";* and *"I think that our place attachment has transformed. From one side we have had more community union, and we have supported each other, so we started mobilising resources to finally build our houses".*

The multiple events that have reinforced the place attachment of residents (i.e. the landslide, civil war, and mafias) have forced residents to develop different strategies of adaptation in order to improve their living conditions and on some occasions to safeguard their life. Through this process of adaption, stronger bonds with the community members have reinforced the social support and union among them, suggesting once more that place attachment in Villatina is not an individual construct. Instead it is a community construct, where 'place' is essentially valued according to the community's shared experiences that reinforce and create place attachment (Hunter, 1974). Participant FG6-3 claimed:

> *"Why do I love this neighbourhood and why do I feel so attached to it? Because of the people, here everyone is beautiful because I live alone and I have very low economic resources and no incomes, but my neighbours are so good that I never go to bed feeling hungry, they always help me".*

This sense of familiarity and community attachment was found to be grounded in the strong sense of cooperation created after the disaster that has remained until the present day. In further discussions in the focus groups, the participants asserted that in difficult situations, regardless of the internal social disagreements between neighbours – that occasionally occur – the priority for residents is to help each other when facing difficulties:

> *"I believe that the most important thing in this neighbourhood is the community support and cooperation, because above all the social conflicts that we have had, we have great human quality here. The warmth that the members of the community give to each other, the support and help when any disaster occurs here. If someone here needs something I am here, this is our community"* (FG2-1); *"In Villatina, if something happens to anyone the community always remains together. Out of all the bad things that had happened to us, I think the union of all of us is the most important thing"* (FG5-1); *"Whatever happens here, first is the community, after the institutions might come, but when something happens here the community is the first one to react"* (FG2- 6); *"It is very important to look after*

each other constantly, if something happens to my neighbours everyone needs to help, that's community cooperation" (FG4-4); *"I think we have fought together to overcome many difficult situations, but for me all of that stuff doesn't matter, as far as we keep ourselves together, soon all the risks we are exposed to will subside"* (FG1-3).

According to participants FG6-2 and FG6-5, the cooperation between neighbours is vital to survive in a neighbourhood like Villatina, which is constantly changing and is heavily affected by extreme violence: *"If I see that somebody is in danger I will try to save him, because that is what I expect from the others, we look after each other in order to survive in this neighbourhood";* and *"I think one of the most important things in a neighbourhood like this is to have a sense of protection and cooperation towards our neighbours, because for example if something happens to my friend's daughter, everyone will try to help her. I would say that you take care of me and I will take care of you and your family – that is love for this community".* Additionally, participant FG4-3 asserted that in order to survive a disaster and live in a neighbourhood like Villatina, the key is to learn to live in community, as she noted:

"*A key aspect in a neighbourhood like Villatina is to live in community; in other words, to learn to live in community in order to adapt to any event, including disasters and violence. Because if you don't learn to live in community in a neighbourhood like this, you will encounter many troubles."*

4.7.1 **A Community attachment that remains in time**

To understand if the place attachment of Villatina residents is associated with the level of community attachment, survey 2 conducted in September 2017 (see Chapter 3, Section 3.7) included an open-ended question that asked residents to specify whether they would like to remain in the neighbourhood or move and the reasons associated with their answer. The responses showed that 48% (N=72) of the respondents would not move out from the neighbourhood, against 52% (N=77). The analysis of the data was facilitated through content analysis performed in the data management analysis software NVivo Pro 11. In accordance with the frequency of the responses and topics, the data were divided in two groups: reasons to remain in the neighbourhood, and reasons to move. The responses were analysed applying a content analysis principle were similar responses were grouped into four nodes: community attachment, family, happy in the neighbourhood, and own house. The second nodes form the second group were: better well-being, change environment and meet new people, live in the countryside, feel at risk of another disaster, and unsafe due to violence. The results showed that for the group of people that stated they would like to stay in the

neighbourhood, the reasons were associated with community attachment (49%), feeling happy in the neighbourhood (28%), stay because they own their house and it looks beautiful (16%), and 8% because family and relatives reside in the neighborhood (see Figure 4-24). For the group of people that want to move from the neighbourhood the main reasons were associated with wanting to change environment and meet new people accounting for 37% of responses; 33% of respondents are afraid that another disaster could occur and feel they are living at risk; 16% feel unsafe due to violence and crime; 10% said that they want better well-being, and only 4% would like to move to the countryside (see Figure 4-25).

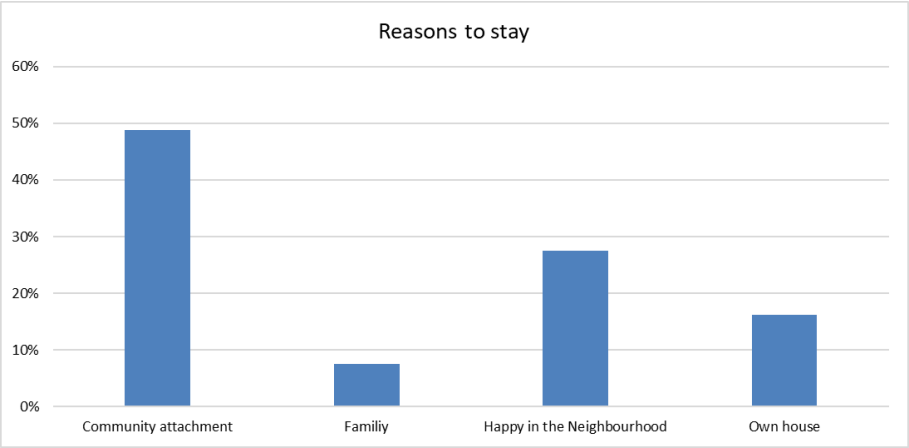


Figure 4-24. Reasons to stay in the neighbourhood

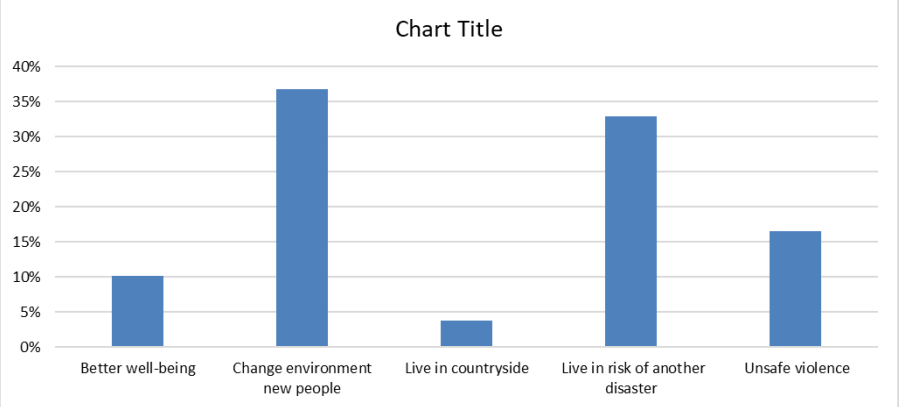


Figure 4-25. Reasons to move from the neighbourhood

For the respondents that want to stay in the neighbourhood the reasons were associated with community attachment. This type of attachment – as manifested in the open-ended questions and focus groups – was linked with the strong solidarity, collaboration, and long friendships that motivated residents to identify with the community as a family: *"I feel very well here, I feel as if everyone was part of my family"* (Participant 51– Survey September 2017).

According to focus group responses, the familiarity created among neighbours was heavily reinforced in the process of reconstruction after the disaster, which involved active

engagement of residents to self-build their houses: *"I feel very attached to the neighbourhood after the reconstruction process"* (Participant 82 – Survey September 2017). It is important to note that, in Villatina, the process of house self-building after the disaster was not supported by the local government. The aid provided came from independent institutions that was given in construction materials; however, the management of this process was fully administered by the community through collective self-building (see Section 4.5.2.1).

4.8 Double Disaster Exposure: Villatina Today

The responses given by the group of people that expressed a preference to move out of the neighbourhood (i.e. risk of violence, natural disasters, wish to improve their well-being, and wish to improve their life conditions) reveal that residents continue to feel threatened by violence and landslides. These responses coincide with the views of the focus groups participants who reported feeling deeply attached to the neighbourhood. However, the extreme violence in the neighbourhood remains, and poses a threat for all the residents: *"I love my neighbourhood and people, but Villatina is not a good place now, although I raised up my daughters and thanks to God, they are good people now, but the social conflicts here make very difficult to live here. The problems here are very serious, it is very complicated"* (WI-1).

Furthermore, it was identified that drug gangs have taken possession of empty areas across the neighbourhood (i.e. usually heavily exposed to landslides) in order to sell them as building plots. This has caused more deforestation and exposure to natural hazards. Nevertheless, the community has felt abandoned by the government that has ignored the situation despite the multiple reports made by the community.

> *"We know that the biggest problem in this neighbourhood is crime and insecurity, and this is amplifying the vulnerability of this neighbourhood, because the gangs are selling lots in high-risk zones, and they are creating a business out of it, and the cost is more deforestation, and more people living in risky conditions. The question is; where is the government? The community cannot deal with this situation alone, the gangs we are talking about have an arsenal with them. In Villatina we have youngsters that silence people with arms. I have been threatened by gangs, because I have protested against the illegal sale of lots, but it is not easy if the government does not support us"* (Community leader workshop Villatina week, October 2016).

The survey asked residents to identify to what extent violence and crime caused by drugs selling, natural disasters, and extreme poverty posed a threat to the residents today. The answers revealed that the four factors were considered threats in Villatina, with answers

ranging from 1.11 to 3.22 (1 referring to strongly agree and 7 to strongly disagree) (see Table 4-5). This confirms that in Villatina the double exposure to disasters posed by violence and geological hazards continues to the present day.

Table 4-5. Biggest threats in Villatina in the present day: mean, median and standard deviation

Biggest threat	Mean (N=155)	Median	SD
Violence and Crime	3.22	3	2.53
Drugs	1.11	1	0.58
Natural Disasters	2.84	3	1.85
Extreme poverty	2.32	2	1.20

Range scale 1 “strongly agree”, 7 “Strongly disagree”

In 2007 the government initiated the program denominated PUI – Integral Urban Plans (Planes Urbanos Integrales) that aimed to fight extreme violence in the slums by providing adequate infrastructure facilities, transport, education, and leisure centres. Nevertheless, according to the reports released by the INML, SIJIN, CTI, SISC - Secretaría de Seguridad de Medellín como observador técnico) between 2009 and 2012 the number of deaths nearly doubled the rates in 2007 (see Table 4-4). This situation according to the sentence emitted by the Fiscalia in September 2016: Sentencia Comandos Armados del Pueblo (CAP) septiembre 09 de 2016 (República de Colombia Rama Judicial del Poder Público. Tribunal Superior de Medellín Sala Justicia y Paz) could be associated with the expansion of drug gangs that took over illicit activities. During this period, all the multiple actors in the conflict: guerrilla, paramilitares, gangs, combos, assassins, and all the urban illegal crime actors confront each other, generating new forms of violence (i.e. territorial control in informal settlements to protect drugs routes).

Drastic changes were reported between the years 2013 and 2015 with nearly 83% decrease in violent deaths in the Comuna 8. This could be explained by the multiple interventions of the municipality in the sector. For instance, the Tinajas eco-park was finished in 2014 and included the ‘Camino de la Vida’ (The Life Path), which connected the Campo Santo, Tinajas park and the Pan de Azucar hill in a project denominated: Jardin Circumvalar (the Green Belt). Additionally, the Empresas Públicas de Medellin (EPM – Medellin public enterprises) in association with the Empresa de Desarrollo Urbano (EDU – urban development enterprise) and the Instituto de Deportes y Recreación de Medellin (INDER - institute of sports and recreation of Medellin) built a series of projects in the comuna 8 denominated ‘Unidad de Vida Articulada’ (UVA – articulated life units). These projects aimed

to provide modern buildings facilities to promote community participation, culture and leisure. In 2014 two UVAs were built in Villatina: UVA Sol de Oriente and UVA el Tanque. Additionally, security strategies were reinforced by the location of a police station based at the north part of the sector (ACI, 2011).

The projects built in Villatina by the EDU implemented strategies of citizen participation at the design level through participatory design strategies denominated in this study as: PDS (i.e., architects and community working together). However, despite these interventions, and that recent statistical studies have reported a decrease in violent deaths in the sector 8 (comuna 8) (see Table 4-4), further studies have shown that even after PDS projects are built, violence and crime continue to be major problems in the comuna 8. For instance, between 2007 and 2015 nearly 2992 robbery crimes were reported, 486 sexual attacks, and 46 cases of extortion (see Table 4-6).

Table 4-6. Crime in Comuna 8 (sector 8) 2003 to2015

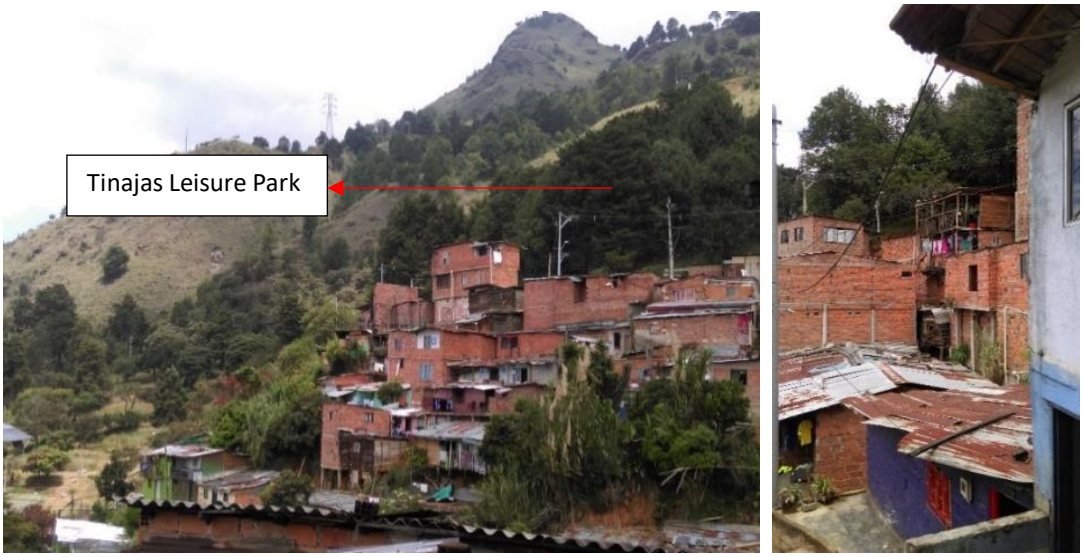
Year	Robbery	Rape	Extortion
2003	496	0	-
2004	386	0	-
2005	292	2	-
2006	231	1	2
2007	215	4	1
2008	221	7	3
2009	375	10	1
2010	165	56	1
2011	318	70	1
2012	395	87	7
2013	453	83	15
2014	379	84	12
2015	471	85	5
Total	4397	496	48

Source consulted: Seguridad por Comunas Observatorio de Políticas Públicas de Medellín

Table 4-6 shows that robbery continues to be a problem in the Comuna 8. Between the years 2003 and 2009 a total of 2216 cases were reported. A substantial decrease was reported in 2010 with only 165 cases. Nevertheless, from 2010 to 2015, an upward trend in robbery left a total of 2016 cases between those years. On the other hand, the cases of rape dramatically increased from zero cases reported in 2003 and 2004 to 84 rape cases in 2015. Similarly, cases of extortion were not reported for the years 2003, 2004, and 2005; however, from 2006 to 2014 a total of 43 cases were reported. The behaviour of crimes occurring in Medellin informal settlements in that period, according to Insuasty et al (2010) has its roots in the micro-territorial dynamics of neighbourhood disputes, which were heavily influenced by the dynamics of the regional conflict. In the study conducted by Insuasty et al (2010) that

examines the evolution of violence in the city of Medellin, it was identified that the peace pacts between criminal gangs and the government do not fully eradicate violent attacks. This according to Insuasty et al, is due to the absence of control that restricts stages of hegemonic control. Therefore, the structure and scope of crime in these settlements are '*dynamic constantly vary according to each of the new circumstances*' (Insuasty et al, 2010: 131). In other words, crime in these neighbourhoods is constantly changing in accordance with the social dynamics in the neighbourhoods.

According to the Medellin POT (POT, 2014), Villatina is among the most exposed areas to landslides in the city. It is estimated that nearly 150 landslides are reported per year in Villatina (Sistema de Información de Gestión del Riesgo, 2018). During the field work, several highly urbanised areas were identified to be exposed to natural hazards. Interestingly, some of the projects developed by the government (PUI) were located in the proximities of these areas. Figures 4-26, 4-27 and 4-28 show a collection of houses heavily exposed to landslides with severe infrastructural deterioration located next to the Leisure Park Tinajas. This park is part of the project denominated as 'Green Belt' (Cinturon Verde) that aimed to stop the proliferation of slums (EDU, 2010). A similar situation was found at the East of Villatina that showed houses heavily exposed to landslides using inadequate construction materials, which were located next to the leisure centre UVA del Tanque (see Figures 4-29, 4-30 and 4-31).



Figures 4-26, 4-27. Houses located at risk of landslides. (Source: The author)

Figure 4-28. Entrance to Tinajas leisure Park. (Source: The author)

Figure 4-29. UVA (Unidad de Vida Articulada – Local Government Project). (Source: The author)

Figure 4-30, Figure 4-31. Houses located next to UVA. (Source: The author)

Villatina residents reported to live in fear, which is caused by the drug gangs that continue to operate in the neighbourhoods. Additionally, the exposure to landslides has intensified in the last years, as more houses are presenting severe infrastructural deteriorations. This was described in the interviews by a community leader as a fragmented development: *"It is very polemic when you think about how the government works. Everything looks so disarticulated. For example, all the process of transformation of the built environment initiated a decade ago is not as wonderful as it looks like. The government came and built parks, leisure centres, etc., but what is happening with the real problems of the community? Most houses in this neighbourhood are built in high-risk zones, and the government is not doing anything to help us solve this; on the contrary, they are legalising houses located in risk areas"* (Interview community leader 19-Oct-2016).

4.9 **Discussion: Unveiling Resilience in Villatina**

Different scenarios have been unveiled through the examination of the history of development of Villatina and its present conditions. Firstly, it was evident that the community developed strategies grounded in community action in order to initiate the process of reconstruction after the disaster. It was found that the necessity for progress and abandonment of the government motivated the community leaders to create grassroots strategies to improve their life conditions. Nevertheless, the residents were confronted with the eviction campaigns operated by the municipality that led to the creation of insurgent strategies to defend the territory and remain in the neighbourhood (Castells, 1983; Holston, 1995; 2008). For this, the community created different levels of networks that helped them to remain in the neighbourhood and to find financial resources to rebuild their houses. The networks were found to be fundamental in the process of reconstruction, and in addition they acted as vehicles to create place attachment and community attachment (Chanan and Vos, 1990; Brown and Perkins, 1992). These emotional factors were triggers in the community to defend the area where the disaster occurred from illegal invasions of displaced families. The outcome was the creation of the Campo Santo Memorial Park, a place that was built by the community with the support of key leaders.

In her work, Miraftab (2009) defined the organised actions of informal communities to fight for their neighbourhood against evictions or injustices as *invited and invented spaces of citizenship.* In the *invited* places the community self-organises and creates internal networks to protest against the government, while the *invented* spaces form when the networks go beyond the boundaries of the community and integrate external institutions to support their

fights (Miraftab, 2009). In Villatina these two spaces were created during the reconstruction of the neighbourhood to fight against evictions, displacement, and violence. Nevertheless, in Villatina, these 'spaces' were translated into grassroots-architecture, as proven with the construction of the Campo Santo and houses through self-building strategies. According to Anguelovski (2013 (a)), the process of transformation of the built environment led by community activists strengthens community ties and more importantly creates a connection with the places that rests on the residents' history, identity and shared experiences of disruption (Anguelovski, 2013 (a): 233). Similarly, Scannell and Gifford (2010) and Woldoff (2002) asserted that after traumatic experiences shared by a group of people such as a disaster or surviving extreme violence, the sense of community as well as the place attachment is stronger. In fact, it is the place attachment that provides residents a restorative feeling to overcome the trauma (Agyeman, 2009; Sampson and Gifford, 2010).

In this line of ideas, the grassroots places created by Villatina residents after the 1987 disaster could be considered as reference points of place attachment for this community. Additionally, these grassroots places manifest the capacity of cooperation and leadership of this community. In fact, it has been argued that the place attachment that is triggered by extreme experiences (i.e. loss, grief, exclusion, etc) could act as a motivation for people to engage in environmental revitalisation (Anguelovski, 2013 (b): 12). This, in turn, could generate a unique healing process in which broken places are re-built as a way of fighting against loss, violence or traumatic experiences. In other words, these places represent a process of resilience (Anguelovski, 2013 (b): 12).

Complementary to this, it was found that the insurgent movements also generated community grassroots strategies of place development after the disaster. This was possible through the community actions that took place during the post-disaster reconstruction process, which was defined by a fusion of networks inside and outside the community (Castells, 1983; Friedmann 1987; Brown and Perkins, 1992). Through the inspection of the process of reconstruction and the actions led by the community, it was possible to identify the four mechanisms of development that were used to rebuild the neighbourhood after the disaster: *bottom-up, mutual, mixed*, and *top-down*. The first three mechanisms were the channels of improvement after the disaster and entailed community involvement, self-management, and self-building. The last mechanism – widely used in the last decade by the government – refers to the intervention of the local government and execution of projects without the participation of the community. According to Burgess (1977) the renovation of the built environment in informal settlements is mainly classified into three sets of

operation: *'planning', 'construction' and 'management'- in which three sets of actors are involved: users (popular sector), suppliers (private commercial sector), and regulators (public sector and government).* These three actors have specific interests, for instance *'use-values'* for users, *'profit maximization'* for the private sector, and *'mantainance of the public order and authority'* for the government (Burgess, 1977: 53). To understand on what basis these actors behave, Burgess developed his claims upon the idea of the systems of operation that govern societies to explain the overlying rules in which these actors conform to. Two systems are explained by Burgess: the first refers to the *'bureaucratic, heteronomous systems'* which are based on *'hierarchical structures and centralised technology'.* In other words, these systems depend on the market demands and introduce standardised models. On the other side are the *"autonomous systems or locally self-governing"* (Burgess, 1977: 53). These systems commonly produce low-cost and high-use things of value that are heavily customised according to user needs and could be considered sustainable, since they are locally made by the same residents. According to these definitions, it could be argued that Villatina aspires to a "*locally self-governing or autonomous system".* However, it could be said that the process of reconstruction, as part of an autonomous system, at the same time integrated actors that perform under the first system (*bureaucratic, heteronomous systems*) to provide the financial resources. These were the private sector and the local government. Nevertheless, the '*planning', 'construction' and 'management*' were fully part of the bottom-up actions of the community. In other words, Villatina residents were the social activists of their own environment – this according to Fernandes (1995) recreates a new and parallel political process that is unique among residents of informal settlements.

4.9.1 **Double disaster**

It has been argued that 'war' should be considered as another type of disaster since there are associated factors along the social spectrum that coincide with the actual definition of a disaster (Wisner *et al.,* 2004). Cunny (1994) defines a disaster as a major disturbance in people's environment, which causes important psychological stress and demands mental and physical reorganisations. In Cunny's work, disasters are categorised as 'natural hazards', and hazards. The former refers to the disasters that have natural origin (e.g., earthquakes, landslides, floods, etc); the second are associated with the factors that might trigger a disaster, and are commonly caused by man (Cuny, 1994: 21). In this sense, hazards are directly impacted by social activities; for instance, illegal settlement of communities in highly disaster-prone areas could increase the vulnerability to landslides through land clearance and deforestation. Nevertheless, positioning the subject of hazards as a consequence of

social dynamics at the same time introduces different levels of complexity, in which different political factors are directly involved. This for instance is seen in cases when the 'hazards' are the indirect outcomes of political dynamics such as a civil war that forces a population to displace and settle in disaster prone areas (Brand, 2001). In these cases, according to Wisner *et al.* (2004), the environmental degradation caused by the illegal settlement process intensifies the risk of disasters. However, in the Medellin context, these are not the only threat. In fact, Wisner and colleagues claim that in Colombia the civil war has been the major trigger of 'hazards' that have caused multiple disasters in urban slums (Wisner *et al.,* 2004: 24). On this point however, Ventura-Velazquez *et al.* (2009) advise that it is of paramount importance to differentiate between the disasters that are part of geological or hydrological phenomena (e.g., landslides, floods, etc.), which are exacerbated by human practices (e.g., deforestation, badly built structures, etc.), and wars that are also another type of disaster (Peña-Galban *et al.,* 2007).

According to Peña-Galban *et al.* (2007) a war is considered another type of disaster since it generates *'great human suffering affecting the physical and mental health of the population'* as well as contamination or destruction of the natural and built environment. A war, as well as natural disasters, creates great mental disturbances and stress. In other words, *'a war constitutes a real disaster, an emergency or a chaos caused by man, which determines a total disorganization of the whole society, affecting it from all points of view'* (Peña-Galban et al., 2007). In Villatina the effects of the civil war were strongly felt. The formation of organised urban militias that operated in the neighbourhood and criminal drug gangs could be also considered part of the long internal conflict unleashed by the civil war in Colombia. As a result, residents of Villatina have lived and evolved in the middle of conflicts and extreme violence, creating in the residents a perception of double disaster exposure to violence and geological hazards.

There are different levels of violence that were identified in this chapter. The first level was caused by the rebel groups M-19 and Paramilitares that operated in the neighbourhood between 1960 and 1993. During this period multiple attacks between those groups and the police caused several casualties, complicating even more the process of recovery after the disaster. The second mode of violence has its roots in the historical segregation and abandonment of informal communities in Medellin by the local government, which was manifested in brutal eviction campaigns. The third mode of violence was due to the formation of drug gangs led by Pablo Escobar that have operated in Villatina and other neighbourhoods in Medellin for over 30 years until the present day. After the death of Pablo

Escobar, violence intensified in Villatina (Insuasty *et al.,* 2010: 46), since multiple drug gangs were formed and started creating boundaries inside the neighbourhood that restricted the transit of residents in the urban space (Riaño-Alcala, 2002). This phenomenon has continued to the present day and manifests in another form of violence that affects the free transit of residents. In fact, Doyle's (2016) study found that although there is a reduction in the experience of serious types of violence (i.e. homicides), the perpetrators of violence have not disappeared, Instead, '*they have remained and restructured*' (Doyle, 2016: 13).

The fourth level of violence that severely impacted Villatina residents was perpetuated by the police that on multiple occasions abused and killed innocent residents (Insuasty *et al.,* 2010). This was clearly portrayed in the Villatina massacre in 1992. Another event that unfortunately generated more violence in Villatina and caused more exposure to landslides was the massive migration of displaced families during 1990 until 2011. These families have settled in prone disaster areas increasing the threat of further landslides. This shows the patterns of illegal occupation of Villatina that during the civil war was populated by migrant families displaced by war. Today, Villatina is among the most exposed settlements in the city to landslides (POT, 2014: 637); however, the causes might be clearly linked with the process of illegal occupation since 1990.

It was also revealed that despite the great investment of the local government in PUI projects, the exposure to landslides persists. New forms of violence that have emerged in the last years seem to be reinforcing landslide exposure (i.e. drug gangs illegally selling empty areas located in high-risk areas). The severe impacts of the armed conflict in the neighbourhood has intensified the vulnerable conditions of the residents who, despite finding strategies of protection grounded in community attachment and cooperation, continue to be extremely exposed to violence.

4.10 **Summary**

This chapter presented an investigation of the social conditions and process of reconstruction of Villatina neighbourhood after the disaster in 1987. It was found that residents created unique mechanisms of community resilience that were grounded in community activism and insurgent planning. The opposing force of the residents against the government after the disaster gave rise to exceptional movements of resistance, suggesting that residents of this settlement developed their own spaces of contestation where new political dynamics grounded in community cooperation and community attachment

emerged. Figure 4-32 presents a graphical summary of the chapter that depicts the different levels of community resilience developed by Villatina residents during the reconstruction of the built environment.

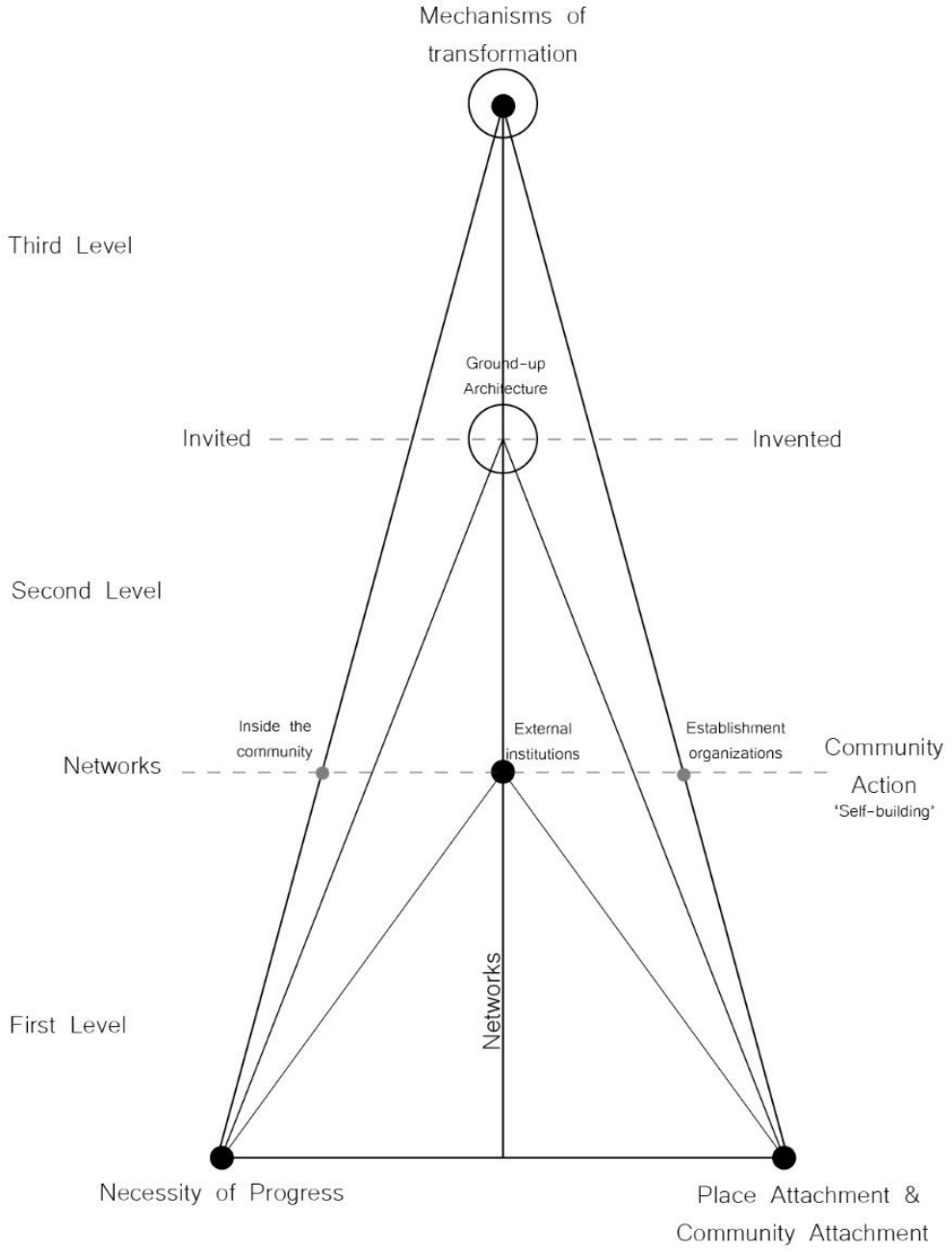


Figure 4-32. Illustration of the community resilience main moments developed by Villatina residents during the process of post-disaster reconstruction

The first level includes the most relevant social resilience components developed after the disaster that created community activism among residents (i.e. place attachment, community attachment, and necessity of progress). The second level includes the community

action, grassroots strategies of place development and the three levels of networks created to start the reconstruction process (i.e., networks inside the community, networks with external institutions, and formal establishment of local organizations). Self-building was identified as the main mechanism used to rebuild the neighbourhood; it was found that the community was engaged in a cohesive self-building process that might have strengthened the place attachment and community attachment. The last level illustrates the conclusion of the process under the theme 'ground-up architecture' that refers to the places that were built through the previous stages of reconstruction.

To this point, the investigation has raised several questions. Have these resilience community dynamics remained after the integration of local strategies of participatory development in the slums promoted by the local government in 2007? To what extent can the top-down strategies that integrate citizen participation in the design process also promote resilience behaviours and empowerment in those that take part in the process? In short, what strategies of place development – bottom-up or top-down – could be considered the best solution for highly conflicted settlements with a strong history of violence and disasters?

To answer these questions, the next chapter investigates whether the intervention of the local government has integrated and recognised the bottom-up actions of the community in the process of development of top-down places. The discussion will be focused on analysing whether the strategies of participation applied by the government at the design level – which have been internationally praised – have indeed helped the communities to become more resilient and active in their neighbourhood.

5 Chapter Five: Participatory Design Strategies, an Era of Inclusion

5.1 Introduction

In the last decade, Medellin local government has promoted a number of strategies to encourage citizen participation in a range of initiatives. One of the most recognised strategy is the participation of slum residents in upgrading projects during the design stage of the projects. This participatory approach, also known as 'Social Urbanism" (Echeverri and Orsini, 2010), have been internationally recognised and have become references of good practice to other countries with similar problems of slum proliferation. Villatina for instance has greatly benefited from the intervention of the local government in the last decade. Some of the projects developed in the neighbourhood had implemented participatory design strategies (PDS) in order to promote social inclusion and empowerment. Among the projects built by the government was the renovation of the Campo Santo Memorial Park, which was built by the community after the disaster and has been recognised internationally after the intervention of the municipality in 2010 (EDU, 2010). While the PDS have been recognised internationally, in-depth longitudinal studies that examine whether community empowerment could be created without the government's intervention has not been conducted. Taking a critical view, this chapter explores the successes of the PDS as a form of top-down intervention that promotes citizen empowerment or otherwise. To achieve this, the researcher analyses the methods of participation applied by the local government in the Campo Santo Memorial Park that was originally a bottom-up development built in 2005 and renovated through PDS by the local government in 2010.

In order to analyse whether the participatory strategies in the design process have empowered the communities, drawing from official documents, the first section of the chapter reviews what the word 'empowerment' means from the local government's perspective, and what specific aspects of empowerment are generated. Subsequently, the stages of development of PDS are then explained. To analyse if the implementation of PDS in Villatina has 'empowered' the community or otherwise, the Campo Santo Memorial Park is analysed. The data obtained from the interviews conducted with key community leaders, 150 surveys, and interviews with the local government are presented in order to examine the views of the community on the Campo Santo Memorial Park today.

5.2 **An Era of Equality and Inclusion: Social Urbanism in the Slums**

Figures 5-1, 5-2. Metro cable comuna one - sector one (Source: The Author)

After years of being peripheral to the interventions of the local government, an era of change was initiated and promoted by the ex-major Sergio Fajardo between 2004 and 2007 (Claghorn *et al.,* 2016). Moving from favouring the city's upper classes to investing in the most impoverished communities of Medellin's peripheries, the government developed a series of high-profile projects such as libraries and parks that integrated methods of civic participation that aimed to **empower** the communities and promote a sense of belonging for the territory (Brand, 2010; Echeverry y Orsini, 2010; Montoya, 2014). These projects were part of a city-wide project denominated PUI (Proyectos Urbanos Integrales – Integral Urban Projects), the first macro-scale plan in urban slums ever conceived in Colombia. The purpose of these new developmental policies, also known as Social Urbanism (SU) was twofold; to promote inclusion of low-income communities through the collective construction of peace and community gathering (Montoya, 2014), and to change the perception of the hills from a sign of underdevelopment and shame to one that symbolises resilience and a city's capacity to transform (Hernandez and Becerra, 2017) (see Figures 5-1 and 5-2).

While SU projects aimed to provide better infrastructure in the slums (e.g., transport, schools, health centres, and leisure parks) the main outcome of these projects was to help reduce the levels of violence by integrating strategies of citizen participation that would enhance their sense of belonging and would empower the residents to take care of the places (Claghorn *et al.,* 2016). Nevertheless, the complex scenario of Medellin as one of the most violent cities in the world posed a big challenge to the municipality that, before the SU, was heavily permeated by political corruption (Gilber and Ward, 1998).

Under the idea of integration and education, the administration of Fajardo (2004-2007) shifted a history of segregation of the slums by promoting a new beginning in the city's urban

development that repositioned Medellin from being the most violent city to becoming the most innovative one in less than a decade (Anguelovski *et al.,* 2018). The Medellin model – as it has been internationally recognised (Echeverry and Orsini, 2010) – constituted a legacy of good governance for the future administrations that followed the same principles of inclusion and social investment in the slums. The following two administrations of Alonso Salazar (2008-2011) and Aníbal Gaviria (2012-2015) integrated ideologies of human development and collectiveness with the aim of promoting social justice and social equality. Recent studies measuring the outcomes of SU in Medellin have revealed a reduction of nearly 80% in violent crimes in the last decade (Resilience Office, 2016).

To explain why violence has decreased in the city there are multiple actors and layers that should be uncovered. From one side it cannot be denied that the infrastructural investment and educational projects in the slums developed in the last decade have generated tangible positive impacts, for instance access to better education, leisure and health facilities (Brand and Davila, 2011; Montoya, 2014; Anguelovski *et al.,* 2018). Nevertheless – as Harvey (2008) argues – more than six decades of poverty and scarcity cannot be solved in less than a decade (Davis, 2006). The social problems in the slums (i.e. culture of crime, extreme poverty, literacy) and the high exposure of these communities to disasters continue to be problems that have not been fully addressed by the local government. Yet, recognising that transforming the slums into safer neighbourhoods is an iterative process that needs institutional support, but more importantly, is inherently dependent to the residents' participation, is a first step to initiate changes.

Shifting from abandonment to massive investment in slum neighbourhoods at the same time poses different challenges. One of them is to fall into a paternalistic process that is mainly monitored and managed by the government, in which although the communities are integrated through strategies of participation, other side effects could be generated, for instance, dependency of the communities on the local government, and disruption of internal community actions (Davidson *et al.,* 2007; Cooke and Kothari, 2001; Hilhorst *et al.,* 2010; Miraftab, 2010).

Although SU or the Medellin model entails a multitude of layers and strategies that have been developed in different areas, this chapter focuses on the strategies of citizen participation (PDS) that are applied in the design process of micro-scale projects that promote community interaction (e.g., leisure parks and learning centres). These strategies are of special importance, as they are the direct channel of interaction with the communities

and are particularly developed by the government in order to empower the communities (ACI, 2011).

5.3 The Definition of Empowerment According to the Government

Several institutional documents that explain the main principles of SU such as the development plans for the administrations between the periods of 2004-2007, 2008-2011 and 2012-2016 have defined 'empowerment' as the main outcome of citizen participation in the process of design and development of the projects. Across these texts the participation of citizens in the process of slums improvement has been highlighted as a major strategy to fight against the biggest forms of disruption in these settlements (i.e. extreme violence and poverty). For instance, in the document published in 2011 in the administration of Anibal Gaviria – in partnership with the ACI (Agencia de Coperacion e Inversion de Medellin) – BID, UN-Habitat and Alcaldia de Medellin have highlighted the following as the main action lines for citizen empowerment: a) citizen participation; b) social sustainability; c) appropriation; and d) safety. According to the government, these components of empowerment constitute the core principles where the final aim is to achieve co-responsibility across institutions and citizens. Presented in the following paragraphs are the SU main action lines defined by the municipality:

Citizen Participation

Citizen participation is emphasised as the most important strategy of SU projects. This has become fundamental for the government in order to understand the needs of the communities. Furthermore, the active participation of the residents would guarantee social sustainability of the projects; that is they would be monitored and protected by citizens as is stated in the development plan for the administration between 2012 and2016 (Anibal Gaviria) (ACI, 2011):

> *"In order for interventions and their projects to be legitimate, social participation is essential. An important learning that the model has obtained on the road has been to listen and understand that not necessarily the public official knows more. The community has become a fundamental actor in the direction of development, involving in it the phases of design, implementation and socialization of the different programmes and projects and, also, participating directly through the Local Planning and Participatory Budgeting programmes. Social participation has been fundamental to offer social sustainability to places and programs. In this sense, Citizen Pacts, signed after the completion of a work or project, have been a valuable tool to reaffirm the institutional presence in the city and advance in the reconstruction of the value of citizenship"* (ACI, 2011:26).

"The mechanisms of community participation developed as debates, participatory budgets, citizen pacts, neighborhood committees and popular consultations, in order to demand and freely propose their needs and aspirations, are thus part of citizen policies. Its development has been fundamental for the implementation of the Local Development Plans" (ibid: 92).

"It is necessary to contemplate the participation of civil society in the design, formulation, implementation, monitoring and evaluation of the structure and operation of the Institute. The vision and the way of approaching in practice the public policy studied are unequivocal in relation to this point" (ibid: 92).

Social Sustainability

Enabling citizen participation is part of the process; however, to generate empowerment the government provides institutional support, educational programmes and training that facilitate the process of appropriation of the residents to the new projects that are administered by public or private institutions. Therefore, social sustainability promotes citizen empowerment as far as the community develops a sense of belonging, and respect towards the places, by taking part in the programmes developed by the institutions in charge:

"It is guaranteed through strategies of community participation, institutional accompaniment and training processes, this empowers the community, and promotes integration and adaptation to new living conditions. Likewise, respect, attention and special care in handling and working with people of different geographical, cultural, social and economic identities, is essential for social sustainability" (ACI, 2011:127)**.**

"As a comprehensive project, the PUI must guarantee its social, political and financial sustainability. The social sustainability of the project is achieved through community participation and has allowed the development of participatory project designs, which deepen the prevalence of public interest on private interest and the sense of belonging and appropriation of the PUI" (ibid:91).

Appropriation

The process of appropriation includes a multitude of aspects that primarily aim to improve human development in the slums. In an effort to promote inclusion by increasing the access of the communities to high-quality collective spaces, different human values can be generated (i.e. respect, attachment, and pride), which in turn could increase the probabilities to create 'natural safety' among residents, who would feel responsible for the places and help to protect them. Furthermore, a different notion of citizenship that embraces the idea of a beautiful environment as their right is part of a new culture that aims to enhance autonomous participation and self-improvement:

"A new notion is created in citizenship that environments are part of their rights, a conviction that beauty is good, and aesthetics is ethical" (ACI, 2011:191).

"They implicitly exercise the right to free movement and the use and appropriation of the citizens of the cultural spaces of the city, in a clear allusion to diversity and coexistence: that of the people who inhabit the city by tradition and of those who come from other municipalities and regions of the country that have settled for reasons of violence and forced displacement. Fair play, respect for norms, return to legality, self-regulation, respect for human rights, promotion of citizen behaviors in pedagogical actions, have been part of the principles adopted in the program" (ibid: 40).

"Promote actions that strengthen the social fabric based on inclusion, solidarity, participation and the appropriation of citizenship" (ibid: 64).

"PUIs not only facilitate access and appropriation by the most vulnerable population to aesthetic spaces and with adequate functionalities, but also enable access to opportunities and capacities to achieve human development. In addition to a considerable improvement in equipment and public spaces, the impacted territories have been subject to an increase in values of property in particular and of land in general, without apparent processes of social expulsion, an increase in daily use and enjoyment of collective spaces, the possibilities of receiving income due to the increase of formal and informal commerce, the deepening of territorial identity and collective self-esteem. Additionally, there are better conditions of natural surveillance that reduce the chances of occurrence of incidental crimes related to conflicting conditions in the social, cultural and urban environment" (ibid: 94).

"Today, each project is a reflection of the important role it plays in the imagination of users, which is observed through the appropriation, participation and pride with which they speak of their projects" (ibid:94).

"A new notion is created in citizenship that environments are part of their rights, a conviction that beauty is good, and aesthetics is ethical. The Municipal Administration has made, in that horizon, a capital investment and a transparent and exemplary management of public resources, linking the community in the realization and social control of the projects" (ibid: 191).

Safety

In this line of ideas, safety would be part of the outcomes of the participatory process. An empowered community that successfully participated in the process of design and construction of the projects would feel ownership of and respect for the place, and therefore, would be more willing to protect it. Nevertheless, this process needs co-responsibility with public institutions that are highly dependent on political will – institutional co-responsibility plus community participation in the surveillance of the places would help mitigate and address the biggest causes of crime in the slums:

"It depends on the political will of the next governments. The social sustainability of the projects depends on the empowerment of citizens and the appropriation of politics by each and every citizen, as well as the social mobilization that guarantees continuity, regardless of the current government. Also, public institutions such as the National Police, and private companies, can guarantee the permanence of the strategies undertaken from Medellín Más Segura, if the principles of co-responsibility, co-management and self-care are strengthened and institutionalized " (ACI, 2011:76).

"Social conflicts occur in the urban environment. If it is not accompanied by socio-economic and socio-cultural efforts, situational prevention discourages the actors from committing the crime in that area, displacing it spatially or temporarily or mutually mutating it tactically rather than mitigating it, by not addressing its causes. Thus, influencing the reduction of crime requires the articulation of different types of actions (physical, socio-economic and socio-cultural) at micro and macro levels; the effectiveness of the construction of scenarios and the installation of programs is associated with the integrality of each and the ability to link other entities. The appropriation derived from its emphasis on participation favors, in any case, the activation of dynamics of prevention of crimes for which co-responsibility is vital" (ibid:205).

On this basis are created the participatory design strategies (PDS) that aim to empower the communities through processes of participation from the beginning of the projects (i.e. involvement in the formulation, design, and construction of the project). Through this initiative the government expects to create 'co-responsibility', which, as explained above, aims to re-distribute the sense of responsibility across both citizens and institutions.

In other words, co-responsibility refers to the mobilisation of the community in the process before, during, and after the construction of the projects, in order to create a higher level of belonging and place attachment. The outcome is to promote a co-responsibility among the communities that ensures safety and defence of the territory; however, this process is highly dependent on political will and presence of the authorities. The action of the community in this aspect is imperative, in order to establish 'social sustainability' and cooperation between communities and the government.

Figure 5-3 provides a graphical summary created in this reseach to understand how the process of citizen empowerment occurs according to the government strategy lines established in the ACI (2011) document.

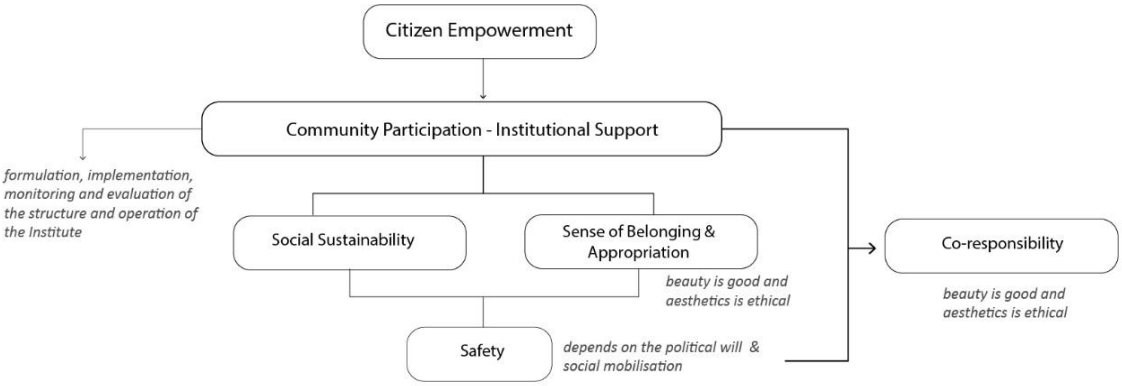


Figure 5-3. Summary of the Process of citizen empowerment according to the Medellin development plan (2011) (Source: The Author)

5.3.1 **The process of empowerment: Participatory Design Strategies**

To have a closer view of how community participation occurs in PDS, different phases are established by the EDU (Empresa de Desarrollo Urbano – Urban Development Enterprise) team, shown in Table 5-1. **Stage one** involves an exhaustive investigation of the present social and physical aspects of the neighbourhood. For this, different teams of the EDU are responsible for investigating the conditions of the settlement divided in different areas of knowledge. These include geology, anthropology, engineering and architecture among others. A first contact with the community is established at this stage in order to identify the main problems in the neighbourhood according to the residents who are invited to share their views and identify the main requirements of the neighbourhood. In some cases, residents take part in technical visits with the EDU team. The outcome of this stage is a final diagnosis that describes the actual conditions of the neighbourhood, as well as threats and opportunities. Included in the diagnosis is the work developed by the 'social team' that directly investigates and analyses the actual social dynamics of the community according to demographics, types of population and social conflicts, and establishes the actual leadership structures (e.g., gatekeepers) and groups across the neighbourhood.

Included in this phase is the analysis of the past and current city plans (i.e. macro- or micro-scale projects) that could be integrated as part of the neighbourhood improvements. For instance, before its renovation by the local government in 2010, the Campo Santo was included in a master plan denominated 'urban borders' (borders urbanos) – developed in previous administrations – that contemplated the establishment of the city peripheries through public spaces. Through the diagnostic process, it was possible to continue with the initial ideas contemplated in the urban borders' master plan; however, it was modified to fit the objectives of the administration in charge at the time.

The **second stage** involves the development of community workshops denominated '**imaginary workshops'** (Talleres imaginarios). In these meetings, residents are encouraged to conceptualise through drawings possible projects that could be developed in the neighbourhood. The drawings are discussed in the workshop that is led by the EDU social team. The community in this stage is free to express their ideas and propose projects that could improve the life conditions of the residents according to the present necessities.

After all the ideas are discussed, the information is then passed to the EDU design team which comprises architects, designers, engineers, and urban planners. This represents the **third stage**, where multiple meetings are held to debate what could be abstracted from the

ideas given by the community and from these the team decides which project will be developed. In the **fourth stage,** the feasibility, budget, construction plan, and management are considered by the EDU.

The following **fifth stage** comprises a second round of discussions, where the community is allowed to discuss with the design team the characteristics of the project and the types of facilities that could be included in the project (e.g., football courts, leisure centres, gyms and others). The community is free to give their opinions; however, the final decision is made by the EDU team based on costs and feasibility. When the initial rounds of socialisation with the community have been exhausted, the process of design development starts **- sixth stage**. A final proposal is drafted by the EDU design team and discussed with the rest of the teams and local authorities. After approval, in the **seventh stage** the community is again invited to the final discussion of the project that is visually presented to the community (i.e. 3D renders and models). The community is invited to give feedback and share their views which, in most cases, conclude with a general consensus on the final design.

The construction phase starts as the **eighth stage,** and the EDU is responsible for the management and hiring of building contractors. Some projects include citizen participation in the construction stage. For this the government provides educational programmes on building to local residents, who are hired by the contractor; this is the **ninth stage**. This only occurs with specific projects, for instance the Campo Santo integrated this educational process.

In the **tenth stage** the project is inaugurated with the community and local authorities (e.g., Mayor, planning office, etc.). To conclude the project, in the **eleventh stage**, the EDU confers the management and maintenance of the project to an external (public or private) institution in order to ensure the sustainability of the projects. –For instance, in Villatina Arvi, INDER and EPM are among the institutions in charge of the projects. These institutions are responsible forproviding educational projects that reinforce the sense of appropriation and responsibility towards the places and teach the residents how to take care of them.

Table 5-1. Development phases: design and participatory process

Stage	Activity	Responsible
1st	Neighbourhood Diagnostic	EDU Research team
2nd	Imaginary workshops	Community and EDU Social team
3rd	Decision of the project to be developed	EDU Design team
4th	Securing financial resources	Community and EDU Design team
5th	Socialisation of the draft with the community	EDU Design team

6th	Final proposal	EDU Design team
7th	Socialisation final proposal with the community	EDU Design team
8th	Construction process	EDU, and external contractors
9th	Residents are hired in the construction	EDU, and external contractors
10th	After building is finished, management delegated to public institution	EDU
11th	Educational programmes for the community	Institution in charge of the project

5.4 **Campo Santo Memorial Park**

The Comuna 8 for instance has been one of the areas in the city that has most benefited from receiving public investment in infrastructure. The project began with the administration of Anibal Gaviria (2012-2016), which sought to recover the hills of Medellin and protect them from more proliferation of informal settlements by developing landscape and leisure projects. Ultimately, the aim was to set the limits of the urban areas. This project, named 'Jardin Circunvalar' (Green Belt (Circunvalar Garden)), was proposed to unify all the hills in Medellin through green belts. Although this project was only partially developed – due to the change of administration [5] – between 2012 and 2016, more than nine projects were developed in sector 8. The Villatina neighbourhood, for instance, was one of the most benefited areas where, in total, six projects were developed. These included the Leisure Park Tinajas, Mirador de la torre (caminos de la vida), leisure and learning centre UVA Sol de Oriente (learning centre), Leisure Centre el tanque (learning centre), Pan de Azucar Hill, and Campo Santo improvements. Nevertheless, in order to establish whether the PDS have empowered the community, the Campo Santo Memorial Park is analysed as this place was originally created by the community and modified by the local government. Therefore, a comparison between the two types of mechanisms of development – bottom-up and top-down – will be possible.

Background

The Campo Santo was included in the master plan named: Plan Maestro Area Centroriental. This plan aligned with previous research studies and projects such as the Cerro Tutelar and Jardin Circumvalar – Green Belt Project that were part of a holistic initiative that aimed to recover public spaces in the peripheries. The aim was to promote sustainable

[5] Every four years mayors are elected in the country. Each political party has its own candidate, and each of them is free to continue with the projects of the previous administration or propose different projects. This could be detrimental in the long term, since many projects are inconclusive, and could generate a fragmented development, specifically in the projects developed in urban slums.

practices in the neighbourhoods and was designed to stop the proliferation of illegal settlements in the hills. This master plan was among the most important projects developed in the city of Medellin in the last decade. Its primary aim was to include the community throughout the process by implementing PDS and educational projects for the construction of the places, in order to generate empowerment and appropriation of the residents towards the places.

In 2010 the government initiated the process of transformation of the Campo Santo by applying the PDS principles. During the process the community was invited in to take part in workshops and tours around the Campo Santo with government experts in order to identify the priorities and urgent actions needed in the park. The process was divided into the following stages:

1. Identification of the main priorities in the neighbourhood with the residents (stages 1 and 2 – see Table 5-1);
2. Allocation of economic resources; that is done directly with the municipality (stage 3);
3. Design process starts with workshops with the community. The projects are conceptualised by the community and designed by the government team (stages 3 to 9);
4. The government provides educational programmes to train the community in building and construction, so they could be part of the construction of the park (stages 3 to 11).

Figure 5-4. Campo Santo location (Source: http://www.aecid.es/galerias/noticias/descargas/2010_12/premiocompostela_2010.pdf)

The Campo Santo shown in Figure 5-4 was identified to be located in a strategic connectivity point for the Green Belt project that aimed to provide a continuation of ecology paths across the hills Cerro de los Valores, Cerro Pan de Azucar, and Sol de Oriente centrality. At the same time the municipality wanted to upgrade a place of vital importance for Villatina residents, by formalising an illegal space that was for years abandoned by the government. According to the official document issued by the EDU on the 25th of January 2010 (page 79), the underlying aim/intention of this project was to legitimise and recognise the interventions of the community in the place. Additionally, the project aimed to integrate Villatina to the city - as quoted from the document: "*the Campo Santo will become an example for future projects that will promote new forms of integration between the territory and its citizens"* (EDU, 2010: 79). Furthermore, the Campo Santo was identified to be an important historical development; therefore, the government decided to recover the memory of the community by "*creating a shared identity through resilience strategies in order to recognise the particular history of this neighbourhood"* (ibid: 82).

After the disaster the area was declared a holy field and cemetery by a Catholic Church cardinal; nevertheless, diverse limitations in the local urban laws restricted the allocation of public financial resources to projects with a religious connotation. Therefore, the government proposed to transform the chapel that was built by the community into a multipurpose space that could host different cultural activities (i.e. education, leisure, and religious) (ibid: 85). The rest of the park was transformed into an urban public space that included ecology paths and adequate drainage. The sculpture created by Villatina residents (the hands of a mother raising her child before being swallowed by the earth) was conserved and placed as a symbol of the park (see Figures 5-5, 5-6 and 5-7).

Figure 5-5. Campo Santo urban proposal (Source: http://www.aecid.es/galerias/noticias/descargas/2010_12/premiocompostela_2010.pdf

Figure 5-6. Multipurpose space that replaced the chapel (Source: The Author);
Figure 5-7. Campo Santo sculpture (Source: The Author)

5.4.1 The Campo Santo today: New forms of violence emerging after the government intervention

After the project was completed the international prize 'Santiago de Compostela Urban Corporation' (Spain) in 2010 was awarded to the local government (ACI, 2011:224). This recognition reflected the importance of the Campo Santo Memorial Park and became one of the most relevant projects built by the local government in that year. Nevertheless, the outcomes of the transformation of the Campo Santo have not been entirely welcomed by the local leaders and residents of the community (see Figures 5-8 and 5-9 Campo Santo before intervention, and Figures 5-10 and 5-11 Campo Santo after government intervention). In the interview with one of the community leaders in October 2016, who led the construction of the memorial park after the disaster, he expressed his discontent about the actual conditions of the park that was affected by the intervention of the local government, which, according to him has caused place detachment, and a lack of care towards the place. He explained that the multipurpose space that replaced the church built by the community was never used as well as the park had been, making the Campo Santo a place of fear where drug gangs have started to settle:

> *"Campo Santo was a place for the community, but the government came with their imaginary workshops and forgot all that the community built there before. It is very easy for the government to simply forget how much a marginal community like us does; however, it is evident that the Campo Santo has changed a lot. From an aesthetic perspective, the change is very positive, but from a social perspective our identity and sense of belonging was stolen from us. In that place, we had a church that we built ourselves; there we used to honour our beloved ones that perished in the disaster. But the government gave us in exchange an open place with no meaning whatsoever for us. A space that nobody here feels attached to or respects, only criminal bands go there now. Why does the government instead of coming and imposing their ideas not look at what is existent in the community and support us? We, the leaders of this community, had fought*

for this neighbourhood and we had initiated so many processes for the recovery of our people. But the government comes and destroys everything we had accomplished" (Interview community leader October 2016).

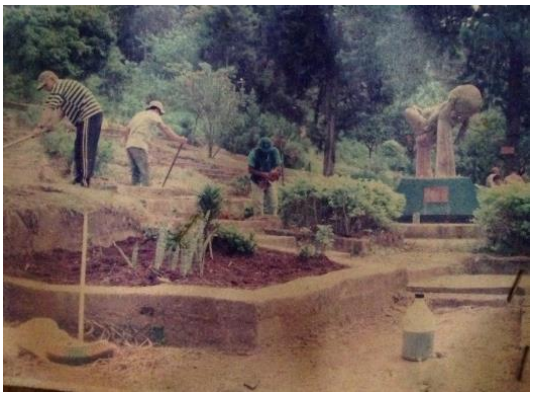
The community had perceived the changes of the Campo Santo as a disruption in their place attachment and the symbolic meaning that this place used to have, creating contradictions between the government intentions of improving the life quality of the residents through top-down projects and the actual social implications of the projects in the community. The community leaders who participated in the interviews asserted that, after the intervention of the local government, the Campo Santo stopped being used by the community and became a place that is mainly used by gangs:

"Campo Santo was a place for the community, but the government came with their imaginary workshops and forgot all that the community built there before. It is evident that the Campo Santo has changed a lot, now it is a space that nobody feels attached or respects, only criminal bands go there now. The government did not take care of this sacred place" (Interview community leader – November 2016)

"I honestly don't understand what the government did in the Campo Santo, nowadays it is a place full of drug bands, and people go there only to consume drugs" (Interview community leader 2– November 2016).

"Campo Santo used to be a sacred place, now supposedly it is for recreation but mainly for people to go and consume drugs" (Interview community leader – November 2016).

"The government thinks that they built a great project there. They do not even come to see what has happened with the project they built. The reality is that today we have a niche of crime in the Campo Santo" (Interview community leader October 2016).



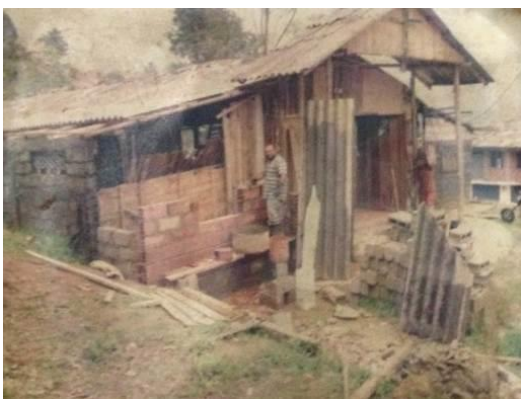


Figure 5-8. Construction of the Campo Santo by the community (Source: Joaquin Calle)**.**
Figure 5-9. Chapel built by residents**.** (Source: community leader)


Figure 5-10. Campo Santo today after government intervention in 2010 (Source: The Author)
Figure 5-11. Multipurpose place that replaced the chapel**.** (Source: The Author)

The lack of place attachment and defence of the territory of Villatina residents towards the Campo Santo after the intervention of the local government could suggest that when the local government built the projects, the participatory strategies applied by the government are not enough to generate attachment in the residents. In the Campo Santo, the responsibility of protecting and maintaining the place was totally transferred to the local government after the intervention in the place in 2011. Furthermore, it was identified that although the participatory 'imaginary workshops' (stage 2) were conducted with the community, the multipurpose place that replaced the chapel built by the community is rarely used by residents, and the park has become a hub of crime. This could suggest that the participatory strategies, although having attempted to integrate residents in the design and construction process of the projects, are not enough to generate community empowerment and sense of ownership towards the place.

During the interviews community leaders suggested that the lack of appropriation towards the Campo Santo is attributed to the strategies of citizen participation that the government implements (i.e. imaginary workshops) that do not recognise the internal networks and associations that are existent in the community or integrate the community corporations or leaders. In the Campo Santo for instance, a community leader revealed that during the renovation of the park in 2010 the community was not included in the management or administration stages, and although the project was internationally recognised in 2011 after it was finished the government did not acknowledge the role that the community played in the construction of the place after the disaster:

> *"With the improvement in Campo Santo, I think it was easier to integrate the existing, for instance the community organisation that helped develop this park in the first place. It would have been better to create an agreement between the EDU with the organisation, and all the money that was invested and probably ended up the hands of a rich contractor.*

That money could have ended up in the community, to develop more projects and consolidate more associations and corporations. But other people came here to build what was ours. Also, after the improvements were finished, they joined an international design contest in Spain, with a project that was not theirs, it was ours, and they won the prize. But it was the community that created the park in the first place. When will our effort be recognised? They sweep off all the work of the corporation with their power" (Interview community leader October 2016).

"When the government came in 2010-2011 to transform the Campo Santo, they forgot totally our Campo Santo corporation and all that we have fought to create this park. In other words, when the government arrived, a whole history of community work was forgotten" (Interview community leader October 2016).

"It is really sad to see how all the community processes have been lost, as well as the memory of all that the community has done. An example of this is that very active leaders that supported this neighbourhood after the disaster are now totally forgotten; they were never included in the projects that the government developed" (FCCL - Community leaders' focus groups 13 September 2016).

In further interviews conducted by the researcher in 2017 with local planners in the EDU, it was discussed that the shift of responsibilities and dependence of the community in the local government to take care of the Campo Santo was unexpected by the EDU, since it was considered that through the strategies of participation applied during the design and construction of the projects, more sense of attachment and belonging for the places was created; therefore the community would protect the park:

"In the case of Campo Santo, for example, before the government intervened with the park, the community used to take care of it because it belonged to them, the maintenance and protection was their responsibility, so they had to find the resources to take care of it. After the government came and invested in the transformation of the space, people shifted from taking care of the place to delegating the responsibility to the government. I think we need more work in education; people need to be taught to take care of the places. But unfortunately, that dependence happens. We expect that with the projects that are developed with participatory strategies in the design and construction process, more attachment is created, or at least help in something" (Interview EDU November 2017).

The shift of responsibility that occurred with Campo Santo could suggest that after the top-down projects are built, the participation strategies applied with the community are not enough to generate empowerment, as the involvement of the community is very limited. To confirm this, a survey conducted in September 2017 (See Chapter 3, Section 3.7) with 150 Villatina residents included a set of questions that explored residents' opinions of top-down interventions. To the question '*do you consider that it is the government's responsibility to take care of the places that are built by them', a* high percentage of respondents considered that the government should take care of the projects (98%). These results, shown in Table 5-2, suggest that top-down places are not seen as places that belong to the community so the

maintenance of protection of the projects should be the responsibility of the local government.

Table 5-2. Responsibility to take care of the top-down places average agreement and standard deviation

	Mean (N=155)	Mode	SD
Government responsibility to take care of the places that they build	1.08	1	0.6

Range scale 1 “strongly agree”, 7 “Strongly disagree”

5.4.2 **A shift in responsibilities after top-down interventions**

For more than a decade PDS strategies have been implemented with the aim of creating community empowerment and sense of attachment. As an expected outcome of the participatory sessions, the community in turn would develop a sense of responsibility towards the places and protect them. Nevertheless, the strategies of participation need to be carefully reviewed and implemented in order to avoid dependency, such as in the case with Campo Santo that was a place initially built by grassroots actions. However, after top-down interventions, the community shifted responsibilities and let the government maintain and protect the place. Unfortunately, for political reasons, the park was abandoned for several months becoming a spot for drug gangs to gather and commit criminal acts, deterring the community from using it.

This has revealed two situations. The first is that although participatory strategies have been implemented, after the intervention of the local government, the community considered that it is not their responsibility to sustain and take care of the projects as was reflected in the survey responses. The second is that, although top-down projects have substantially improved the neighbourhood image, the community has not been fully empowered towards taking care of the projects, portraying a separation between the community and government. On the contrary, the community has assumed the role of receiver and has not engaged in direct involvement in the management of the projects after completion.

Interviews with the city planners conducted for this research in 2017 explored whether neighbourhood place attachment and sense of responsibility are created after intervention of the local government with PDS projects The participants were asked whether place attachment and a sense of neighbourhood responsibility have been achieved through the execution of these projects. Following some reflection, the response was that this had not been investigated. They assumed that the participation of the community in the imaginary

workshops and the hiring of locals to build the project offered sufficient proof that place attachment and sense of neighbourhood ownership had been achieved:

"To be honest we have not investigated thoroughly to confirm that these aspects have been generated in the community; however, it is very likely that they have, because the community was part of the process from the beginning, and they were very receptive to the projects" (Interview EDU September 2016);

"In the UVA Sol de Oriente, for example, we tried to get that part of the community to participate in the construction process. So after, if the community participated in the design and construction, it is very likely that a sense of attachment and appropriation, and responsibility to take care of the project is generated, because they feel responsible. In a few words, they could think in this way: I designed it, I made it, I have to take care of it" (Interview EDU November 2017).

"This strategy has been implemented in many projects, and we have seen that it works. In the two types of projects (leisure parks and UVAs) where residents are hired in the construction process, the sense of attachment and responsibility is generated. Although some people have vandalised these places, in general, we can say that for community places that we have built and implemented the participatory methodology, the sense of attachment and responsibility has been created" (Interview EDU November 2017).

"One thing is the path that we have tried to sustain; however, the communities in their needs, they lose interest, So it becomes complicated to generate sense of ownership and appropriation in the space" In many occasions we do not receive the outcomes that we expect, however, the role of the government is to continue promoting those aspects, and always make sure those spaces are in adequate conditions" (Interview with Infrastructure Secretary – Medellin City Hall).

After the interview with the EDU, the importance of investigating how the communities adapt in the long term after the projects are built was acknowledged:

"I think that there are things that will always need improvement, and the imaginary workshops need to be improved to another level. A lesson after this interview is that the projects cannot simply be left abandoned after they are given to the community. These projects need to be monitored, and after they are operating it needs to be investigated how the process of appropriation is occurring, to learn from the mistakes. It is a responsibility of the EDU to continue the process of monitoring" (Interview EDU, November 2017).

"We have tried to involve the community before the construction of the projects, during the construction of the projects, and now we found the necessity to continue the process of education and appropriation of the community after the projects are built in order to create empowerment. It is a long process, but we have had very good experiences and we hope that in the future the communities take good care of the facilities that the government provides"; "We have trained people inside the communities to take care of the projects, however, all the responsibility is always held by the government, the community would not go and repair the things that get broken for instance. So, we need to continue finding ways to create empowerment to awake a sense of ownership for these

projects, so at the end is not only the government's responsibility" (Interview with the Infrastructure Secretary – Medellin City Hall).

"There are a multitude of dimensions and interactions between the State and the community that need to be taken into account; however, when the government attempts to invest in these neighbourhoods, the community assumes the role of victim and always wants more and more. But we need to acknowledge that nothing that is built in these settlements will be enough for the infinite amount of needs that these communities have" (Interview with the Infrastructure Secretary – Medellin City Hall).

Considering the responses obtained in the interviews with the local planning authorities, it was evident that the government has increased efforts to provide better infrastructure to improve the life quality of Villatina residents. The participatory strategies allow the community to take part in the construction of the built environment; however, the process is managed entirely managed by the government. Nevertheless, this process constitutes a starting point to consider communities as key participants in the process. However, it was found during the interviews that although the government is implementing participatory strategies, the outcomes might not be as expected, as new forms of violence might be emerging in the places (as in the case of Campo Santo), and appropriation and empowerment are not generated.

5.4.3 **Dependence on political will, inconclusive processes**

Another problem identified during the field work exploration was the high dependence of PDS projects on political will due to changes in the local administrations. For instance, after the intervention of the government, the Campo Santo was left without surveillance for several months. During that period, drug gangs settled in the park and started selling drugs. This situation according to the community leaders is caused by the intermittent support of the local government that built the projects but then stopped investing in their maintenance. The leaders stated that due to the magnitude of the projects, the community did not have the resources to fully sustain them:

"The projects given by institutions and government are useless if they are going to come and start a process but after a few years it will be discontinued, the community will not see results and it will lose interest" (Community leader exploratory study – October 2016).

"To change the image of this neighbourhood we need more than temporary interventions, we need continuity. Institutions need to continue with the processes and we also need people that for once start looking at the benefit of the community" (Workshop community leaders 10 -14 of October 2016 organised by UNESCO).

Furthermore, in the interviews with community leaders it was identified that the lack of continuity of the projects and exclusion of local leaders in top-down projects has affected the action of some leaders:

"Villatina residents realised that public institutions were taking advantage of them, and that it was extremely complicated to generate resources to create changes without being affected by the local government and its false promises. Therefore, people started thinking individually, not in community to benefit the neighbourhood, but more to the benefit of individual interests" (FCCL - Community leaders' focus groups 13 September 2016);

"Leaders that have contributed greatly with the improvement of the neighbourhood especially after the disaster have seen how most of the projects initiated by them have vanished. Because institutions come and help, but after they go the support goes as well, so people and all progress are like in the air. What has happened with our leaders? What opportunities have they found after working all their life for this community? It is a lie that things are easy; it is a lie when the state or institutions come to say that we should work together. The government and institutions instead of helping us to build a better future are affecting the community more, because they start something, but it is never permanent" (FCCL - Community leaders focus groups 13 September 2016).

The lack of continuity of the projects and investment in their maintenance according the EDU urban planners represents a threat for the advancement in top-down projects, implying that funds provided for the maintenance of the projects could be discontinued or projects initiated in the slums never concluded, such as the Green Belt project that was discontinued after a new administration was elected in 2016. According to the urban planners interviewed, the discontinuity in the projects constitutes a severe problem that is generating a fragmented city with unfinished processes and interventions in the slums:

"This is a very serious problem that unfortunately not only happens in Medellin, but in all cities in Colombia. Each administration wants to leave a mark in the city, their own mark, their project, but honestly, we cannot talk about cities that are made in only four years. The cities in order to function, need projects in the long term, so this discontinuity constitutes a deficiency. It ends up being a fragmented development. For example, we developed the Pan de Azucar hill, a little bit of another project called Picacho, another located in La Cruz, but that is it. The initial proposal was to create a Green Belt, an environmental ring to protect the hills, but all of this was stopped. We have to wait until another mayor comes and has the initiative to continue with the project" (Interview EDU November 2017);

"This already happened with the Green Beltproject. It was a big project that aimed to set the growth limit of the city, but unfortunately, it is a project that cannot be finished in just four years; it is a very limited time. The reality is that the last administration with the city mayor Anibal Gaviria made it possible to start the construction of the green belt. But, the new administration last year, for example, did not want to continue the project, leading to slow down all the investment. Now all the projects are more focused on the city centre" (Interview EDU November 2017).

5.4.4 **Positive outcomes: Turning the memory of the disaster into leisure**

Although the recent changes in the Campo Santo might have created a shift in the responsibility towards the place, during the focus groups discussions the participants associated positive aspects regarding the new improvements created by the local

government. Frequently, the participants differentiated between the memory of the disaster and the new leisure function that was given by the local government. The opinions were divided among feelings of sadness and emptiness that are attached to the memory of the place after the disaster as was expressed by participants (FG1-3) and (FG4-2):

> *"I think for the community it is very important to remember the tragedy, because honestly the memory has disappeared with all the new ornaments the Campo Santo has now. At a personal level that place represents for me the hundreds of people that perished that day";* and *"That place is the memory of the tragedy, of our beloved ones that are still there".*

Nevertheless, participants reported that they think the Campo Santo is not regarded totally as a memorial place but instead as a place for leisure and recreation: *"The Campo Santo now is a park that has leisure attractions, I wish I could express myself better, but what I am trying to say is that while we go to visit the people that died there, we also can go there to walk and chat with the neighbours"* (FG4-3); *I think it used to be a Campo Santo but it is not now, the place is just for recreation and drugs consumption. For me it represents only a leisure park" (*FG1-4); *"I think the Campo Santo is important because of the park the government built there that is mainly to do exercise. But from a personal view that place represents the people that died there"* (FG1-1); and *"Well I think it is a place for the community"* (FG5-1).

Interestingly, some focus groups participants identified the Campo Santo as a beautiful place that represents change and hope: *"The Campo Santo represents change and hope"* (FG6-4); *"Look, it is a Campo Santo, but it looks beautiful, the government organised the place a lot. It has an outdoor gym and it looks more elegant now – very pretty" (*FC2-1); and *"I think the Campo Santo is an important place because it was renovated and at the same time is a place for everyone that likes to walk in the afternoon"* (FG2-3).

5.5 A Community Resilience that Persist and gets Stronger

The previous sections have shown that after the local government reformed the Campo Santo, the shift in responsibilities towards the place affected the community action, and protection/defence of the place by the community. Nevertheless, in the discussions with community leaders and survey responses of the residents, a desire was expressed to be more included in the process of development of the top-down projects, as this could generate more sense of belonging for the neighbourhood, and it could represent an opportunity for young population to learn and be part of the construction of a better neighbourhood. Additionally, as noted by the community leaders, more participation of the community

associations and corporation could encourage the community to strengthen internal connections and organisation, which, in the long term, could work as a buffering strategy against crime and violence in the neighbourhood (Hale, 1996; Ross, 1993; Foster and Giles-Corti, 2008), and could become a strategy to generate protective behaviours and reduce the feelings of vulnerability and fear.

> *"We do not want people that come here and say: we brought you this, or we are going to build you this. No, we need to be given more opportunities to act and be part of the process, more opportunities for the young population to abandon the drug gangs. Being involved will generate a sense of belonging for this community and therefore more respect towards it"* (Community leader interview, October 2016).

Interestingly, during the interviews and focus groups it was found that the community activism, place attachment, and community attachment remains among Villatina residents despite the interventions of the local government. Although community leaders expressed that the action of the community could be affected by the inconsistent support of the local government, the community continues to be active:

> *"I live very happily in this neighbourhood. I would not go, because this neighbourhood is sacred for me. I always feel grateful, because when I came here with my family we had nothing, and now we have our own house"* (Interview community resident September 2016);
>
> *"Above all we have solidarity and union in the community, I think those are the most important aspects in order to create progress in the community"* (FG5-1);
>
> *"I think that the government does not realise that we are like a family, we know our lives and the lives of our neighbours. The government really does not know unless we initiate protests* (FC1- 3).

These aspects were explored in the survey conducted in September 2017 in Villatina (see Chapter 3, Section 3.7) that asked residents to compare the community action after the disaster and today. The aim of these questions was to understand whether the community action, place attachment and community attachment (the resilience components that were developed after the disaster) in general have been affected by the intervention of the local government.

The responses reported by the survey participants (see Table 5-3) suggested that the community today is more involved in projects that improve the neighbourhood: with an average response of 2.13 (1 corresponding to strongly agree and 7 to strongly disagree). It was also considered that the community has strengthened networks and connections with external organisations and local government, with a relatively high response of 2.92. Furthermore, an average response of 2.39 showed that residents think the community is

independent of government help and intervention and has initiated more projects and programmes to help improve the life conditions of Villatina residents with an agreement rate of 2.13. The following questions reported high rates of agreement, showing that the community feels attached to the neighbourhood (Mean=1.42) and is highly attached to their neighbours and community members (Mean=1.69).

Table 5-3. Means, modes, and standard deviations (SD) measuring community action, place attachment, and community attachment before the government intervention and today

	Mean (N=155)	Mode	SD
Thinking about how the community of Villatina used to be after the disaster during the process of reconstruction and improvement of the neighbourhood, do you think the community is now?			
Community action			
more active and involved in projects that improve the neighbourhood	**2.17**	2	1.51
more organised and acts to improve the conditions of the neighbourhood	**2.13**	2	1.48
has strengthened networks and connections with external organisations and local government	**2.92**	2	1.87
is more independent on government help and intervention	**2.39**	2	1.80
has initiated more projects and programmes to help improve the life conditions of Villatina residents	**2.13**	2	1.76
Place attachment			
More attached to the neighbourhood	**1.42**	1	1.02
Community Attachment			
Is strongly attached to their neighbours and community members	**1.69**	1	1.17

Range scale 1 “strongly agree”, 7 “Strongly disagree”

5.5.1 **Teamwork and co-responsibility are a matter of continuity**

The local government representatives emphasised the need to generate community cohesion and more participation in resilience processes, which includes education and community activism, to help the neighbourhood reduce the vulnerability to natural disasters. This was supported by the community, who believed that to achieve resilience in Villatina, more teamwork and co-responsibility between the government and the community is needed. Additionally, the community expressed that the government cannot only intervene and forget; the processes need to be continued after projects are executed.

> *“It is fundamental that the community participates in the processes of resilience in order to fight with the vulnerability to which they are exposed”* (Workshop community leaders 10 -14 of October 2016 organised by UNESCO).

> *“We need support from the local universities and institutions, so as a community we can have learning centres to educate people on basic things. We need co-responsibility from*

*the community and government. For example, some families have been resettled in safer areas, but the government left those at-risk houses abandoned, and now you can find other families living there. We need more teamwork between the community and the administration to avoid this" (*Workshop community leaders 10 -14 of October 2016 organised by UNESCO).

The reaction of the community during the resilience workshops (led by the UNESCO, Cataluna University, and local government – see Chapter 3, Section 3.4) was to remind the local government that the main causes of vulnerability in Villatina have been overlooked, and that to create changes in the neighbourhood, the responsibility needs to be shared, supporting the community to create more empowerment through more re-distribution of power. In other words, they do not need to be given help or told what to do; instead they need to be encouraged to reflect on and create solutions with the support of the government:

"We want to live better; we want to change the stigma that everyone has of Villatina, and we want to change the idea of misery that we have been given by other neighbourhoods and even other cities. We want to be recognised as people that want progress, that want to improve; we want to show that we are not the 'hovels people', but that we are an ordinary neighbourhood, even much better than other neighbourhoods in this city. We can change this image ourselves" (FG6-5).

The responses obtained for the question included in the survey that asked residents whether they considered that the projects developed by the local government should integrate the community members more reported that the community considers that they should be more involved in the process of development of the projects: Mean=1.69; SD of 1.38 (range scale 1: strongly agree, 7: strongly disagree) (see Table 5-4). Furthermore, it was reported that if they were more involved in the projects developed by the government the potential outcome could be greater neighbourhood place attachment (Mean=1.77; SD=1.47).

In addition to the previous questions, the survey included two items that measured the level of residents' opinions in relation to some of the aspects that could help create positive social changes in Villatina. Responses for the statements '*community is integrated in the process of development of project*s' and '*community and government work together and share responsibilities to improve the neighbourhood*' presented a greater level of disagreement: mean=4.03, SD=2.69; mean=4.17, SD=2.47 respectively (see tables 5-4 and 5-5). However, nearly half of the respondents (i.e. 37% strongly agreed, 3% agreed, and 10% agreed somewhat) considered that more integration of the community in top-down projects could help improve the social conditions of the neighbourhood (see Table 5-5). Likewise, co-responsibility between the community and the government towards the improvement of the

neighbourhood reported similar results: 29% strongly agree, 4% agree, and 12% agree somewhat. The result obtained for these two last items suggests a clear division in opinions. This presents a scenario in which half of the population would like more involvement with the government in top-down projects against the other half that would not like to be involved in these projects.

Table 5-4. Creating positive changes in Villatina average responses and standard deviation (SD)

	Mean (N=155)	SD
Participation of the community in top-down infrastructure projects		
I think that the projects developed by the local government should integrate the community members more in the process of development	1.69	1.38
I think I would feel a stronger sense of attachment for my neighbourhood if I was involved in the process of development of projects developed by the government	1.77	1.47
Aspects needed in Villatina to create positive social changes:		
Community is integrated in the process of development of projects (i.e. infrastructure) done by the government	4.03	2.69
Community and government work together and share responsibilities to improve the neighbourhood	4.17	2.47

Range scale 1 "strongly agree", 7 "Strongly disagree"

Table 5-5. Frequency of responses

Community integrated in the process of development			Community and government work together (co-responsibility)	
	Frequency	%	Frequency	%
Strongly Agree	57	37%	44	29%
Agree	4	3%	6	4%
Agree somewhat	15	10%	18	12%
Neutral	5	3%	10	6%
Disagree somewhat	9	6%	10	6%
Strongly Disagree	3	2%	20	13%
Disagree	61	40%	46	30%
Total	154	100%	154	100%
Missing	1		1	

5.6 **Discussion**

5.6.1 **Two types of empowerment: Bottom-up and Top-down**

At the beginning of this chapter the author reviewed how Medellin's local government has integrated 'empowerment' as the core basis for the city development from 2004 to the present day. It was found that – for the government – empowerment is triggered by a process of citizen participation in the design and construction of top-down projects. The outcomes of the participation are defined in terms of social sustainability, appropriation – that manifests through sense of pride by building 'beautiful' buildings – and safety – or sense

of responsibility and protection of the places. This entire process occurs within a co-responsibility framework that, according to the government, entails the participation of the community in the different educational programmes offered by the government. In other words, empowerment from the top-down is motivated directly by the government who, through education, facilitates the community to awaken feelings associated with empowerment (e.g., attachment, protection of the neighbourhood, respect, etc.). However, would it be accurate to infer that the outcomes of top-down projects through participatory processes have indeed empowered the communities? In other words, is the *top-down* empowerment the same as *autonomous* empowerment (i.e. the empowerment created by self-driven communities)? To establish this, a further understanding of what the word 'empowerment' entails based on theories applied in urban development would benefit this research in order to establish the main differences between top-down and autonomous forms of empowerment.

As a point of fact, diverse theories across time have shaped our understanding of the word 'empowerment' in urban developmental practices (Lefebvre, 1967; Harvey, 2008; Schwab, 2018). Certainly, it could be suggested that empowerment shapes its meaning from the word 'power', a concept greatly analysed by post-structuralists western philosophers (e.g., Foucault, 1980; Rapaport, 1984; Bourdieu, 1991; Baudrillard, 2001). Nevertheless, perhaps one of the most influential definitions in contemporary discussions is that given by Foucault, who decomposed the meaning of power as a relational character, by asserting that power is neither a possession nor a capacity of groups and individuals: it is however something that simply circulates through the social body, and it functions in the form of a chain, which is exercised through extended networks in which society is imbedded (Foucault, 1980: 98). The relational meaning of power according to Foucault runs through networks and transforms according to the social reality – from this point, it becomes clear that power is something that can only be exercised, and individuals are only the vehicles of it (Foucault, 1980: 98). Yet, it could be assumed that as power is exercised in networks, at the same time it is transmitted or transformed across agents or individuals in the form of ideas or knowledge.

This knowledge as it is transmitted creates a sub-definition of power, from which the term 'empowerment' is formed. According to transformational psychology studies, empowerment signifies the *"self-realization of well-being"* that occurs on the *inner self* that motivated towards improvement create opportunities to expand not only individually but collectively (McLaughlin and Davidson, 1994: 124). Similarly, Wilson (1996) asserted that this

individual empowerment develops into political awareness, seeking participation and activism that transcends the individual-interest, towards a greater collective well-being or sense of community (Wilson, 1996: 622). This collective awareness, seen from Foucault's ideas, entails the creation of ideologies or knowledge which, although it arises from an individual construction, transforms into a social construction shaped and strengthened in networks of action. In other words, 'empowerment' as defined by Adams (2008) and Rappaport (1987) entails a process of self-reflection in which individuals and communities take control over their circumstances, and gain 'mastery' in order to help themselves to improve or maximise their life quality.

This self-reflective process (Rappaport, 1987; Adams, 2008) or collective awareness (Wilson, 1996) that is manifested in extended networks (Foucault, 1980) forms the basis for what an autonomous process of empowerment is: a group of individuals who, motivated by their will or self-improvement wish, give rise to a collective sense of well-being. Supported by their social ideologies (local knowledge), this in turn creates a chain of networks that are transformed according to their reality. Based on this train of thought, it could be suggested that after the disaster Villatina residents created an autonomous process of empowerment that followed different mechanics of community self-organisation. The actions of the community permitted the establishment of diverse strategies or mechanisms of transformation which were supported by networks inside and outside the community. These had a direct impact in the spatial domain – manifested as 'ground-up architecture' – that resulted in the improvement of the neighbourhood's infrastructure. Furthermore, these strategies that occurred after the disaster were identified to have increased the community attachment in the residents. As a result of this process, a parallel manifestation of empowerment – created through insurgent planning ideologies – allowed residents to protect their territory from violence.

On the other side, top-down 'empowerment' (according to Medellin local government), takes its meaning from a state-developed definition of power which, according to Foucault is a power over others, a power that induces discipline, a *"fundamental instrument in the constitution of industrial capitalism"* (Smart 1985: 80). A point of fact is that – according to Foucault's definition – power has become a subject of the state, which has relentlessly expanded its rationalised systems of administration to achieve social control (Sarup 1993: 72). In this sense, power becomes a methodological application of mechanisms of power that are *'accompanied by ideological productions'* (Foucault, 1980: 102). Understood in contemporary terms, these mechanisms are the so-named participatory programmes

implemented by the state and institutions. Nevertheless, in accordance with Foucault's ideas of power, these strategies only constitute an effective instrument for the accumulation of knowledge through observations, procedures of investigation that are '*apparatuses of control*' and not ideological constructs (Foucault, 1980: 102).

These top-down apparatus or participatory strategies applied by Medellin government are developed from a broader and ambiguous definition of empowerment given by the World Bank, which in clear terms defines autonomous empowerment as: *"the expansion of freedom of choice and action to shape one's life, and it implies control over resources and decisions"* (World Bank, 2002: xviii). Additionally, the World Bank develops a separate definition of empowerment that is applicable for disadvantaged communities: "*For poor people, that freedom is severely curtailed by their voicelessness and powerlessness in relation particularly to the state and markets"* therefore, *"empowerment is the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives"* (World Bank, 2002; xviii). In this sense, the empowerment defined by Medellin local government is induced and controlled by institutions that are in charge of teaching the communities how to function and interact within their environment.

From this point onwards, a contrasting scenario between autonomous and top-down empowerment begins to emerge. In fact, several theories have addressed the distinctiveness of this term according to the mode of development. For instance, Kothari (2002) explained that this dichotomy lies in the misinterpretation of empowerment, that should be understood not as a thing that could be found (i.e. with the state, communities, women, men) since it "*restrains the emancipatory potential of empowering processes"* (Miraftab, 2010) but as something that circulates and is not specifically localised; it is simply employed and exercised. Nevertheless, although power has multiple dimensions - as Miraftab (2010) has claimed – there is a clear distinction between the type of self-power or autonomous power that emerges from the communities against the empowerment given to the communities by the top-down strategy, which cannot be interpreted as transferring power to the communities (Wilson, 1996).

The distinction between autonomous and top-down 'empowerment' can be clarified by analysing and contrasting the two types of development (i.e. bottom-up and top-down). For instance, in the bottom-up development process that occurred after the disaster in Villatina, a set of resilience components shaped the empowerment of Villatina residents that were

identified as community attachment, place attachment, necessity of progress, and defence of the territory. These became the main catalysts for the community to defend and re-construct the neighbourhood. Consequently, the autonomous empowerment allowed the creation of a shared sense of responsibility and protection towards the places by the community leaders and residents who, after the conclusion of the projects, continued to sustain and protect the projects from illegal invasions and violent attacks.

Conversely, in top-down-induced empowerment, the process is centralised and fully managed by the municipality (i.e. Master Plan Centroriental – Jardin Circunvalar) that through 'participatory' workshops and dialogue with the community defines the guidelines for planners and designers to evaluate and take action on the design and project development. The community participates by conceptualising the projects into drawings that later are interpreted by the design team. In some cases, the community participates in the construction process; however, this depends on the private building contractors. After the projects are built, it is expected that the participation of the residents in the PDS workshops will promote appropriation (attachment), and sense of belonging (defence of the territory) in the long term. Nevertheless, it was reviewed in this chapter that induced empowerment through PDS has in turn promoted dependency of the community on the local government – as seen in the analysis of Campo Santo Memorial Park. In other words, after the intervention of the government in the place, the community shifted their sense of responsibility and became dependent on the government intervention to protect and sustain the place. Therefore, it could be argued that 'empowerment' – as defined by the government – has not been generated or, at the very least, the PDS applied are not sufficient to empower the community. In fact, it can be suggested that the projects developed by the government in Villatina using PDS have affected the autonomous empowerment that was developed after the disaster and was manifested in Campo Santo (see Figure 5-12).

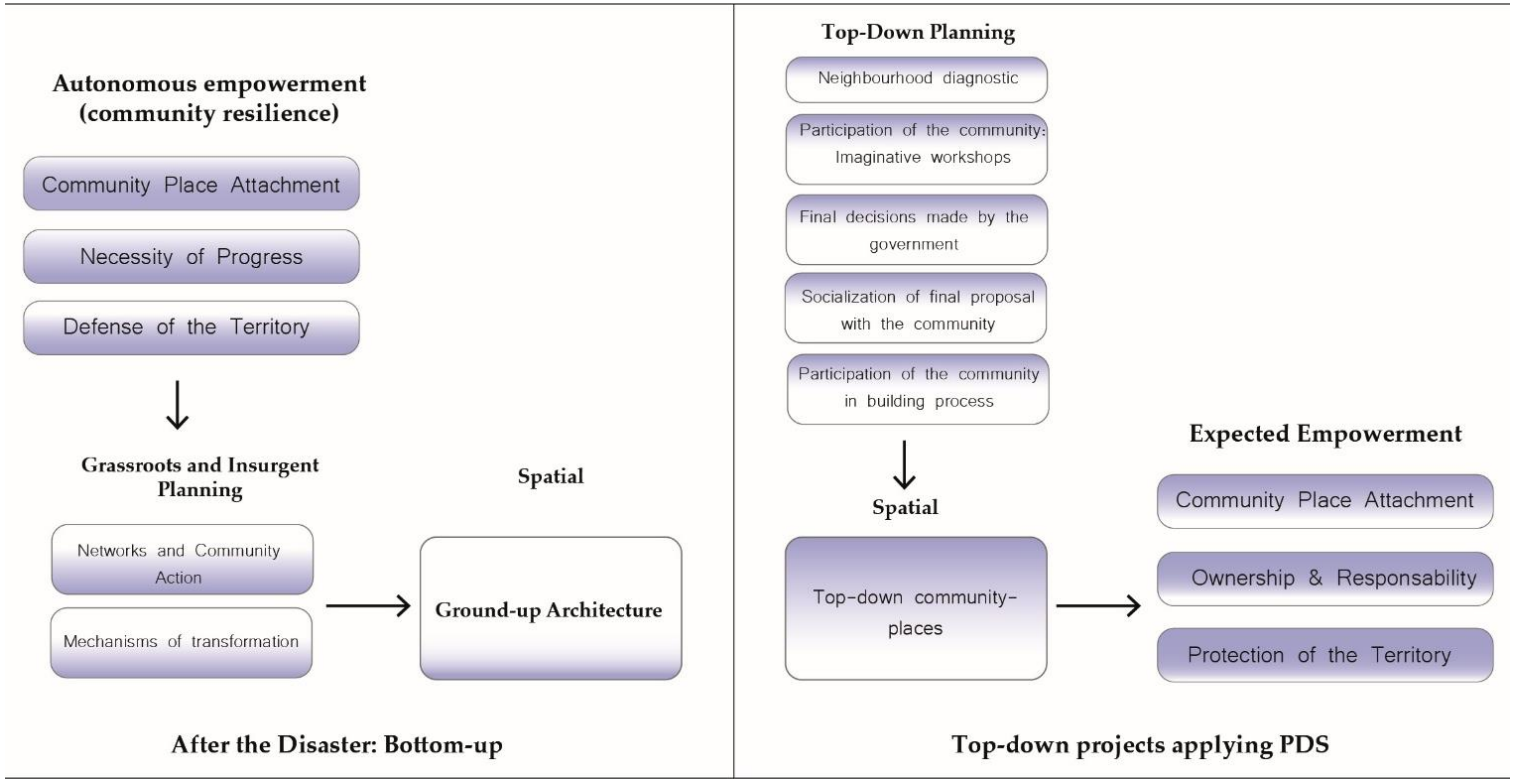


Figure 5-12. Comparison between grassroots community planning and top-down participatory planning approach: Shifting processes from bottom-up to top-down

5.6.2 **Reviewing Top-down Participation**

Although the integration of participatory design strategies in projects developed in slum settlements has represented a remarkable improvement in urban policies, the principles of participation applied by the local government only constitute a model of consultation. The dialogues generated between the government and communities are only to inform the state about the needs and problems in the community; however, in these methods, the main principle of citizen participation – 'citizen empowerment' – is not created (Arnstein, 1969).

Diverse theories on citizen participation in urban planning have defined the core outcomes of these strategies. For instance, Arnstein (1969) argued that participation is a dynamic interaction between state and communities in the process of development and execution of the projects. In this process, community associations or corporations are given responsibilities and they play an active role in the construction of their settlement, while the government is a mediator that delegates responsibilities and supervises the process of transformation of the built environment. By doing this, the communities are highly likely to be active in and supportive towards the improvement of the built and social environment. Complementary to this, Paulo Freire's theory of oppressive action (1970) – which became the grounding for participatory planning strategies - highlights that citizen inclusion should take as its starting point from radical ideas that transform the status quo established by the top-down instead of preserving it. According to Freire, participation finds its grounding in 'dialogue' which, in concrete situations of citizen participation, is a horizontal relationship of mutual trust between the dialoguers. Conversely, if the dialogues do not converge in education and equal partnerships, the participatory dialogues degenerate and transform into paternalistic manipulation (Freire, 1970: 91).

Viewed from Freire's theory, the residents who participated in the PDS workshops are the source of information but are not the 'subjects of transformation': The 'subjects' (residents participating in the workshops) are drawn into a process that leads only to an '*imagined reached'* power. This means they are not aware of the ambiguity they are drawn into, in which the apparent participation in imaginative workshops represents the inclusion of their ideas in the process. However, the outcomes rarely result in education, partnerships or inclusion of community associations. In fact, Davidson *et al.* (2007) suggest that consultation with the communities about their needs and wants is just another form of consent and should not be counted as "participation" or empowerment, because users have little or no control in the decision-making process (Davidsons *et al.,* 2007:102). Therefore, community participation should not be seen in isolation from the organizational design of the projects; on the contrary, it should be integrated in the overall project management. In this sense, Sarup (1993: 79)

notes from Foucault's ideas of power that if all the mechanisms of power including those that act outside of or in parallel to the state apparatus – albeit at a lower level – are not changed, nothing in society will be changed (see Figure 5-13). Therefore, induced participation would not generate empowerment unless even the smallest representations of power that exists in the communities (i.e. community associations and corporations) share equal responsibilities with the state in the process of transformation of the environment.

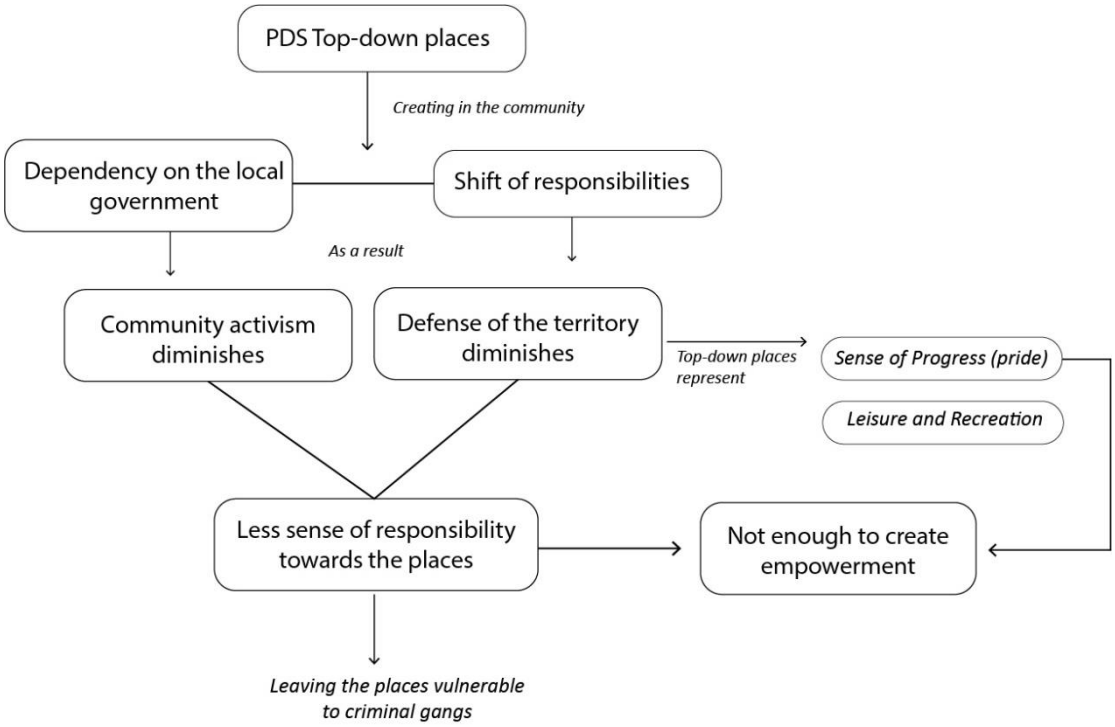


Figure 5-13. Illustrated outcomes of the intervention of the local government

5.7 **Summary**

The research found that while the method of citizen participation applied in top-down projects in the last decade (i.e. imaginary workshops) represents an important advancement in urban strategies of development applied by the government in informal settlements, the method constitutes another form of consultation that does not create empowerment. This is caused by the lack of active engagement of the community associations/corporations or leaders in the management and construction of these projects. Consequently, the community has been disempowered and has diminished the self-management and leadership of residents in top-down projects. In this vein, it could be argued that if empowerment has not been achieved by PDS since the local leadership and self-organisation of the community are affected by top-down places, it is very likely that the level of resilience could also be threatened by PDS projects.

Furthermore, the survey responses showed that the community considered itself to have strengthened its community action and attachment despite the intervention of the local government.

However, the community leaders who were interviewed suggested that these factors might not have a direct association with the top-down places developed by the local government, which regrettably – as in the case of Campo Santo Memorial Park – have caused a shift of responsibilities from the residents to the local government, affecting the sense of ownership and attachment towards the place. The dependency of the community on the local government to manage and maintain the Campo Santo after it was reformed in 2010 revealed that this could become a problem in the future, since top-down projects are highly dependent on political will, and financial support is not ensured every time a new administration is elected. For instance, after the government's administration changed in 2012, the Campo Santo did not receive financial support from the government. During this period the park was unprotected, and criminal gangs started settling in the park creating a hostile environment. Conversely, when the park was directly managed by the community – before the government intervention – it was protected by the community. In other words, the community manifested a shared sense of responsibility and ownership towards the park.

This situation portrays the drastic changes in the social dynamics of this neighbourhood where, despite the intervention of the local government, new forms of violence continue to emerge in the urban space. Nevertheless, the desire to actively participate in the development of top-down places – as was expressed by Villatina residents – represents an opportunity for future top-down projects. However, the involvement of the community should surpass the boundaries of consultation within PDS, and the active engagement of the associations, corporations, and/or local leaders should be ensured in order to avoid dependency and promote empowerment.

The exploration undertaken in this chapter revealed some key differences between the empowerment that occurs in the construction of bottom-up and top-down places. However, what other differences could potentially be found across these places? How do the residents of Villatina perceive those places, and to what extent could these perceptions be associated with some of the main components of community resilience revealed previously in Chapter 4 (community activism, community attachment, place attachment, necessity of progress, and defence of the territory)? In fact, this thesis argues that it is important to clearly establish the main differences across bottom-up and top-down places in order to understand how such places have impacted the social structure of the community, and to explore how the community has adapted to the new PDS developed places. In this order of ideas, the next chapter introduces a thorough examination of the most representative places in Villatina – divided between bottom-up and top-down – directly selected by the residents. A statistical exploration would generate a greater understanding if there are differences across bottom-up and top-down places.

6 Chapter Six: Differentiation across Bottom-up and Top-down Places

6.1 Introduction

Chapter four discussed the community resilience components that were developed after the disaster and aided the community in the process of post-disaster reconstruction. The most important factors identified were community activism, community attachment, place attachment, necessity of progress, and defence of the territory. This allowed the community to create planning strategies to initiate the process of reconstruction of the built environment. The outcome was the construction of grassroots places (bottom-up places). Nevertheless, in Chapter five it was identified that the intervention of the local government with top-down places that used PDS in Villatina has failed to empower the community and has created dependency on the local government. As a result, the community does not create a sense of responsibility or ownership towards the newly built top-down places, thereby diminishing the defence of the territory that was developed during the reconstruction after the landslide. Furthermore, the research identified that the community feels strongly attached to the neighbourhood and is reported to have a strong leadership and activism; however, this activism seems to be disconnected from top-down interventions. In other words, the community seems to report a greater sense of attachment and responsibility towards bottom-up developed places.

This chapter aims to answer the final research question of this thesis: To understand how the most important bottom-up (grassroots places) and top-down (developed in the last decade applying PDS) places are perceived by residents of Villatina. This is addressed by exploring which social resilient components – previously identified as community activism, community attachment, place attachment, necessity of progress, and defence of the territory – are associated with these two places types.

The chapter begins with an introduction of the relevant literature that justifies the selection of the research methods that were used to collect different sets of data. A detailed explanation of each of the research stages is provided in the subsequent sections containing information related to participants demographics, methods or instruments applied, and data analysis (see Figure 6-1). The survey results section (Section 6.6) presents the triangulation of the qualitative and quantitative data. A critical analysis is performed to understand the differences across top-down and bottom-up places according to Villatina residents' perceptions.

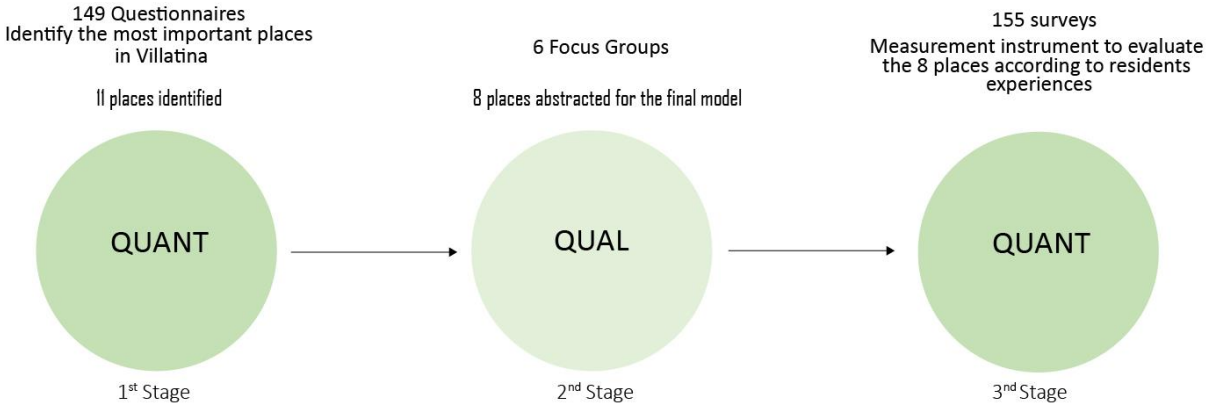


Figure 6-1. Diagram of the different data collection stages

6.2 **Section Methodology**

For decades, researchers have been entrenched in theoretical discussions that attempt to explain the meaning of place (Relph, 1976; Canter, 1977). The separation between objective positivist research and subjective interpretivist schools of knowledge has led to disputes between what methods are more appropriate to define the meaning of place and who is right. Nevertheless, an important subject overlooked for years is found in the definition of place by Kemp (2001) who suggests that *"a place is an environment made whole in the imagination and used to define and orient the self"*. In other words, place is an experience that relies upon individual imagination and experience. However, as simple as it might look, it continues to intrigue researchers concerning how individuals associate meaning with experience, and how the formation of that meaning shapes societies and cultures (Manzo, 2005; Lewicka, 2010). While research continues to approach holistic and scientific ways to determine how individuals confer meaning to places through cognitive and perceptual processes, these approaches could sometimes, lead to static concepts (Garner and Raudenbush, 1991) that disregard the social relationships that are built and are very likely to determine the meaning of places.

The multi-dimensional changing complexity of 'place' opens the discussion to recognise the current definitions that for decades have guided research on place perception (Relph, 1976; Alexander, 1979; Kaplan, 1984; Sime, 1986; Steadman, 2003; Manzo, 2005; Lewicka, 2010) which, this thesis argues, are philosophical standpoints that have theoretically attempted to unify a conceptual approach to guide our understanding of what place means at the individual and social levels. However, while the aim of this research is not to defy the existent theories or definitions of place, it is also argued that given the constant flux that places are subjected to across time, it becomes inadequate to formulate a static universal theory of place that could be applied for every context. To understand the rather complex meaning of place, it is argued – in close association with Kemps' affirmations on this subject

– that "*place results from the construction of living experiences of individuals and groups in a specific environment over time*" (Kemp, 2001), where the term 'environment' is understood as the canvas of time that is heavily affected by social, cultural, political and economic factors, and 'place' is understood as the shared experiences of groups and individuals within a determined physical boundary.

In recognition of the iterative change of places and given that these iterations depend on the shared experiences of individuals, scholarship further argues that it is of great importance for research on place perception to recognise the situated realities and contextual factors of the environment in order to understand how a place is lived in and experienced by each individual or group. In the case of Villatina, which is a socially isolated informal neighbourhood beset with highly visible problems of landslides exposure, poverty, and volatile changes caused by extreme violence, to understand how place is perceived by its residents, it is necessary to acknowledge the multi-dimensionality of the environment and its impact within those perceptions.

To understand the perception of place for Villatina residents by integrating their situated and context realities, this chapter analyses whether specific places in the neighbourhood that are heavily influenced by '*community activism'* are associated with feelings of protection, safety, attachment, and spiritual significance. In parallel, the places that have been built using top-down strategies through PDS are analysed to demonstrate that although PDS have been integrated for the design and construction of the places, these planning strategies – that are grounded in static definitions of place – should not be considered as the best solution for these communities.

Based on the previous findings of this thesis, this chapter does not aim to develop a definite theory of place perception in informal settlements. Instead, in this part of the thesis, the researcher sets out to claim that attempting to theorise or conceptualise how specific individuals experience place is secondary. The intention of this chapter then – as Habermas (1974) argued – is to contribute to the understanding of how poor communities behave beyond their confined realities, by examining the reasons that have led them to perceive their environment in the way they do (Unwin, 2006).

It is argued that, through the exploration of the subjective perception and experience of place of specific vulnerable social groups, future frameworks could be informed. As a result, alternative research methodologies could be structured in order to investigate the socio-physical dynamics that occur within these groups. Therefore, by digging into the reality of a vulnerable social group through the implementation of diverse research methods (i.e. community-led approach – see Chapter 3, Section 3.3.1), the discussion presented in this chapter aims to understand the multiple social layers that affect and shape the experience of place. Based on these results, the researcher argues that it is

of paramount importance for future urban planning policies that use PDS in slum settlements, to integrate alternative frameworks that are situated in the immediate realities of the social groups, instead of applying inflexible strategies of participatory design.

6.3 Stage one: Most important places in the Villatina survey

Several place perception theories have advocated years of research to highlight the impact of the urban space in people's behaviour. Regarded as one of the main contributions in this subject is Kevin Lynch's book "*The Image of the City"* (1960). Lynch introduced the notion of the image of the city as a determinant factor that could impact in different ways on human perception and behaviour, from feelings of safety provided by a clear and ordered urban layer to feelings associated with chaos and anxiety when the city is perceived as disorderly and not easy to navigate. Although Lynch's contributions in urban theories and planning policies have spanned decades opening new directions for research explorations, according to Moore and Golledge (1976), Lynch's theories prioritised only the spatial domain, leaving aside the social and interactive layer of place that determines perception (Moore and Golledge, 1976). However, although not included in Lynch's work, the contribution of his theories led to the development of frameworks that simplified the elements in a city that could influence human experience and perception of the city, opening new paradigms of research to understand the subjective experience of place that is defined through values, feelings, and symbolism.

The theories that were built on Lynch's studies conceived the individual perception of a city or a place as construction of thought. For instance, Moore and Golledge (1976) defined in simple words how the broad experience of the built environment is embedded within individuals' thoughts, arguing that: *"in a very basic sense, the environment is what we think it is, and as citizens and decision makers we respond to it and we deal with it as we conceive it to be"*. Moore and Golledge's statement is closely aligned with Stephen Carr's and Kevin Lynch's (1968) views on the subject where he claimed that the city is what people think it is. The city that we know personally – the city of the mind – largely determines the world in which we have our life experiences and through which we strive to gain many of our daily satisfactions. The city of the mind defined by Carr is further conceptualised by Tuan (1977) who, in an attempt to introduce an additional dimension to the perception of place, conducts a phenomenological theorisation of place through the notion of 'space meanings' that are developed and shaped according to personal experiences. From this point onwards, the theories developed on place perception had advocated several studies to arrive at a universal understanding that places are mainly defined by meanings, which in turn are derived from experience with the physical landscape. In other words, a *"fairly strong social construction of meaning (mind construction) and experience (another extension of mind construction)"* (Stedman, 2003).

All these theoretical approaches have led to the conclusion that place perception is an individual construction that is influenced by social and cultural experiences, commonalities, discriminations, and preferences (Eisenhauer *et al.,* 2000). In fact, the subjective social construction of place relates closely with the Straussian socio-constructivist school of thought widely implemented in sociology and urban geography studies (Corbin and Strauss, 2015). This constructivist approach calls for a closer inspection of what people think of the places in which they interact and live. According to Strauss (Corbin and Strauss, 2015), one cannot fully understand the social behaviour that has shaped places without understanding first what people think of those places (Moore and Golledge, 1976: 20).

On this basis, this research explores what are the most relevant places in Villatina according to the views and personal constructions of residents of the neighbourhood. To do so, the initial selection of the most relevant or representative community places for residents will be closely aligned with Straussian precepts of social construction of place that prioritise the thoughts and preferences of the residents above the researchers' inquiry (Corbin and Strauss, 2015). While the researcher-driven place selection (i.e. places are selected according to specific research criteria in accordance with the area of inquiry) is widely used and accepted in research, in this study it was considered that to provide a more realistic estimation of which the most important/significant community places in Villatina are, an open-ended strategy that entailed directly asking participants to identify the most important places in the neighbourhood was implemented.

Previous studies on place perception and place preference have implemented the principle of open-ended strategy by allowing participants to freely identify the most relevant places for them. Amongst these, the studies conducted by Aitken (1990), De La Rosa (2014), Droseltis and Vignoles (2010), Isaacman *et al.* (2011) and Nasar (1990) showed that by letting residents freely identify the places that are particularly important for them, the information reveals new factors and elements that have permitted the researchers to find new correlations between place perception and place experience (that normally are outside of the existent body of literature) according to specific contexts.

Although the application of an open-ended strategy to identify the most relevant places poses the risk of people nominating multiple places with different functionalities, this part of the study was structured in order to provide enough variance in the information that could explain underlying social phenomena occurring in different places in Villatina. Furthermore, this information helped to establish a set of place-preference selection critera according to the mechanism of development: bottom-up or top-down.

The process was structured to initially identify some of the most relevant places through a simple survey instrument designed to follow an open-ended principle (i.e. residents nominated 10 of the

most important places in the neighbourhood). After the surveys were collected, due to the vast number of places nominated by the community (a total of 55 places, see Section 6.3.1), statistical significance tests were applied in order to shortlist a smaller number of places that could be investigated further. The subsequent stage was to identify the meanings attached to the most important places. To do so, further empirical exploration was followed by in-depth discussions with residents of the community in six focus groups (see Chapter 3, Section 3.6). The objective of this qualitative stage was not to draw statistical representative sampling, but to obtain a wide range of responses to gain a more reliable understanding of the underlying reasons for choosing the places, and to identify the main differences across bottom-up and top-down places. The underlying principle that guided the focus groups was grounded in Paulo Freire's (1970) ideas of participatory dialogue that entails a process of learning and knowing through discussions, in which the outcome is the theorisation of experiences organised in the form of categories.

6.3.1 **Data management and analysis procedure applied in this stage**

The data were initially displayed in a frequency chart (Figure 6-2) that presents a total of 55 places – considered to be the most important for the community. Each place was numerically coded according to the name of the place along the x-axis and displayed in descending order, from the highest frequency of votes given to each place to the lowest. The y-axis shows the frequency with which the places were named by survey participants. Table 6-1 presents the total places named by the participants by the numerical code (*n*) given in Figure 6-2 and the corresponding name of that place in the neighbourhood.

According to Figure 6-2, a large range of areas were identified within the surveys. In Table 6-1, these are displayed by a numerical identifier for each place and number of votes. In order to shortlist a number of places that could be further studied, statistical analyses were performed on the data (Field, 2013). At this point it is important to clarify that all the 55 places named by the survey respondents were selected for their relevance in the neighbourhood. Nevertheless, in order to conduct an in-depth exploration of some of the most relevant places in the neighbourhood, it was necessary to identify a smaller group of places. Therefore, to select these places, an exclusion approach was implemented that consisted of performing pairwise comparisons between the highest frequency or most voted-for place that was found (i.e. Place 6: n=105) against each of the subsequent lower-ranked place frequencies, until statistical significance and substantive (i.e. small, but of practically importance (Hedges and Pigott, 2001)) effect sizes could be detected.

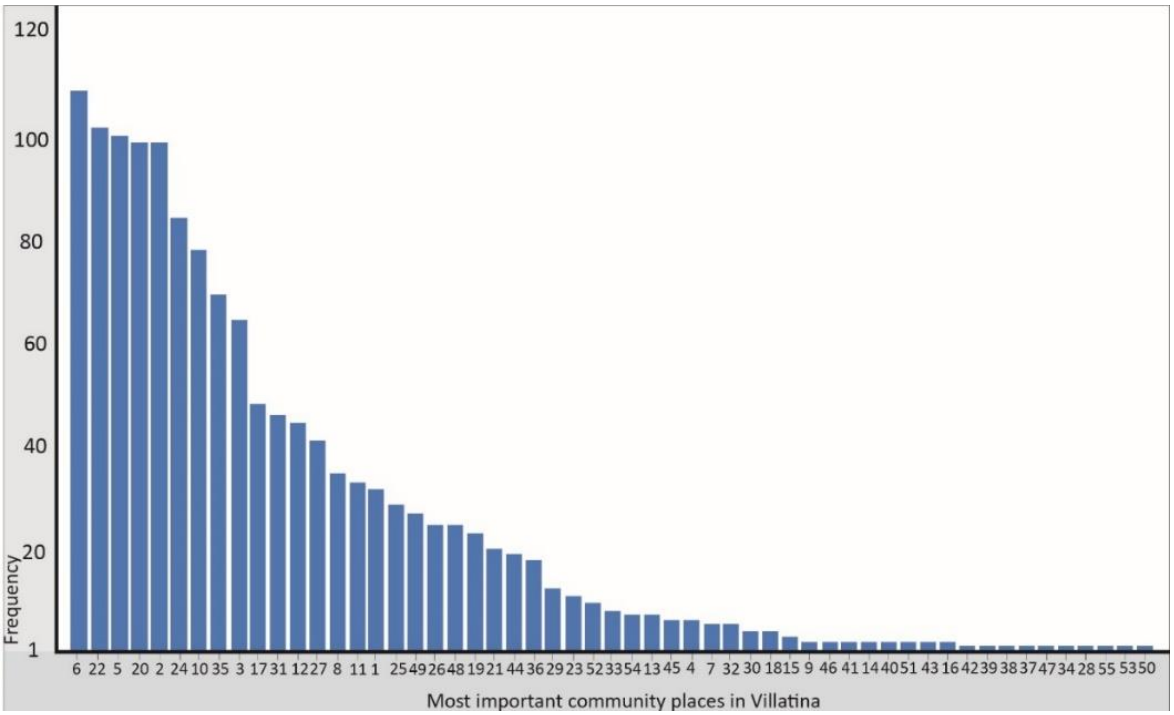
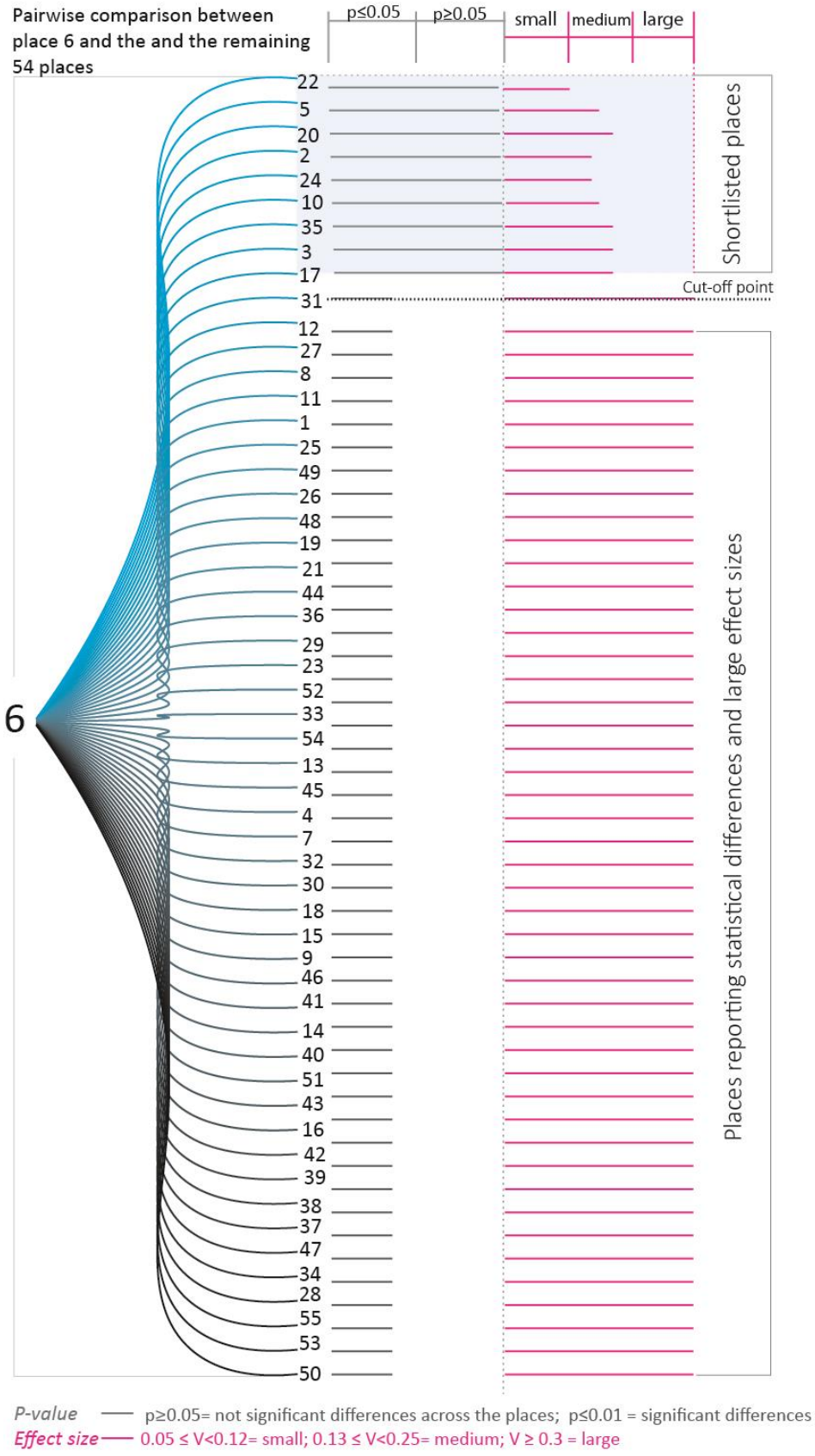


Figure 6-2. Graph showing the frequency voted for the places identified in the neighbourhood, as listed in Table 6-1

To perform the analysis, a 10x2 contingency table (i.e. 10 corresponding to the level of importance of each place and 2 corresponding to the places to be compared (e.g., Place 6 vs. Place 22)) with Chi-squared (χ^2) significance test and effect size was used. Emphasis was placed on the effect sizes (Cramer's V) (Cohen, 1985) providing an equivalence of the standardised difference between the frequencies across the two variables (e.g., different places). Hence, when statistical significance (p<0.05) and practical relevance (Cramer's V≥0.13) could both be detected between two places under examination – i.e. when compared with the highest frequency place (Place 6) – this will be considered as the cut-off point. Therefore, any non-significant (p>0.05) and negligible differences (Cramer's V<0.13) – before the cut-off point – will be retained within the most important group of places (Figure 6-3)

Table 6-1. Order of place preference with number of votes per place given by the survey participants

Place number	Place name	*Number of votes*	*Place number*	Place name	*Number of votes*	*Place number*	Place name	*Number of votes*
6	Parque Tinajas/la torre	106	*48*	Los rieles	23	*14*	Cancha Villatina	2
22	UVA Sol de Oriente	100	*19*	Ludoteca	18	*16*	Iglesia San Antonio	2
5	Iglesia Villatina	97	*21*	Iglesia Sol de Oriente	16	*40*	Centro de Capacitacion	2
20	Campo Santo	95	*44*	Las Escalas	15	*41*	Fromatica publicidad	2
2	accion comunal	94	*36*	cancha microfutall	13	*43*	Gimnasio Campos de paz	2
24	Estacion de Policia	81	*29*	Cerro valores	11	*46*	Virgen de la Taberna	2
10	Centro de Salud	77	*23*	Sede grupo SIMPAC	8	*51*	La entrada	2
35	Mirador de la Torre	70	*52*	Los Charcos	8	*28*	Hogar Familia	1
3	La cancha de la libertad	60	*13*	Hogar Comunitario	7	*34*	Mi casa	1
17	Biblioteca Familia	48	*33*	UVA tanque	7	*37*	Comidas rapidas Manzanares	1
31	Morro Pan de Azucar	45	*54*	colegio la libertad	7	*38*	Parque infantil terminal	1
12	Parque Infantil	44	*4*	Parque de la Terminal	6	*39*	Restaurante Villatina	1
27	Cancha de arena tinajas	41	*45*	La Gayola	6	*42*	La Taberna	1
8	Colegio San Francisco de Asis	36	*7*	UVA Villatina	5	*47*	La Batea	1
11	Buen Comienzo Villatina	34	*32*	Super Mercado Villatina	5	*50*	la Cañada	1
1	Cementerio	32	*18*	Canchas Microfutbol	4	*53*	Los mangos	1
25	Terminal Villatina	29	*30*	Cancha San Antonio	4	*55*	Las estancias	1
49	El Plan	28	*15*	Cancha Sol de Oriente	3			
26	Tanque Sol de Oriente	25	*9*	Biblioteca UVA	2			



P-value —— p≥0.05= not significant differences across the places; p≤0.01 = significant differences

Effect size —— 0.05 ≤ V<0.12= small; 0.13 ≤ V<0.25= medium; V ≥ 0.3 = large

Figure 6-3 . Shortlisted places according to statistical significance

Table 6-2 presents the results of the contingency table (10x2) test with χ^2 (*p* values) and effect sizes (Cramer's V) for the pairwise comparison across the places (6-22, 6-5, 6-20, 6-2, 6-24, 6-10, 6-35, 6-3, 6-17, 6-31). Significant statistical difference was not detected for the comparison across the first nine places (i.e. 22, 5, 20, 2, 24, 10, 35, 3, and 17). However, the pairwise comparison between Place 6 and Place 31 revealed a statistically significant difference among these places (*p*=0.01) corroborated by a large-effect size (V= 0.38). The pairwise comparisons for the remaining 44 places after Place 31 (12, 27, 8, 11, 1, 25, 49, 26, 48, 19, 21, 44, 36, 29, 23, 52, 33, 54, 13, 45, 4, 7, 32, 30, 18, 15, 9, 46, 41, 14, 40, 51, 43, 16, 42, 39, 38, 37, 47, 34, 28, 55, 53, 50) also showed statistically significant differences (see Figure 6-3). Therefore, Place 31 is considered the cut-off point. In this order of ideas, the places retained as those of greatest importance for the community according to the statistical tests performed are 22, 5, 20, 2, 24, 10, 35, 3, and 17.

Table 6-2. Test statistics, p-values and effect sizes for the crosstab (10x2) comparison between Place 6 and places 22, 5, 20, 2, 24, 10, 35, 3, 17, and 31

PLACES	$X^2(9)$	P-VALUE	CRAMER´S V
6 – 22	4.08	0.90 n.s.	0.14
6 – 5	11.68	0.23 n.s.	0.24
6 – 20	15.71	0.73 n.s.	0.28
6 – 2	15.71	0.35 n.s.	0.22
6 – 24	7.59	0.57 n.s.	0.20
6 – 10	10.19	0.33 n.s.	0.23
6 – 35	11.87	0.22 n.s.	0.26
6 – 3	10.96	0.27 n.s.	0.25
6 – 17	0.25	0.34 n.s.	0.25
6 – 31	**20.63**	**0.01***	**0.38**

* = $p \leq 0.05$= significant differences across places; n.s.= non-significant differences
V<0.05= negligible; 0.05 ≤ V<0.12= small; 0.13 ≤ V<0.25= medium; V ≥ 0.3 = large

6.3.2 **Shortlisted places**

According to statistical significance tests based on preference ratings, 10 places were shortlisted to be further investigated (see Figure 6-3 and Table 6-2). It is important to clarify that in spite of the statistical tests results, this study is not concluding or suggesting that the rest of the places – excluded from further investigation – are not important or relevant for the community. The statistical exclusion approach was used only to find a smaller group of places based on the most frequently named places in the surveys. Furthermore, although Place 31 was considered as the cut-off point since it reported significant statistical differences (*p*=0.01) supported by a high effect size (V= 0.38), it was decided to include it for further investigation. Place 31 (Morro Pan de Azucar) is one of the most important PDS projects developed in the city of Medellin in the last decade. In fact, it was considered as the

pilot project of the Green Belt project and one of the most relevant PDS projects undertaken in the last administrations between 2011 and 2015 (Ortiz and Boano, 2019). Additionally, this place is the closest to the threshold of the places that were shortlisted for further investigation.

Table 6-3 presents the name and function for each of the places included for further investigation that are also considered to be among the most relevant places in Villatina. The functions identified are: Leisure (Parque Tinajas/la torre, Mirador de la Torre, La cancha de la libertad, Morro Pan de Azucar), Learning (UVA Sol de Oriente, Biblioteca Familia), Safety (Estación de Policía), Community Agency (Acción Comunal, Iglesia Villatina), Health and Wellbeing (Centro de Salud), and Memorial and Leisure Space (Campo Santo). It is important to note that, in this stage, the order of importance of the places was not taken into consideration, since the aim of this stage is to simply determine a group of most relevant places in Villatina given the statistical importance, and to categorise them according to the strategy of development – bottom-up or top-down – for further analysis.

Table 6-3. Shortlisted places

PLACE NO.	PLACES	FUNCTION
6	Parque Tinajas/la torre	Leisure park
22	UVA Sol de Oriente	Learning centre
5	Villatina Church	Church
20	Campo Santo	Memorial park
2	Community Centre	Community centre
24	Estación de Policía	Police station
10	Centro de Salud	Health centre
35	Mirador de la Torre	Viewpoint
3	La cancha de la libertad	Football pitch
17	Biblioteca Familia	Library
31	Morro Pan de Azúcar	Pan de Azúcar hill

6.3.3 **Categorisation of the 11 places according to bottom-up or top-down**

After 11 places were shortlisted, each of them was grouped into bottom-up and top-down categories in order to continue exploring the main differences across bottom-up and top-down. To establish to what category the places pertained, the secondary data obtained from official documents and the initial interviews conducted with the Villatina residents during the field work were reviewed. This helped the researcher to establish the corresponding development mechanism – (bottom-up, mutual, mixed – see Chapter 4, Section 4.5.4) for the bottom-up places.

Five places were included in the bottom-up category: community centre, church, family library, Campo Santo, and football pitch (Table 6-4). It was found that the community centre,

church, and family library were developed through a bottom-up mechanism (see Chapter 4, Section 4.5.4). This means that the community planned, managed and financed the construction of these places. The Campo Santo was found to be developed through a mutual development which, as described in Chapters 4 and 5, is a type of mechanism in which the place is initially bottom-up-built and later the local government improves or reforms the place through PDS. The football pitch was developed by both the community and the local government by using a mixed mechanism of development. In other words, the community planned the project and sought financial support from the local government.

Table 6-4 presents the bottom-up places; community centre, church, family library, Campo Santo, football pitch and the corresponding bottom-up development mechanism (i.e. bottom-up, mutual, mixed – see Chapter 4, Section 4.5.4). Table 6-5 presents the top-down places: Tinajas leisure park, UVA learning community centre, police station, health centre, Mirador de la Torre (community viewpoint), and Morro Pan de Azucar (Pan de Azucar Hill[6].

Table 6-4. Invented and invited Grassroots Places

Invented and invited Grassroots Places		
Place and development mechanism	Place image	Development mechanisms
Community Centre: BU		Bottom-up (BU) Mutual (M) Mixed (MX)
Church: BU		
Family library: BU		
Campo Santo: M		

[6] Historically, the Pan de Azúcar hill has been recognised as a city landmark after the landslide in 1987. In 2011, the local government transformed the hill by building several ecology paths and viewpoints that are part of the Jardin Circunvalar (The Green Belt) mega-project.

Football pitch: MX		

Table 6-5. Top-down Places

Top-down Places		
Place and development mechanism	Place image	Development mechanisms
Tinajas		Top-down
UVA		
Police station		
Health centre		
Mirador de la Torre		
Morro Pan de Azúcar		

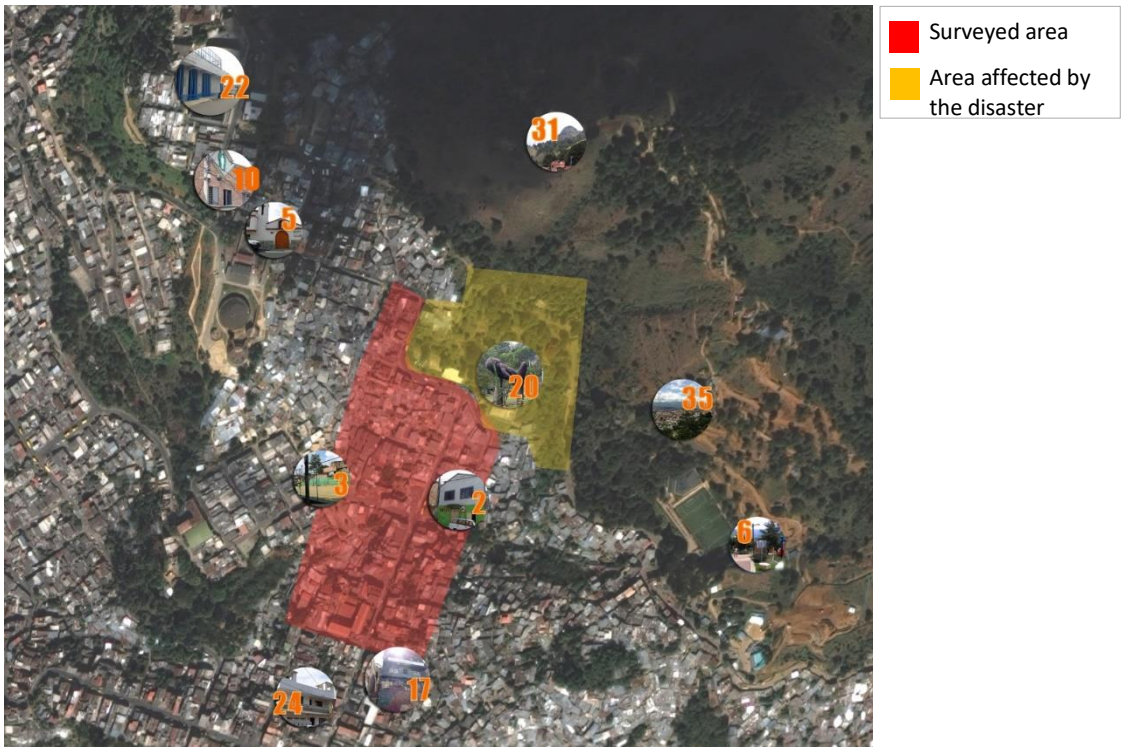


Figure 6-4. Map location with the 11 most important places identified by the community

6.4 Stage two: Qualitative Inspection of the shortlisted 'Most Important Places in Villatina'

6.4.1 Focus groups: Subjective exploration

The discussions based on the most relevant places in Villatina (Figure 6-4) took place in the second half of focus group sessions conducted between October 2016 and January 2017 (see Chapter 3, Section 3.6).

For the discussion of the places, the participants were asked to take part in an activity that was oriented towards exploring the meanings attributed to each of the 11 places shortlisted as the most important places in Villatina. The discussion followed a dynamic methodology in which photographic images for each place were printed and shown to the participants. This maximised clarity and recognition of each of the places and helped participants elicit individual constructs according to each place. Photographic images have been identified as a useful mechanism in qualitative interviewing to make sense of daily life (Castleden *et al.*, 2008: 1395). Likewise, visual images engage the emotions and draw out feelings in participants (Baldwin and Chandler, 2010: 647). Therefore, the photos shown to the focus group participants corresponded with the most relevant places identified in stage

one (Section 6.3). Some of the photos were taken by the researcher while conducting fieldwork; however, for security reasons (see Chapter 3, Section 3.4) some of the photos were captured by the research volunteers.

After the images were shown, the participants were asked to order each of the places according to its importance in the neighbourhood in descending order (1= the most important, 11= the least). Jorgensen and Stedman (2011) and Scannell and Gifford (2010) have postulated that abstracting a list of the most relevant places in a neighbourhood and asking participants to evaluate them qualitatively transforms a spatial object into a concept that offers spatial, affective, cognitive and behavioural dimensions, allowing the researcher to gain in-depth knowledge on how individuals perceive specific places. Therefore, after the ranking order was established, the discussion was oriented on explicitly linking the subjective spatial variability of the places through quantitative methods, by eliciting the place meanings, emotions and behaviours linked to them (Jorgensen and Stedman, 2011). This was done to gain a closer evaluation of the places according to the beliefs, feelings and factors that affect attitude salience and cultural context (Jorgensen and Stedman, 2011) (see Appendix 4 focus group procedure).

Physical aspects of these places were not part of the discussion, since it is believed that they could constrain the possible meanings that a place might adopt; therefore, only the symbolic meanings that rest in the physically-based place attachment were investigated (Scannell and Gifford, 2010).

6.4.2 **Data analysis procedure: Ordering activity of the most important places**

The initial activity of the focus groups (i.e. ranking the 11 places in order of importance) revealed that only nine places were considered to be particularly relevant for the community members who participated in the six focus groups. For bottom-up places, the participants of the focus groups selected the places according to their relevance and positive impact for the community: community centre, church, library, and home (suggested by focus groups participants to be included among the most important bottom-up places). However, for the top-down places - Tinajas leisure centre, UVA Sol de Oriente (learning centre), Mirador de la Torre (view point), and Morro Pan de Azucar (ecology paths at the top of the hill) – the community expressed that they have only contributed to improve the image of the neighbourhood and were chosen for their aesthetic representativeness.

Campo Santo (the memorial space) was selected by focus group participants as a very important and representative place of Villatina. However, residents expressed that the

Campo Santo used to be very important in the past before the intervention of the local government (see Chapter 4, Section 4.5.3). Participants of the focus groups expressed that the illicit activities that are currently taking place in the Campo Santo have deterred residents from using the place and have brought distress among neighbours. Additionally, it was argued by community leaders that the multipurpose space built by the local government to replace the small chapel previously built by the community is not used by residents (see Chapter 5, Section 5.4). Nevertheless, focus group participants still included the Campo Santo in the list of the most important places for the community. However, it was not categorised either as a bottom-up or as a top-down place, since it was originally built by the community and modified years later by the local government. Instead it was categorised as a mutual-developed place (see Chapter 4, Section 4.5.4). On this basis, due to the importance of the Campo Santo for Villatina residents, this place was also included in the survey; nevertheless, the analysis of this place would help to understand how residents perceive the places that are built under Mutual-development strategies. Therefore, to conduct the analysis of the Campo Santo, it was decided to perform a separate test that only evaluates the survey responses for this place. Table 6-6 presents the places included for the final survey according to their development strategy.

Interestingly, although the football pitch and police station were important in the community, they were not included by the focus groups participants among the most relevant places in the neighbourhood. On the other hand, the health centre was recognised as a very important place for the community; however, it was not included for further investigation in the survey. In this point it is important to highlight Linney's (2000) suggestion that to understand how a neighbourhood is lived and interpreted by its residents, all measures should capture the transactional processes among residents, instead of only creating ''*static snapshots or unidimensional constructs*'' (Linney, 2000: 663). From this point of view, it could be said that this study has attempted to integrate those transactional processes by first allowing open-ended measurements to determine the most relevant places in Villatina that were later discussed at length with the residents (Korbin, 2001). This was done in order to include the views of the 'insiders' or the residents as much as possible in this study (Korbin, 2001, Nykiforuk *et al.,* 2011) since they are the ones experiencing the place (Kemp, 2001). Nevertheless, one of the aims of this research is to understand whether Villatina residents perceive any differences between bottom-up developed places and top-down developed places (PDS), and if so, what those differences are (see Section 2.5). Therefore, the places that were not built under PDS or bottom-up strategies such as the

football pitch, police station and health centre were not included in the next step of this investigation (i.e. survey).

Table 6-6 presents the bottom-up places selected by the community that were part of the grassroots mobilisations after the disaster (Section 4.5.4): community centre, church, family library, home. The four top-down places were part of a mega-city plan denominated 'Jardin Circunvalar' (Circunvalar Garden or Green Belt) (see Chapter 5, Section 5.2) that aimed to integrate the city hills through green belts. The top-down projects in Villatina that were selected as the most relevant in the community are Tinajas leisure and learning park, Mirador de la torre (view point), Morro Pan de Azucar (Pan de Azucar Hill – ecology paths), and UVA[7] Sol de Oriente (learning and sports centre).

Table 6-6. Places included in the final survey

Grassroots Places		
Places		***Development mechanism***
Community Centre Church Family library Home	  	Bottom-up

Top-down Places		
Places		***Development mechanism***
Tinajas Mirador de la Torre Morro Pan de Azúcar UVA	   	PDS

Mutual developed place (bottom-up first, transformed through top-down)	
Places	***Development mechanism***

[7] The UVA (Unidad de Vida articulada – articulated life unity) was part of a government project in association with the EPM (Empresas Publicas de Medellin). The aim of the project was to create diverse spaces in informal settlements that promoted community participation and social transformation through leisure and education activities (EDU, 2014).

Campo Santo		Mutual

6.4.3 **Places included in the final survey**

Throughout history the evolution of the human race has been conditioned by the internal perceptions of the external environment and events. This internal process of perception undoubtedly has been 'conditioned' by multiple factors that have shaped the systems of beliefs in which societies have evolved (Cole and Scribner, 1974; Proshansky *et al.,* 1983), for instance, religions, cultures, and more recently governments. It could be argued that as well as being conditioned by higher perceptual influences, the internal perception is at the same time uniquely shaped by the individual. In this sense, although general norms might affect the way we form our perception of the external world, the experience itself remains unique and tied to the individual's 'sense making' process of the world (Cohen, 1985: 9). For centuries, we have formed our ideas of the external environment based on polarity constructs (Kelly, 1955). This means that the way most people have learned to evaluate their perceived reality is given or defined by opinions that describe how good – mainly associated with feelings of rightness or wellbeing – and bad 'things' are, which mainly refers to feelings that arise from internal images of psychological discomfort; and in many cases those images are linked with fear-based feelings (Fransella and Bannister, 1977). Although these polarised descriptions of reality are highly dependent on the sets of social and cultural beliefs systems, it could be argued that there could be a parallel interpretation of the external reality based on commonalities and neutrally perceived events. In other words, each individual is able to internally construct their unique experience of the world before the cultural polarised belief systems are embedded (Combs, 1991).

Studies conducted in space-perception have encountered several obstacles related to how humans make sense of the world that surrounds us. These obstacles are tied to the polarised perceptions that are conditioned by social norms and based on these all our definitions of the world and external events are formed. Some might argue that in the way we have attributed meaning to the world is indeed no less than a social construction that has subjective 'right' or 'wrong' descriptors (Van Berkum *et al.,* 2009; Graham *et al.,* 2013). In other words, such meanings almost function as holograms that are brought to life according to the beliefs systems. In this sense two realities emerge – to put it in simplified terms. The

first reality refers to the physical or material worlds or what we can touch and perceive outwardly with our five senses. The second one, and perhaps the most complex to understand, is the inwardly perceived reality, or the reality that is processed as part of cognitive-mind processes (Hillier and Hanson, 1984). Prominent scientists in different areas of space-knowledge perception (Lynch, 1960; Lee, 1968; Kaplan, 1973; Pocock, 1973; Gould and White, 1974; Canter, 1977) have researched these two sets of realities for years. Many of them have attempted to understand both the physical and subjective day-to-day realties of the world by creating different methods and measurements. For instance, the studies on cognitive maps conducted by Golledge and Stimson (1987) provided greater insights on how we construct our internal perceptions based on given external referents that are experienced (Kitchin, 1994: 5), and the work of Christopher Alexander who derived patterns of commonalities that emerge from the experience and the physical worlds helped us understand how humans interact and make sense of outer and inner worlds (Alexander, 1979).

Many other studies have indeed investigated how such two types of realities exist together providing different sets of measurements for the perceived reality that is based on the external world (Kaplan, 1984; Aitken, 1990, Brehm *et al.,* 2006; Foland and Lewicka, 2007; Franz and Wiener, 2008; Scannell and Gifford, 2010). Such measurements have identified areas of perception that are developed by individuals and that better describe how the feelings and perceptions of the external environment are created. Although several scales have been developed for different areas of human development, this study is only focused on those that relate to the perception of place; in other words, how humans make sense of their immediate external space reality (places) and the feelings attached to those 'spaces'.

The investigation of place-meaning perception has been populated by literature that provides different methods of place evaluation (Nasar, 1990; Kitchin, 1994; Nicotera, 2007; Franz & Wiener, 2008; Droseltis and Vignoles, 2010). Therefore, the abstraction of the most widely used descriptors for place perception in built environment and urban studies were applied in the subsequent stage. These include the categories that have been unanimously considered to help describe our 'sense making' process of the external world, specifically of the places with which we interact. Furthermore, it is believed that these categories are related to the most recurrent feelings linked to place perception (Manzo, 2005). Nevertheless, as explained previously, perceptions also depend on individual interpretations of the immediate reality; therefore, those should be part of the study. In order to understand

those unique common descriptors that are shared by individuals – in this case by Villatina residents – the decision was taken to analyse the data provided in the focus groups and derive such descriptors from the discussions directly. By doing this, the located reality of the community members and their unique shared-space perception was acknowledged.

This quasi bottom-up data analysis commonly used in grounded theory analysis (Charmaz, 2006) was chosen instead of a top-down approach in order to prioritise the unique forms of perception that emerged from the community members. By unfolding this type of analysis, it was revealed that residents of Villatina have formed very specific *perceptions* of place that are by no means defined strictly by the *function* of the place. In general terms, in research, places are studied according to their designated function (i.e. museum, home, theatre, park, etc.), and all those places have specific attributes in which specific activities are performed that provide the definition for such places. For instance, a park will include elements that encourage or enhance outdoor activities. Nevertheless, in Villatina, such descriptions of place according to its function had a different connotation – as we normally know it – for bottom-up developed places.

The bottom-up developed places or grassroots places, as defined by Castells (1983) and others, lack, to some degree a sense of function discrimination. This means that a place with a specific function was not only defined or perceived by the given function; instead, a multitude of meanings heavily associated with community activism were attached to them. For example, the church was not only perceived as a place of spiritual ceremonies; it was mostly perceived as a place of activism where residents usually gather to strengthen their community bonds and activism, and support is provided, as described by participant FC4-3: *"The church is fundamental for all the changes that we have experienced here, because the church was the base to get all the improvements in our spiritual life, community life, well-being with the community restaurant, financial because even financial support we have received"*.

Additionally, the library was not only perceived as a place where the community can access knowledge, but was also associated with feelings of activism, since this place was built by the community and multiple meetings are held there by the community. Participant FG2-1 asserted the following: *"We constantly have meetings there, and we also receive talks about community co-existence".*

Home, for instance, is a place that for Villatina residents represents more than a family residence. It is a place that allows community action, gathering and recreation, and

represents health and well-being among other feelings. In other words, home was the representation of their struggle for survival and the insurgent planning actions that they initiated after the disaster: *"The houses that we have were part of the strong support and community action that we have here. After the disaster we started mobilizations and trying to find ways to improve our houses that were very poor"* (FG3-3); and *"Our houses represent everything for us, we can gather with our neighbours, we laugh, we take care of each other, they are our refuge. These houses are part of each of us, because we built them together, we all worked together for them"* (FG4-2).

The community centre, on the other hand, was recognised as a place of support for the community, nevertheless, it was defined by several focus group participants as a place that has been heavily permeated by political corruption and manipulated by external political agendas: *"I am part of the community action centre, and to be honest they do not help much this neighbourhood. I only remember that they helped fix 26 houses, but after so many years they did not help more. I think just a few people who work there have been benefited and have taken advantage. Unfortunately, people don't agree on things and each one just tries to benefit his own family or sector, but they do not think of a general benefit for the neighbourhood"* (FC4-3).

In the case of the Campo Santo, multiple divergent feelings were found; nevertheless, this place explains the idea of 'lack of a sense of function discrimination' mentioned previously. The function of the Campo Santo is a memorial park; however, when the place was built by the community after the disaster it was not only perceived as a memorial place. It was originally a place that according to the residents *"represented a history of events of a community that emerged from the ashes"* (interview community leader 19th October 2016). To reconstruct a history of events in one place by the community itself, a multitude of events took place (see Chapter 4, Section 4.9). Activism was the most commonly given description for the Campo Santo before the government intervention. In fact, when the memorial place was built, a small chapel was also self-built by the community. This chapel was not only for Catholic ceremonies; it was used for community decision-making gatherings, and even served as a temporary primary school. Nowadays, after the renovation of the Campo Santo by the local government, the perceptions of activism, community action, and other factors shifted, and today it is recognised only as a memorial place where criminal acts have started to take place (see Chapter 5, Section 5.4).

On the other hand, the top-down places developed through PSD, are perceived mainly for their original function, however the places are rarely linked with community activism. For instance, Tinajas recreation park is perceived as a place for outdoor activities and nature connection as well as the Morro Pan de Azucar, and Mirador de la Torre: *"I think these places are good for children, young people and adults, because we have sport activities, to me it represents sports in this neighbourhood"* (FG1-5). It is important to note that although these places have a leisure and recreation function, all of them include indoor activities for the community (see Figure 6-5 and 6-6: Tinajas park in addition to outdoor activities has a building for community activities). Finally, UVA Sol de Oriente was developed as a multi-purpose building with recreation and leisure activities, learning facilities, and spaces for community gathering (see Figures 6-7 and 6-8).

The top-down places – with the exception of UVA Sol de Oriente – were unanimously described as places that produce feelings of fear, since in the past those places were occupied by criminal gangs, and in the present day some of these activities continue to take place. Nevertheless, these places are positively perceived as signs of progress in the neighbourhood:

> *"We don't go to those places for two reasons, we are afraid and because we are lazy because we have been there before"* (FG4-3); *"in my case I don't go to Tinajas or Mirador because if you go there you can end up killed"* (FG5-1); and *"I personally feel afraid of that sector, I prefer not going there"* (FG5-5).
>
> *"I think everything is very good now, because after the intervention of the government this neighbourhood feels livelier. We have places to go, the walking paths look beautiful. The Campo Santo looks organised. We have the UVAs, I think a lot of changes and improvements"* (FG2-4).

Figure 6-5. Leisure centre Tinajas (Source: The Author)

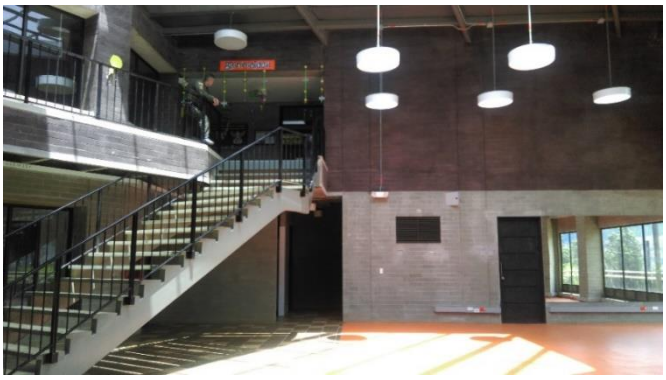


Figure 6-6. Indoor multi-purpose place Tinajas (Source: The Author)

Figure 6-7. Indoor multi-purpose place UVA Sol de Oriente (Source: The Author)

Figure 6-8. UVA Sol de Oriente outside view (Photo taken from: https://www.archdaily.com/792402/uva-sol-de-oriente-edu on 30/01/2019)

The data analysis of the most important places of Villatina revealed multiple complexities. Firstly, it was identified that there is a well-defined distinction between bottom-up and top-down places and the perceptions linked to those places. In fact, it was found that bottom-up places were strongly associated with community action feelings and defence of the territory. At the same time, it was revealed that, according to the perceptions of the spaces provided in the focus group discussions, some bottom-up places seemed to be not affected or heavily influenced by the function of the place. For instance, the church is not only used for religious events, it is also used for community gatherings and as a community restaurant. Another

place was the library in which meetings with the community are constantly held, and home which, according to focus group participants, is used for community action gatherings. In fact, the feelings and descriptions for those places were very similar as they resemble the community action after the disaster. This could be an indication of the shared 'commonality of space cognition' defined by Gebser (1949/1986: 99) in which the patterns of differentiation are overridden by the feelings that represent such a place and are part of a collective consciousness of place perception. In other words, some places have not been affected by polarity constructs; instead, the feelings of oneness and collectiveness have trespassed upon the function of the place to become places that represent community action. Borrowing the principles of community action defined by Miraftab and Wills (2005), these are in their own nature spaces of invited and invented activities, which represent the insurgent planning actions and are materialised in places for community interaction.

Secondly, top-down places were populated by contradictory perceptions of fear and progress. These were places only defined by each one's function and limited to the activities that the government allows the community to perform in them. In other words, since these places are owned by the government, the community is only enabled to use them when the government hosts events or activities in them. Nevertheless, these places allow interaction of the community and participation for leisure and recreational activities, which could be seen as beneficial since they promote community interaction. At this point it is important to make a distinction between 'enabling participation' and 'community action'. In fact, these are two entirely different concepts, in which the distinction is the level of empowerment and self-reflection of the communities (see Chapter 5, Section 5.6). In this vein, concerning top-down places, although they potentially promote interaction, they might not empower the communities.

In this order of ideas, to continue exploring the differences in perception towards bottom-up and top-down places according to Villatina residents, the findings of the focus groups discussions served as the baseline to unfold the subsequent stage in the study, in which the abstraction of the place-perceptions was integrated in a final measurement instrument or survey.

6.4.4 **Abstraction of place-perceptions**

The data obtained from the focus groups were analysed in order to find what feelings and perceptions are attached to the 11 places abstracted in stage one (Section 6.3) and to abstract from those evaluations the items or constructs to be included in a final survey. In

this last survey, the main differences across the perception of bottom-up and top-down places are measured. The qualitative analysis of the place evaluations is not included in this section as they will be discussed in relation to the survey results in Section 6.6.

An iterative process of data analysis of the place evaluations permitted the classification in categories of the constructs to be included in the survey instrument. This process was facilitated by a content analysis approach that is a systematic categorisation method that allows grouping of similar topics into different trends and patterns according to the place-meanings elicited by the focus group participants (Mayring, 2000; Pope *et al.,* 2006; Gbrich, 2007). Each place was analysed individually to categorise common themes and to abstract the main constructs.

The individual items were categorised in accordance with different environmental perception studies that have previously measured sense of place and place meaning in different communities (e.g., Harrison & Sarre, 1975 Kaplan, 1984; Aitken, 1990; Eisenhauer *et al.,* 2000; Stedman, 2003; Manzo 2005). This categorisation helped to refine the constructs included in the survey that aimed to identify what social resilience components – initially found in this investigation (see Chapter 4, Section 4.9) – are associated with the most relevant bottom-up and top-down-PDS places in the neighbourhood. Four specific categories were included in the survey: community action (CA) (Rich *et al.,* 1995, Manzo and Perkins, 2006) defence of the territory (DT) (Manzo and Perkins, 2006; Scannell and Gifford, 2010), community attachment (CA-2) (Nasar and Davis, 2009; Droseltis and Vignoles, 2010), and place attachment (PA) (Manzo, 2005; Manzo and Perkins, 2006; Droseltis and Vignoles, 2010; Scannell and Gifford, 2010).

Additional constructs (i.e. statements) that were discussed by the focus group participants were included in the last survey. For instance, these included association of the places with violence and crime (Manzo, 2005; Manzo and Perkins, 2006), link to the disaster (Rich *et al.,* 1995; Manzo, 2005; Manzo and Perkins, 2006), enhancement of nature and ecological activities (Bow and Buys, 2003; Raymond *et al.*, 2010; Jorgensen and Stedman, 2011), spiritual significance (Gustafson, 2001; Manzo, 2005; Droseltis and Vignoles, 2010) and aesthetic satisfaction (Nicotera, 2007; Droseltis and Vignoles, 2010) . Additional statements were included to explore whether the place has enhanced knowledge and learning (Jorgensen and Stedman, 2001), leisure and recreation (Gustafson, 2001; Droseltis and Vignoles, 2010), social change (Droseltis and Vignoles, 2010), symbolic representation (Gustafson, 2001; Raymond *et al.,* 2010; Jorgensen and Stedman, 2011), and if they have any

financial importance for the residents (Stedman, 2003; Nicotera, 2007; Droseltis and Vignoles, 2010).

Table 6-7 displays the categories and constructs abstracted from the content analysis. The first column presents the abstraction of the participants' statements. The second column contains the categories to which each statement belongs. The last column presents the items that were included in the survey instrument.

Table 6-7. Abstraction of items according content analysis

Abstracted statements content analysis focus groups	**Category**	**Final statements integrated in the survey**
Fight for my citizen's rights here	Community action (CA)	I can fight for my citizen's rights in this place
Social change and protection (control of gangs and crime) Protection to the community.	Defence of the territory (DT)	This place helped to protect us from illegal invasions; This place has helped to control gangs and crime; This place protects the community.
Encourage community integration and participation; Social development of the community; Part of the community in this place; Community coexistence and Union; Community division.	Community Attachment (CA-2)	This place encourages me to be with my community and participate with it; I feel in this place I can gather with the community; I think this place contributes with social development of the community; I feel part of the community in this place; This place gives me a sense of coexistence and union with the community; This place represents community division.
Place attachment	Place attachment (PA)	I feel that this place is part of who I am; I feel a sense of emotional; attachment to this place; I would feel sad if this place no longer exists.
learning and capacitation; Social improvement; Access to knowledge.	Knowledge and learning	I can gain access to knowledge in this place.
Leisure and sports; Leisure and recreation.	Sports and recreation	This place contributes to my health; In this place I can relax and recreate.
Social change after the disaster; Change and hope.	Social change	This place has contributed with the social change after the disaster; This place represents change and hope.
Symbol of respect	Symbolic level	I think this place is a symbol of respect; I think this place is a sacred place.
Aesthetic satisfaction	Aesthetic satisfaction	This place changed positively the neighbourhood image; I think this place is beautiful.
Economic benefit	Financial importance	This place has financial importance for me.
Space for drugs; Temporal positive changes; Fear of crime due to past experiences.	Violence/crime	I consider this place a space for drugs; I am afraid this place will be violent as it was in the past.
Memory of the disaster	Link to the disaster	This place represents the memory of the disaster; There is a sense of loss when I think of this place.

Learning and ecology; Contact with nature.	Nature and ecology	This place represents learning and ecology; I feel connected with nature when I visit this place.
Spiritual connection	Spiritual Significance	This place has spiritual significance to me.

The reason for measuring different constructs grouped into different categories in this study (Table 6-7) is to gather as much as possible the emotional geographies of the places (Shields, 1991). This refers to the emergence of interpretations of place given by the events and activities that provides a specific connotation to each place. In fact, according to Shields (1991), sometimes the function of the place is not the main determinant for how it is perceived. The '*gestalt field*' of each place – according to Shields – is composed of a function that is mapped through language, which in some cases is not entirely constrained or central to the given function of the place. Furthermore, according to Shields, constraining the meaning of place to its mere function is a '*rationalistic discourse of planning and regional development policy*', in which the places function is controlled by *'rhetoric ideologies'* (Shields, 1991: 6). Nevertheless, *'the collective weight'* of the unique language that emerges in the act of using a space within a place is also of a symbolic creation (Shields, 1991: 6) and, therefore, not only constricted to function.

On this basis, one could argue that since the shortlisted places that will be analysed in the survey have very specific functions (i.e. library, home, community centre, church, leisure parks, learning centre, memorial place), the survey responses might be skewed towards the main function dictated for each place. However, it is important to clarify that in this study, the personality of a place is *'derived from the coherence of intersubjective experience'* (Shields, 1991: 16). This coherence happens when *'any habitually interacting group of people convey a character to the place they occupy',* which might or might not be immediately apparent to an outsider (Shields, 1991: 16). In this sense, as we think of the shortlisted places in Villatina that are included for the last survey (see Section 6.3.2) and take an outsider view, we might assume that the function of these places determines how the users perceive and experience the place. However, this might not be the case, since the perceptions of habitual users might not be conditioned by the place function (Hull *et al.,* 1993). Additionally, it is important to mention that research is still trying to understand how residents of informal settlements attribute meaning to and perceive their immediate environment (Lombard, 2013). In fact, there are studies that suggest that residents of these settlements might have their own unique way of attributing meaning to place (Brown and Perkins, 1992; Lombard, 2013), which might be influenced by the sometimes extreme environments that the residents are exposed to (i.e. extreme violence and geological disasters) (Brown and Perkins,

1992; Knez, 2005). According to this, the survey responses will be analysed embracing Shields' idea of '*coherence of intersubjective experience'* in which the analysis of the results will be compared and understood according to the subjective perceptions for each place captured during the focus group discussions. In this sense, it might be possible to review how the perception of place in Villatina might be unique to its residents and not entirely dictated by the specific function of a place, as argued in Section 6.4.3.

6.5 Stage 3: Bottom-up and Top-down places survey

6.5.1 Survey refinement and structure

The next stage of the method is the comparative evaluation of the settlement images with the constructs. The survey included 31 constructs or statements – previously described. The most common scoring system applied for rating constructs is 'intensity' of agreement or disagreement (Jankowicz, 2004: 36-37); therefore, this system was integrated in the survey and involved a Likert ordinal scale from 1 (totally agree for this place) to 7 (totally disagree for this place). The range of the scoring system was chosen in order to obtain finer discriminations from the participant (see survey structure in Appendix 6).

6.5.2 Survey analysis and data management

A total of 155 residents of Villatina neighbourhood were part of the survey that was conducted between October and November 2017 (see methodology chapter Section 3.7 for full survey description). The data were analysed according to the two places' categories, bottom-up included: community centre, church, library, and home, and top-down included Tinajas leisure park, UVA Sol de Oriente (leaning centre), Mirador de la torre (viewpoint), and Pan de Azucar Hill.

Initially, inspection of the descriptive values obtained for each of the places was explored in order to understand the patterns of response and overall perception towards each place; see Table 6-8. After this exploration, it was identified that the bottom-up category places – church, library, and home – reported almost identical values. The community centre on the other hand, reported more variations in the responses that suggested negative perceptions associated with the place. In a similar way, the top-down category for the places Tinajas leisure park, Mirador de la torre and Pan de Azucar Hill reported almost identical values. Nevertheless, UVA Sol de Oriente reported different values. Table 6-8 depicts the overall individual values for each of the places provided by the 155 survey participants. Table 6-9 and Figure 6-9 present median average for bottom-up and top-down places with Z scores, p-

values (W) and effect size (R) for the categories CA, DT, CA-2, PA. Table 6-10 and Figure 6-10 present the median average for bottom-up and top-down places with Z scores, p-values (W) and effect size (R) for the rest of the items.

Once the patterns of response for each place had been identified, the data were analysed performing statistical tests according to two categories (bottom-up and top-down). For this, a Shapiro-Wilk tests were performed in order to check the normality in the data. The results of the test confirmed a non-normally distributed shape (p>0.05). Therefore, a non-parametric test Wilcoxon signed-rank test, which allows the analysis of non-normally distributed data, was used to establish statistical differences across two sets of scores that come from the same participant (Field, 2013).

The statements considered to measure similar aspects were grouped and presented accordingly. Descriptive statistics, such as median and mean average, negative and positive ranks, and ties are reported for each of the groups (bottom-up and top-down). Z scores, p-values (W), and level of practical significance – effect size – are reported to establish if there are statistical differences across bottom-up and top-down places according to the items measured. The interpretation of the effect sizes (*r)* was taken from the tables provided by Cohen (1988) for small (0.1), moderate (0.30), and large (0.5) effect sizes.

The Campo Santo memorial park is analysed separately as it was found that it does not belong to any development category. Instead it was identified to have been developed under a mutual development strategy. Therefore, the analysis of the Campo Santo will only be performed through descriptive statistics test measuring median and mean average (see Section 6.7) in order to quantitatively explore the residents' perceptions towards this place.

6.6 **Survey results**

This section presents the statistical results obtained for the comparison between bottom-up and top-down places. To establish the differences across the places, the results obtained from the Wilcox signed rank test (p values, and effect sizes (*r*)) are reported (see Tables 6-9, 6-10 and Figures 6-9, 6-10) with the corresponding descriptive values obtained for each of the places (Table 6-8). Complementary to this, in order to explain further the statistical findings, the qualitative exploration conducted in the stage two (see Section 6.4) is presented. Direct quotes from residents are provided to help explain the main differences between bottom-up and top-down places.

The places included in the bottom-up category: Community centre (place 1); Church (place 2); Library (place 3); and Home (place 4) and The places in the top-down category: Tinajas (place 5); UVA (place 6); Mirador de la torre (place 7); and Morro Pan de Azucar (Place 8). Initially, the results obtained for the items included in the categories CA (community action), DT (defence of the Territory), CA-2 (community Attachment) and PA (place attachment) – identified as the social resilience components – are presented (Table 6-9, Figure 6-9), followed by the results for the rest of the items included in the survey (Table 6-10, Figure 6-10). Finally, the results obtained in the Campo Santo are presented and discussed in a separate section (6.8) since this place does not entirely belong to a bottom-up or top-down development (see Section 4.5.4 and Section 5.4).

Table 6-8. Total average for all responses reported for each place and total means for bottom-up and top-down places
Where place1: Community centre; place 2: Church; place 3: Library; place 4: Home; place 5: Tinajas; place 6: UVA; place 7 Mirador de la torre; Place 8: Morro Pan de Azucar.

Statement	1	2	3	4	5	6	7	8	total means bottom-up	total means Top-down
Q1 Be with commuity and participate	3.52	1.26	1.77	1.00	1.55	1.15	1.39	1.41	1.89	1.38
Q28 I Can gather with my community in this place	2.11	1.04	1.17	3.79	1.18	1.27	1.25	1.10	2.03	1.20
Q31 Contributes with social development of the community	2.43	1.12	1.10	1.04	2.70	1.39	2.70	2.62	1.42	2.35
Q8_I feel part of the community in this place	3.55	1.19	1.74	1.00	1.80	1.29	1.57	1.43	1.87	1.52
Q2 sense of coexistence and union	4.87	1.05	1.77	1.08	1.74	1.22	1.39	1.34	2.19	1.42
Q19__Represents_community_division	6.86	6.68	6.61	6.66	6.47	6.63	6.48	6.53	6.71	6.53
Q3 Help to control gangs and crime	4.15	1.36	2.66	1.04	6.51	2.20	6.28	6.48	2.30	5.37
Q4 Helps me feel protected and safe	4.20	1.05	2.84	1.01	6.52	2.32	6.39	6.44	2.27	5.42
Q30 Learning and ecology	5.48	1.52	1.95	1.01	3.12	1.52	2.39	2.36	2.49	2.35
Q5 Nature connection	5.45	1.59	2.18	1.39	1.64	1.67	1.68	1.67	2.65	1.66
Q6 I Can access to knowledge in this place	3.43	1.08	1.55	1.04	4.47	1.14	4.29	4.16	1.77	3.51
Q26 Contributes to my health	4.90	1.41	2.97	1.23	6.06	2.71	6.02	6.00	2.63	5.20
Q7 Recreation and relaxation	5.31	2.03	2.25	1.04	1.23	2.21	1.42	1.30	2.66	1.54
Q9 Fight for my citizen rights here	3.03	1.12	1.38	1.00	5.55	1.66	5.35	5.21	1.63	4.44
Q10 Has contributed with the social change after the disaster	3.22	1.22	1.52	1.19	1.78	1.33	1.54	1.55	1.79	1.55
Q11 Represents change and hope	4.63	1.21	2.66	1.15	2.07	1.23	2.24	2.18	2.41	1.93
Q12 Symbol of Respect	1.70	1.04	1.28	1.00	1.25	1.08	1.28	1.25	1.25	1.21
Q13 Sacred Place	3.11	1.17	1.42	1.15	1.67	1.38	2.01	1.92	1.71	1.74
Q29 This place has changed possitivelly the neighbourhood image	4.50	1.08	1.28	1.15	1.20	1.10	1.23	1.19	2.00	1.18
Q14 This place is beautiful	4.33	1.21	1.39	1.19	1.20	1.20	1.14	1.12	2.03	1.16
Q15 Represents progress for me	6.10	5.05	4.37	1.35	6.39	3.68	6.45	6.48	4.22	5.75
Q16 Financial importance	6.83	6.31	6.60	4.06	6.92	6.19	6.95	6.94	5.95	6.75
Q17 Helped to protect from illegal invasions	4.60	3.05	3.86	2.55	5.42	3.30	5.93	5.93	3.51	5.14
Q18 Space for drugs	6.59	6.73	6.36	6.77	1.24	5.86	1.43	1.27	6.61	2.45
Q27 It will be violent as in the past	6.30	6.54	6.17	6.61	2.56	6.44	2.46	2.43	6.40	3.47
Q20 Spiritual significance	5.80	1.35	4.58	1.15	4.88	4.74	4.92	5.03	3.22	4.89
Q21 Memory of the disaster	6.70	5.46	6.81	5.84	5.86	5.45	5.88	5.91	6.20	5.78
Q22 Sense of loss	6.88	5.79	6.68	5.49	6.45	6.11	6.35	6.40	6.21	6.33
Q23 Part of who I am	5.30	1.14	2.51	1.08	2.99	2.18	2.85	2.82	2.51	2.71
Q24 Emotional attachment	4.79	1.30	2.28	1.08	2.56	2.01	2.50	2.50	2.36	2.39
Q25 Sad if this place not longer exists	2.32	1.05	1.19	1.00	1.35	1.05	1.37	1.41	1.39	1.30

Table 6-9. Median average for bottom-up and top-down places with Z scores, p-values (W) and effect size (R) for the categories CA, DT, CA-2, PA

Category	Statement	Median average btt-up	Median average top-down	Negarive Ranks (a)	Positive Ranks (b)	Ties	Z score (T-statistic)	W	(p)	r
CA	Q9_Fight for my citizen rights here	1.148	5.254	0	**112**	43	-10.18	**0.000**		**-0.818**
DT	Q17_Helped to protect from illegal invasions	3.300	5.703	**29**	**100**	26	-5.62	**0.000**		**-0.452**
	Q3_Help to control gangs and crime	1.932	6.467	**2**	**137**	16	-10.59	**0.000**		**-0.851**
	Q4_Helps me feel protected safe	1.941	5.725	**6**	**141**	8	-10.3	**0.000**		**-0.828**
CA-2	Q1_Be with commuity and participate	1.493	1.335	24	10	121	-1.19	0.231		-0.096
	Q28_I Can gather with my community	1.325	1.100	**22**	8	125	-3.14	**0.002**		**-0.252**
	Q31_Contributes with social development of the	1.112	2.577	8	**57**	90	-6.3	**0.000**		**-0.506**
	Q8_I feel part of the community in this place	1.396	1.493	15	12	128	-0.64	0.521		-0.051
	Q2_ sense of coexistence and union	1.400	1.367	21	12	122	0.46	0.645		-0.037
	Q19_Represents community division	6.690	6.535	7	6	142	-1.72	0.084		-0.139
PA	Q23_Part of who I am	1.816	2.741	4	**48**	103	-5.99	**0.000**		**-0.481**
	Q24_Emotional attachment	1.761	2.493	12	**36**	107	-4.79	**0.000**		**-0.385**
	Q25_Sad if this place no longer exists	1.112	1.335	2	**18**	135	-2.69	**0.007**		**-0.216**

* = $p \leq 0.05$= significant differences across places; n.s.= not significant differences
V<0.05= negligible; 0.05 ≤ V<0.10= small; 0.10 ≤ V<0.3= medium; V ≥ 0.5 = large

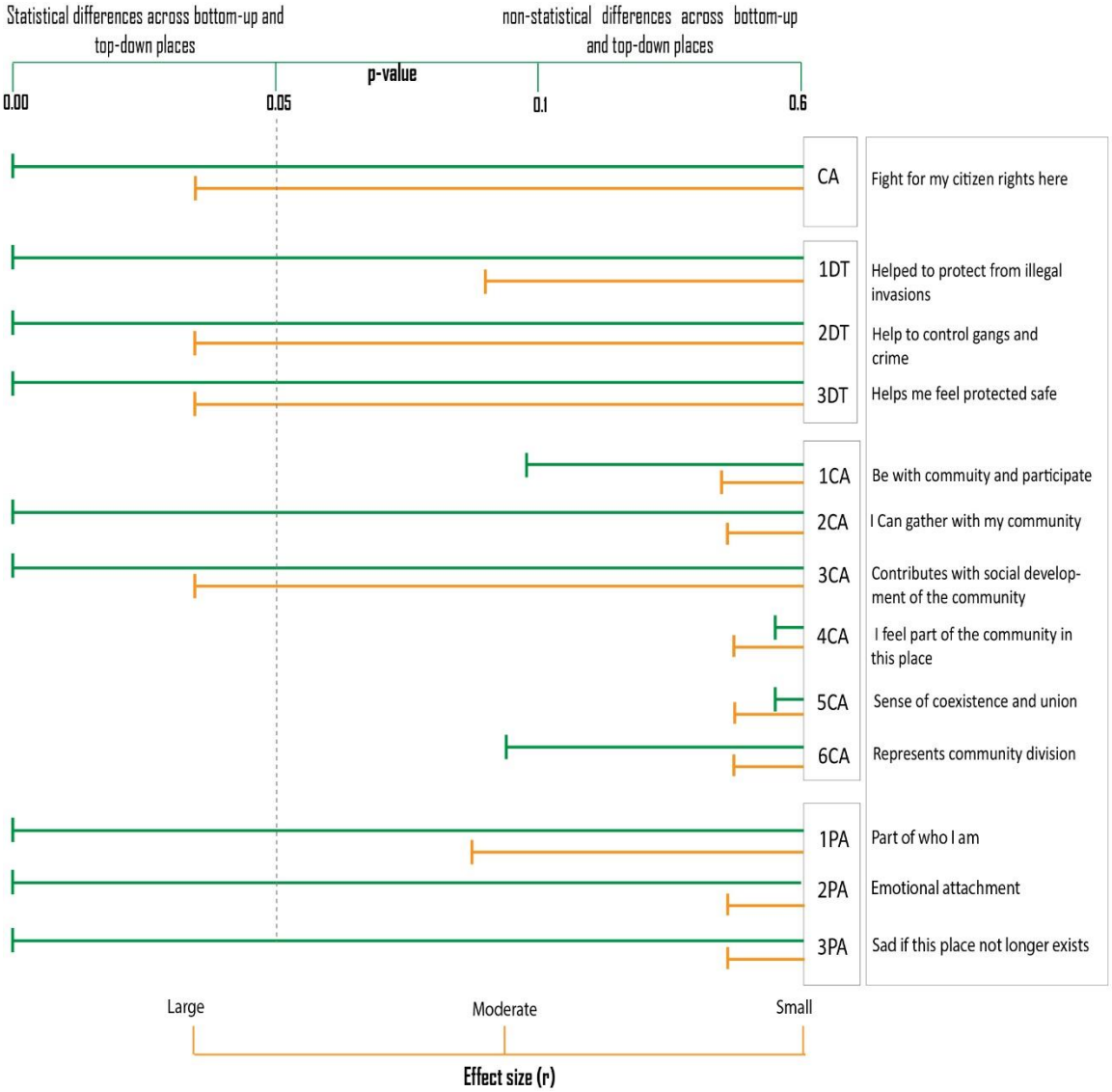


Figure 6-9. p-values and effect sizes reported for bottom-up and top-down places

Table 6-10. Median average for bottom-up and top-down places with Z scores, p-values (W) and effect size (R) for the rest of the items

Category	Statement	Median average btt-up	Median average top-down	Negarive Ranks (a)	Positive Ranks (b)	Ties	Z score (T-statistic)	W *(p)*	*r*
KL	Q6_I Can access to knowledge in this place	1.309	4.174	13	**86**	56	-8.44	**0.000**	**-0.678**
S/R	Q7_Contributes to my health	2.145	5.977	6	**123**	26	-9.38	**0.000**	**-0.754**
	Recreation and relaxation	2.271	1.283	**32**	7	116	-4.55	**0.000**	**-0.366**
SC	Q10_Has contributed with the social change after the disaster	1.322	1.558	10	15	130	-1.94	0.052	-0.156
	Q11_Represents change and hope	1.835	2.106	22	28	105	-1.67	0.095	-0.134
	Q15_Represents progress for me	4.506	6.387	5	**67**	83	-6.81	**0.000**	**-0.547**
SL	Q12_Symbol of Respect	1.116	1.200	3	8	144	-1.89	0.059	-0.152
	Q13_Sacred Place	1.283		4	**21**	130	-3.55	**0.000**	**-0.285**
AS	Q29_This place has changed positively the neighbourhood image	1.180	1.177	11	7	137	-0.63	0.525	-0.051
	Q14_This place is beautiful	1.280	1.119	12	2	141	-2.34	**0.019**	**-0.188**
FI	Q16_Financial importance	6.454	6.945	3	**22**	130	-3.71	**0.000**	**-0.299**
V/C	Q18_Space for drugs	6.677	1.280	**145**	3	7	-11.19	**0.000**	**-0.899**
	Q27_It will be violent as in the past	6.574	2.509	**115**	5	35	-9.8	**0.000**	**-0.787**
LD	Q21_Memory of the disaster	6.677	5.877	29	8	118	-4.18	**0.000**	**-0.336**
	Q22_Sense of loss	6.587	6.396	18	11	126	-1.45	0.147	-0.116
NE	Q30_Learning and ecology	1.741	2.367	12	**35**	108	-4.02	**0.000**	**-0.323**
	Q5_Nature connection	1.896	1.590	32	27	96	-1.59	0.110	-0.128
SG	Q20_Spiritual significance	2.964	4.929	2	**94**	59	-8.96	**0.000**	**-0.720**

* = $p \leq 0.05$= significant differences across places; n.s.= not significant differences
V<0.05= negligible; 0.05 ≤ V<0.10= small; 0.10 ≤ V<0.3= medium; V ≥ 0.5 = large

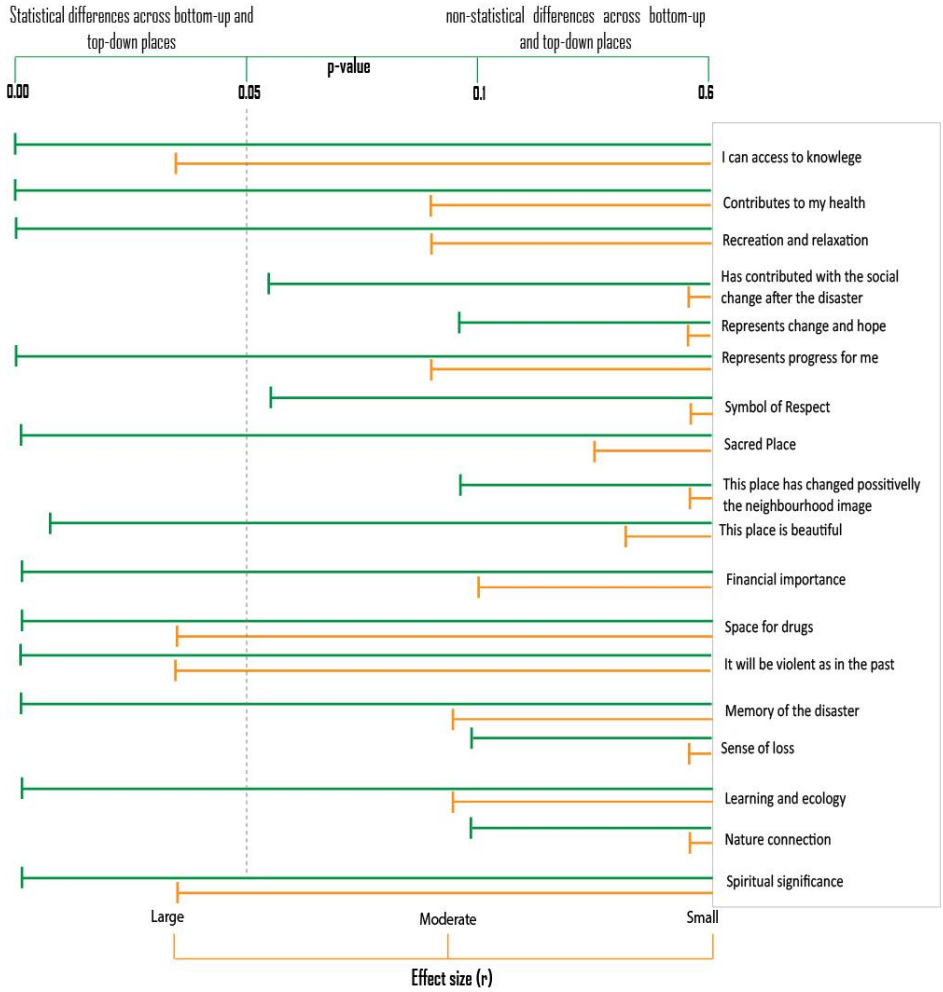


Figure 6-10. p-values and effect sizes reported for bottom-up and top-down places. Triangulation of Results: Quantitative and Qualitative

6.6.1.1 ***Community action (CA):***

The statistical results for the CA category (question Q9 in the survey) reported that bottom-up places are perceived as places where the community can fight for their citizens' rights, with a median average for bottom-up= 1.148, above top-down places= 5.254 (where 1 = strongly agree and 7 = strongly disagree). These results were supported by high statistical and significant difference of *p*= 0.000, and a large level of significance reported by the effect size (*r*= 0.818) that leads to infer that the bottom-up places included in the survey are today considered to be spaces for community action and activism.

Further inspection of the descriptive values presented in Table 6-9 allowed us to infer that the places 2, 3 and 12 (church, library, and home) included in the bottom-up category were considered by the survey respondents as places where the community feels empowered to fight for their citizens' rights with average scores for each of the places of 1.12, 1.38, and 1.00, respectively. Place 3 – community centre – reported an average score of 3.03, representing a higher level of disagreement for this place. On the other hand, for the places in the top-down category, the average scores for places 6, 10, and 11 (Tinajas leisure and learning centre, Mirador de la Torre, and Morro Pan de Azucar) reported scores above 5.21, indicating that residents would not use these places as spaces for community activism. However, place 7 – UVA Sol de Oriente – reported an individual average score of 1.66. This could be an indication that the UVA is considered to be a place where the community feels empowered to act and fight for their citizens' rights.

Participants of the focus group discussions asserted that the church has been an institution that, besides enhancing spiritual practices, has contributed to the social development of the community after the disaster. The support that came from the church has been represented in self-building housing programmes, community restaurants, and support for children and single mothers: *"The church is the base of transformation of this neighbourhood, we have received a lot of support from our local church, especially youth, and single mothers"* (FG3-1). Furthermore, the community highlighted that the church represents the activism of the community since they gathered their own resources to build it: *"The church represents the community effort, because we found the resources to build it. We build them ourselves with our own effort. We gathered and made the improvement possible"* (FC6-4).

On a similar basis, the focus group participants referred to the houses, as the manifestation of their community action and cooperation:

"the way we could improve all of our houses was through community union, all participated, from the youngest to the oldest, each family participated building everyone else's house" (FG4-3); and *"We agreed that for example my family would work on building one house, after it was finished, we all moved to the next one to help another family, so each family had to work in the construction of all the houses. In that way every house built was the product of the community effort, basically, all the houses we built them together because we all worked together"* (FG4-2).

The community centre was also described as a place where the community can access to help and works as the legal representation of the neighbourhood:

"The community centre is the legal representation of the neighbourhood. Also, many people here are community leaders and all of them gather there, so that is the core of our community. For instance, if you need help from the local government in order to improve something in the neighbourhood like streets or local services, if we don't bring a letter signed by the community centre to the city hall, they won't attend to our petitions" (FG2-2)*;* and *"At the community level I think this place represents help and support, also it is the place where we can claim our community rights"* (FC1-6).

Although according to the survey responses (see Table 6-9), the UVA Sol de Oriente – place 7 – was regarded as a place where the community can fight for their citizens' rights, the community did not directly recognise this place as such in the focus group discussions. The UVA Sol de Oriente was in fact considered to contribute greatly in the social development of the community for the learning programmes that are offered by the local government. Nevertheless, the discussions in the six focus groups did not lead to the conclusion that the UVA is a place where the community is empowered to act.

These were some of the views shared in the focus groups regarding the UVA Sol de Oriente:

"At the community level the UVA was a very good project for children and everyone can go to learn" (FG1-6); *"I think the UVA is important because we have leisure activities there'* (FG1-1); *'is important because they offer different learning activities, workshops, a lot of things"* (FG5-4); and *"they have a library there, teachings, they are now teaching art craft, how to use sewing machines, a lot of stuff"* (FG2-2).

6.6.1.2 ***Defence of the territory (DT***):

For the category 'defence of the territory', the results showed substantial differences across bottom-up and top-down places. According to the responses, it was evident that residents consider that bottom-up places have played a greater role in protecting the neighbourhood from further illegal invasions than the top-down places have (median average bottom-up= 3.30; top-down= 5.70), and p = 0.000, r= 0.45). Additionally, residents strongly agreed that bottom-up places have helped to control drug gangs and crime and provided a sense of protection and safety. Opposite feelings were reported by top-down

places (median average bottom-up= 1.932 and 1.941, respectively; top-down= 6.467 and 5.725, respectively) with relevant statistical differences that corroborated the differences across the groups, these were *p*= 0.000, *r*= 0.851 and *p*= 0.000, *r*= 0.828 correspondingly.

According to the descriptive values obtained for each of the places depicted in Table 6-9, it could be noticed that for the places included in the bottom-up category, place 1 corresponding to the community centre reported an average score of 4.15 for the item: *this place has helped to control gangs and crime* (Q3), and 4.20 for this *place helps me feel protected and safe* (Q4). These scores are reporting a higher level of disagreement with the statements for this place compared with the rest of the bottom-up places included in the category. On the other side, for the places included in the top-down category, place 7, corresponding to UVA Sol de Oriente (leisure and learning centre), reported an average of 2.0 and 2.32 in both items respectively. According to this, it can be noticed that place 7 is perceived as a place that helps to control gangs and crime and promotes safety in the neighbourhood, contrary to the rest of the top-down places.

In the focus group discussions 3, 4 and 5, residents shared their views for some of the top-down places that could explain why some of the top-down places are perceived as places that have not promoted defence of the territory. For instance, the leisure and learning centre Tinajas la Torre, and the viewpoint, according to the participants are places that are rarely visited, as these places have been in the centre of conflicts between drug gangs, creating divisions in the neighbourhood:

> *"The problem with Tinajas park is that many of our children around here that want to go there to play, we rather that they stay in the proximities, because Tinajas is very empty all the time, and that implies more risk for them. We know of many things that have happened there"* (FG4-3)*;* and *"To be honest if I go to Tinajas I feel afraid, and I try to be quick I don't like to stay there*. *On the other side it has helped to control gangs, but that place has a memory of division in the neighbourhood, violence, invisible borders between sectors"* (FG5-5)*.*

6.6.1.3 ***Community attachment (CA-2):***

No differences were reported for some of the items included in the category community attachment (CA), suggesting that both types of place allow interaction and participation among neighbours. For the item: *in this place I can be with the community and participate'* (Q1) (median average bottom-up= 1.493; top-down= 1.335), *p*= 0.231 n.s., *r*= 0.096 (negligible). Similarly, for the items *I feel part of the community in this place* (Q8) and *I feel a sense of coexistence and union when I am in this place* (Q2) (median average bottom-up= 1.396 and 1.400 respectively; top-down= 1.493 and 1.367, respectively) with no significant

differences reported. Additionally, residents considered that neither bottom-up nor top-down places represent community division.

For the items *I can gather with my community in this place* (Q28) and *this place contributes with the social development of the community* (Q31), the Wilcoxon signed-rank test reported statistical differences supported by small- and medium-effect sizes (p= 0.000, r= 0.252 and p= 0.000, r= 0.506, correspondingly); however, when reviewing the values reported for the descriptive values, it can be noticed that there are not observable differences across the two groups (median average bottom-up= 1.325 ; top-down= 1.100 (first item), median average bottom-up= 1.112; top-down= 2.577 (second item)). In order to examine where the substantial statistical differences reported by Wilcoxon signed-rank are coming from a further inspection on the sum of ranks was conducted (Field, 2013: 692). The sum of ranks refers to the total amount of ranks given by each group (e.g., bottom-up and top-down), providing an indication of the responses given by the participants according to the level of response (i.e.,1 = totally agree, 7 = totally disagree) given in positive and negative scores. When statistical differences are found, the sum of ranks will show how the scores were distributed according to each group (Field, 2013: 219). Therefore, - in this context - the number of negative scores will be associated with '*totally agree*', and positive scores with *'totally disagree'*.

The test reported a number of 125 ties that indicated that participants gave the same value score 125 times. Therefore, the indication of the statistical difference was given by the number of positive and negative ranks. For the first item (i.e. *I can gather with my community in this place),* since the score scale system given was 1 for strongly agree and 7 for strongly disagree, the positive ranks provide an indication of the level of disagreement and negative ranks of the level of agreement with the statement. Consequently, it was noted that bottom-up places reported a median average of 1.32 supported by a number of 8 positive ranks indicating fewer people agreed with the statement. Conversely, top-down places reported a median average of 1.00 and 28 negative ranks that infers that more people agreed with the statement for these places.

For the second item (i.e. *this place contributes to the social development of the community)* 90 participants provided the same answer (ties=90). Therefore, the differences were reported in the media average of bottom-up places= 1.112 and a number of 8 negative ranks, and top-down= 2.577 (positive ranks= 57), indicating that more people disagree with the statement for top-down places.

According to this, it was possible to establish that top-down places allow more community gathering than bottom-up places do. However, bottom-up places are considered to contribute more to the social development of the community than top-down places do. During the focus group discussions, the participants revealed that top-down places have facilitated the interaction between different sectors in the neighbourhood that has been reinforced by the community activities offered by the government:

> *"There is a sense of integration with all the sectors, it represents union"* and (FG4-2)*; "In the UVA there are several meetings and events run by the government, yesterday I went and it was amazing, even my grandsons love going there"* (FG2-3).

Likewise, bottom-up places were regarded as places for the community, that represent union and cooperation:

> *"Personally, I think the community centre represents union and cooperation for this neighbourhood'* (FG1-4)*; "That is the meeting place, for instance elderly go there. But personally,-I think it is a place of togetherness for all of us in the neighbourhood"* (FG1-5); *"The church provides to the community a sort of reunion, dialogue between all the people who live in this neighbourhood. Personally, it is the best place to reconcile with God'* (FG1-6)*;* and *"The library is a place for learning for everyone, to me it is very important because it has benefited me and my family"* (FG1-6).

6.6.1.4 ***Place attachment (PA):***

The place attachment analysis reported significant statistical differences with moderate- and large-effect sizes across all the items measuring this category. These differences are further explained by the descriptive values that reported a higher sense of attachment towards bottom-up places than top-down (median average bottom-up= 1.816; top-down= 2.741), p= 0.000 n.s., r= 0.481 (medium) for the item *this place is part of who I am* (Q23). For the item *I feel emotionally attached to this place* (Q24) the median average bottom-up was 1.761 and 2.493 for top-down places (p= 0.000 n.s., r= 0.385 (small)). The last item *I will feel sad if this place no longer exists* (Q25) reported a median average bottom-up= 1.112; top-down= 1.335 (p= 0.000 n.s., r= 0.216 (small)).

The descriptive values reported for each place in Table 6-9 show that for the places included in the bottom-up category, place 1, the community centre reported a higher level of disagreement for the two first items: 5.30, and 4.79 correspondingly. The last item reported a higher rate of agreement: 2.32. These results show that for the first two items measuring community attachment, the survey respondents seemed to disagree to a greater extent. This was explained by the focus group participants as part of an ongoing degradation inside the actions of the community centre after the disaster. According to the participants, the community centre nowadays has been permeated by political corruption. Some of the

participants asserted that after the disaster, the community centre and its leaders were people who really cared about the neighbourhood and its residents: *"in that time the leaders really felt for this neighbourhood"* (FG-12 September). However, nowadays, the community centre is not the institution that used to provide constant support to the neighbourhood residents, instead, it is serving other political agendas that benefit only a part of the population:

> *" I don't like the community centre (accion communal) that we have now, the previous one I liked it*' (FG1-1)*; "Why the community centre is the least important place for us, because it is the institution that least supports the community, at least this part of the neighbourhood. They just try to benefit themselves, but they do not think of benefiting the entire neighbourhood"* (FG4-3). *"Before the community centre was good because they used to provide help to the elderly and children, nowadays they don't*' (FG5-3); and *"There is where all the meetings to wash our brains - so we vote for a specific politician during the elections - are orchestrated"* (FG6-5).

For the rest of the places included in the bottom-up category, the individual average scores reported higher level of agreements. However, places 2 and 12 (church and home), reported nearly identical rates of strong agreement. These results shown that survey participants feel more emotionally attached to those places and felt them as part of who they are. The strong sense of place attachment towards these places was frequently discussed by the participants of the six focus groups, who revealed a strong emotional connection to them, since they are part of the neighbourhood history of development and struggle of residents to improve their life conditions.

Conversely, although the survey responses reported higher levels of attachment towards top-down places, during the focus groups discussions participants asserted that the feelings attached to those places are linked to the value that they have added to the neighbourhood in terms of progress and improvement of the infrastructure. Nevertheless, at a personal level – according to the focus group participants –emotional attachment towards some of these places was not felt:

> *"The Pan de Azucar Hill is important for the community because it represents recreation and leisure, but personally it does not represent anything to me"* (FG1-3)*; "I think Tinajas was selected as one of the most relevant places because it is beautiful and represents progress, and adolescents love going there, but to be honest if I go to Tinajas I feel afraid, and I try to be quick I don't like to stay there"* (FG5-5); and *" people in this area do not go to Tinajas or Mirador de la Torre because we are afraid, and we are also lazy, we went once we saw everything but that is it. Perhaps people from other sectors might go"* (FG4-3).

On the other hand, during the focus groups discussions place 7 (UVA Sol de Oriente) was regarded as a very important place for the community, since it has contributed to the social

development through the programmes and activities organised by the local government. However, the residents did not say that they felt the UVA as a place that is part of who they are; in fact, in the discussion it was evident that this place is regarded as a place that belongs to the government. Nevertheless, it was stated that this place has brought healthy activities that have greatly benefited the community, for instance sports, learning activities, etc. Although the participants did not directly say that they have an emotional attachment towards the UVA, it was clear that this place is very respected and has a special connotation for the community:

> *"The UVA represents progress and innovation"* (FG6-4); *" At the community level the UVA was a great project for children and everyone, because they can attend different activities, I think that is a huge contribution to this neighbourhood, it was something we were not expecting in a neighbourhood like this one"'*(FG1-6); *" The UVA has not only facilitated access to internet, they have learning activities, boys go there to play football, I think is a place for all" (*FG2-3); and *" it is one of the healthiest activities that we have for children, and we don't have to spend much money. I think this is a beautiful project, because you find laugher and enjoyment without having to go the city centre and spend on transport"* (FG6-5).

The statistical results suggest that there is a difference between bottom-up and top-down places based on the level of attachment for the places included in each category. However, according to the descriptive statistical values, these differences are small. To understand these differences, the qualitative findings were analysed. This indicated that, top-down places generate place attachment as these evoke feelings of pride, innovation, and have allowed access to leisure facilities. However, participants claimed that a personal emotional attachment was not felt. One reason why the residents of Villatina had not created an emotional attachment towards top-down places could be the function and location of the places. In fact, the places Tinajas leisure park, Pan de Azucar Hill, and Mirador de la Torre are in the outskirts of Villatina, and include open green leisure spaces. This could deter residents from using them due to feelings of unsafety (e.g. fear of being attacked by criminal gangs) and isolation.

6.6.1.5 ***Enhancing learning activities***

For the items that measure learning activities such as question Q6: *I can access knowledge in this place,* it is important to clarify that some of the places included in the survey (i.e. UVA Sol de Oriente, Tinajas la Torre (top-down PDS places), library (bottom-up)) are places in which education and learning activities take place. For instance, in the UVA Sol de Oriente the government runs educational programmes for the elderly and children as well as in

Tinajas la Torre, and the library's primary function is of education and learning. Therefore, these places are expected to report higher levels of agreement in comparison to the other places that have different functions. Nevertheless, the statistic results are reported here, in order to leave space for unexpected results, and to corroborate that those places are indeed perceived to enhance learning and knowledge according to the community.

The results revealed statistical differences across bottom-up and top-down places with a reported statistical significance of p=0.000 and large-effect size of r=0.754, as was expected given the specific learning function of some of these places. Nevertheless, inspection of the descriptive statistics offered an understanding of such differences, showing that there is a higher association with knowledge and learning for bottom-up places than for top-down places (median average bottom-up= 1.309; median average top-down= 4.174). The individual descriptive values reported in Table 6-10 show that for the bottom-up places 2,3, and 12 – church, library, and home, respectively – the average scores were all below 1.55, representing a strong level of agreement for the statement *I can access knowledge in this place.* Place 3 – community centre – presented a higher level of disagreement with an average score of 3.43. In the case of the places included in the top-down category, the places 6, 10, and 11 – Tinajas, Mirador de la Torre, and Morro Pan de Azucar – reported individual averages above 4.14, indicating a higher level of disagreement.

Conversely, place 7 - UVA Sol de Oriente – reported an average score of 1.14 that indicates a strong level of agreement. In other words, this place is regarded as a place in which the community can access knowledge. This was discussed with Villatina residents in the focus groups, and the UVA contribution to knowledge and leaning activities was identified, since the government has delivered different educational programmes for the youth and the elderly. Furthermore, places such as the UVA (learning centre) are equipped with computer rooms accessible for students:

> *" At the community level the UVA was very good for children and for everyone, because we can go to learn different things; It represents education, because they have internet rooms"* (FG4-3)*;* and *" it is important for the community because there we find spaces for learning, to me it is a place to know my neighbourhood better"* (FG1-3) and *" In the UVA there are several meetings and events run by the government, yesterday I went and it was amazing, even my grandsons love going there"* (FG1-3).

It is important to remind the reader that in the places 6 (Tinajas la Torre) and 11 (Morro Pan de Azucar) learning activities are provided by the local government. For instance, in the Morro Pan de Azucar the government runs programmes for agriculture education and urban farming, and Tinajas la Torre has a multi-purpose building for learning activities (see Section

5.2). Nevertheless, according to the survey responses these places were less associated with places that enhance learning.

Statistical differences were reported for both items: *this place contributes to my health* (Q26) and *this place represent recreation and relaxation* (Q7) (p= 0.000, r= 0.754 and p= 0.000, r= 0.366 correspondingly). A large rate of disagreement was reported in the first item for top-down places (median average top-down= 5.977; bottom-up= 2.145). For the second item, a fairly higher range of agreement was reported for top-down places (median average bottom-up= 2.71; Top-down= 1.283). According to the individual descriptive values, regarding the bottom-up places 2, 3, and 12 – church, library, and home – the residents considered these places to contribute to a greater extent to their health (Q26) and relaxation (Q7), unlike place 1 – community centre, 4.90 and 5.31, respectively. The places 6, 10 and 11 – Tinajas, Mirador de la Torre, Morro Pan de Azucar – in the top-down category were not identified as places that contribute to health: 6.06, 6.02 and 6.00, respectively. Nevertheless, they were considered to be places that promote recreation and relaxation: 1.23, 1.42 and 1.30, respectively. For place 7 – UVA Sol de Oriente – reported average scores for the two items were below 2.71, indicating that residents consider this place to contribute to health, recreation and relaxation.

During the focus group discussions, it was frequently mentioned by the participants that top-down places have represented access to leisure and recreation:

> *"Tinajas place is good for children, youth and adults because they can go to do sports, so I would say that it represents health and sports"* (FG1-5)*; "It is important for the community because it represents recreation and leisure; The UVA is one of the healthiest leisure for children in this neighbourhood, also we don't have to spend much money to go there"* (FG6-5) and *"I think the UVA is very important for the community, because we find leisure there"* (FG1-1).

6.6.1.6 ***The symbolic memory of place***

During the focus groups discussions – in the sessions that aimed to understand in depth why some places were selected as the most relevant in the neighbourhood (see Sections 3.6 and 6.3) – a few places were described as 'sacred places' and 'symbols of respect'; for instance, the memorial space 'Campo Santo': *"for us the Campo Santo is a Sacred place"* (FG5-1). This association of 'sacred place' of the Campo Santo – a place where a vast number of people perished, and the site of one of the most catastrophic events in the city of Medellin – is explained by Katharina Schramm (2011) as the product of a conscious process in which humans attach meaning to places that leave traces of violence (Schramm, 2011: 5). Schramm explains that the memory of violence is not only *'embedded in peoples' bodies and minds but*

also inscribed onto space in all kinds of settings: memorials, religious shrines, border zones or the natural environment'. Additionally, it seems that such process of attributing meaning to such places implies a complex process of remembering, therefore, these places are never uniform or *fix, but rather emergent and contested; they are constantly re/produced by the different people who are engaged in memory work in various ways'* (Schramm, 2011: 5). In the research conducted by Schramm, it was found that there is a tense relationship in memorial places where violence and suffering took place (Schramm, 2011: 6) since there is an ongoing conflict in the memories of the individuals who experience those places. The evident relationship between violence and the memory of places justifies why certain places are considered as 'sacred'. In Schramm's words, 'sacred' '*is not to be understood as an innate and unchanging quality inherent to certain objects or sites, but rather as potentiality, which may take different forms for different actors'.* In this sense, it has been explicated that two levels of sacralisation occur. The first is more articulated with religious beliefs that could be translated in rituals, prayers, etc. The second might also be understood from a secular perspective; in other words, when explicit ascriptions of meanings are attributed to a past that resembles violence and/or suffering but is not directly linked with religious beliefs (Schramm, 2011: 7).

According to Manzo (2005), humans develop different meanings that are linked to places (Manzo, 2005: 81), and those meanings are tied to the experiences lived in them. Nevertheless, the meaning of a place for an individual has multiple layers that are explained by the variety of experiences performed in the place (Manzo, 2005: 81). This multi-layered meaning that is attributed to places reveals the vastness in cognitive associations that could be attributed just to one place. In fact, according to Proshansky *et al.* (1983) a place can have multiple meanings irrespective of its function. The items: *this place is a symbol of respect*, and *I consider this a sacred place* (Questions 12 and 13 in the survey, see tables 7, 8, and 10) were included in the survey in order to understand that multi-layered symbolic aspect of place widely investigated by Rapoport (1982) and Tuan (1974). In the context of this thesis, the word 'sacred' does not have a direct connotation or association with religion; therefore, this item was included to reinforce the level of respect and emotional significance that could be felt towards a place. To justify this, the definition given by Schramm (2011: 7) would help to elucidate that *'to declare something sacred 'means to remove it from the everyday realm, giving it special attention and symbolic value and, at least ideally, deeming it undisputable'.* In this order of ideas, these two items were included in order to explore to what extent the

places included in the bottom-up and top-down categories have a symbolic meaning for Villatina residents.

Statistical differences were not reported for the item *this place is a symbol of respect* (Q12): *p*= 0.059, *r*= 0.152. However, for the item *I consider this a sacred place* (Q13) statistical differences and medium-effect size were reported (*p*= 0.000, *r*= 0.285). The descriptive values given for bottom-up (1.283) were fairly different from top-down (1.764). Therefore, the differences were better explained by the number of positive and negative ranks – which reported a number of 130 ties – which indicates the amount of times the same answer was given by the survey participants. With this indication, the statistical differences were given by the 21 positive ranks (number of times people disagreed with the statement) against 4 negative ranks (number of times people agreed with the statement). According to this, it was possible to infer that more people disagreed that top-down places are considered as sacred places.

6.6.1.7 ***A sense of progress and social change***

For the items: *this place has positively changed the neighbourhood image* (Q29), did not report statistical differences (p=0.525, r= 0.005), and *I think this place is beautiful* that reported statistical differences at *p*=0.019, and small-effect size of *r*=0.18. These results suggest that both types of place are considered to have contributed positively in the change of the neighbourhood image. Additionally, the statistical differences reported for the second item suggest that top-down places are perceived as more beautiful than bottom-up places, which is demonstrated by a small difference in the descriptive statistical results (median bottom-up: 1.280; median top-down: 1.119). Nevertheless, according to the descriptive values it could be said that both types of place are perceived as beautiful.

The strong aesthetic satisfaction manifested towards top-down places demonstrates the overall acceptance towards these places. In the focus group discussions, participants manifested that the places built by the local government in the last decade have greatly improved the physical conditions and image of the neighbourhood. Furthermore, having beautiful places in the neighbourhood has awakened a shared sense of pride towards the neighbourhood:

> *"I go to the viewpoint to observe everything; to be honest the ecology paths are beautiful"* (FG5-6)*;* and *"I think Tinajas was selected as one of the most relevant places because is beautiful. There is a sense of improvement because the parks now are looking beautiful, so we try to tell children to take care of them"* (FG2- 2).

Nevertheless, in the focus group discussion conducted on the 3rd of November, participant FG2-1 argued that despite the changes in the neighbourhood made by the government in providing beautiful places, Villatina continues to be an extremely dangerous neighbourhood – a problem that has been overlooked by the government:

> *"Yes, we cannot deny that in the last years we have seen many positive changes in the neighbourhood's infrastructure, but please we need to be honest. I have always said that Villatina or the Comuna 8 is like a book; unexpectedly you open the book, and everything has changed. We should be sincere, I think the government is doing all the changes because they want to help us, but we know that we continue to have strong conflicts here. I think in Villatina extreme violence is occurring, and this is something that the government has overlooked"* (FG2- 1).

The items *this place has contributed with the social change after the disaster* and *this place represents change and hope* aimed to understand whether top-down and bottom-up places were perceived to have contributed in the social change of residents of Villatina after the disaster. Statistical differences were not found for either place (p=0.052, r= 0.156; p=0.095, r= 0.134, respectively); furthermore, descriptive values showed that both top-down and bottom-up places have strongly contributed to the social change of Villatina and represent change and hope. When discussed in the focus groups, residents asserted that top-down places as well as bottom-up are considered to be symbols of change after the disaster. It became evident through the discussions that after the disaster residents witnessed important improvements in the neighbourhood that were initially developed by the community and later with the intervention of the local government through social urbanism projects (see Chapter 4, Section 4.7):

> *"To me the church is fundamental for all the positive changes we have experienced; The church is the base of transformation of this neighbourhood. Tinajas represents progress"* (FG6-4)*; the Pan De Azucar Hill represents progress and innovation"* (FG6-4); *"All those changes were very good, I think that the most important that occurred in the improvement of the neighbourhood was the Campo Santo, UVA Sol de Oriente, Tinajas* (FG2-1); and *"there is lot of progress, we have the cable car now and that adds value to the lands"* (FG2-2).

The items *this place represents progress for me* and *this place has financial importance for me* reported significant statistical differences with a moderate-effect size (p=0.000, and r=0.299). Despite the small differences across descriptive statistics (median average bottom-up= 6.454; Top-down= 6.945) the reported statistical differences suggest that bottom-up places might have a deeper financial contribution for Villatina residents. The descriptive overall values reported that place 12 – my home – was considered to represent personal progress with an average score of 1.35. and to have financial importance: 4.06.

This difference was explained by the focus group participants, who asserted that since top-down places are entirely managed by the local government and minimal participation of the community is allowed, residents have not benefited financially from any of the projects built by the government: *"The Pan de Azucar Hill is touristic now, but economically that does not benefit the community. The government is the only one that gets benefits and they might charge to go there. For us it represents that we have to pay more taxes"* (FG4-3). However, for bottom-up places such as the church and community centre diverse programmes have on many occasions provided financial support to the community:

> *"The community centre is very important because they help you to find jobs – my son received help from the community centre"* (FG1-3); *the community centre represents a lot for me, because I have my job there"* (FG5-6); *"We have received economic support from the church before and after the disaster"* (FG4-3); and *"We have the community restaurant there that feeds children and the elderly"* (FG6-3).

6.6.1.8 ***A perception of place that develops in the midst of violence and crime***

Significant and substantial statistical differences between bottom-up and top-down places were found across the two items measuring perceptions of violence and crime. The item *I think this is a space for drugs* (Q18) reported statistical differences at p=0.000; and a large-effect size of r=0.89. Furthermore, the descriptive scores reported that top-down places are highly perceived as spaces for drugs unlike the bottom-up places (median average bottom-up= 6.677; top-down= 1.280 (where 1=strongly agree with the statement, and 7= strongly disagree). Similarly, for the item *I think this place will be violent as it was in the past* (Q27) the Wilcoxon signed-rank test reported statistically significant differences across the places supported by a large-effect size (p=0.000; r= 0.787). As for the descriptive scores, the median average for bottom-up places reported a strong disagreement with the statement (6.574); conversely, for top-down the average responses reported a strong agreement (2.509).

The statistical results obtained in this category are suggesting that despite the large investment by the local government in social urbanism projects, some of these places are perceived by residents as spaces for drugs, revealing that problems such as violence and crime continue to be among the biggest threats in the neighbourhood. Furthermore, although these places might look aesthetically appealing and have improved the image of the neighbourhood, strong feelings of fear are attached to these places, as residents revealed in the survey responses.

In the focus group discussions, participants shared their views and expressed that they rarely make use of top-down places, as these are mainly used by drug gangs. For some places

(i.e. Tinajas leisure and learning centre) the location is far from residential areas which represents a risk for children to be assaulted or forced to join drug gangs if they visit those places:

> *"The problem with Tinajas park is that many of our children around here that want to go there to play, we rather that they stay in the proximities, because Tinajas is very empty all the time, and that implies more risk for them. We know of many things that have happened there"* (FG4-3); and *"To be honest if I go to Tinajas I feel afraid, and I try to be quick I don't like to stay there"* (FG5-5).
>
> *"Personally, I don't let my son go there, because if the gangs see his face, they won't understand he is just a boy, and might injure him or force him to consume drugs. I always thought that if you go there you end up killed"* (FG5-1); *"in that place are all the 'good-guys'. When gun confrontations have taken place, all the criminals go and hide there because they have visual control over the neighbourhood from there. They can see who goes inside and outside Villatina, that's the fame of the place"* (FG4-2); and *"well, that place represents that we are being watched"* (FG1-3).

6.6.1.9 ***Traces of loss: the memory of the disaster***

The item *This place represents the memory of the disaster* (Q21) reported statistically significant differences across bottom-up and top-down-places (*p*=0.000; *r*= 0.336), explained by descriptive values in a small difference across the categories (median average bottom-up= 6.677; top-down= 5.877). These results indicate that there is a greater level of disagreement with the statements; nevertheless, top-down places gave a moderate indication of being more linked with the memory of the disaster. For the second item *I feel a sense of loss in this place* (Q22)*,* no differences were reported ((*p*=0.147; *r*= 0.116). Similarly, the descriptive values showed nearly no differences across the two groups of places categories (median average bottom-up= 6.587; top-down= 6.396). These results could give an indication that both types of place are not associated with the memory of the disaster and feelings of loss. In fact, these results are compatible with the focus group discussions, in which participants only made reference to the Campo Santo park as the representation of the disaster*: "Personally, the Campo Santo represents the memory of the people who died in the landslide"* (FG1-1); and *"The Campo Santo is a memory of sadness and emptiness"* (FG4-3).

6.6.1.10 ***Connection with nature***

For the items *this place represents learning and ecology* (Q30) and *this place represents connection with nature* (Q5), the results obtained reported statistical differences in the first item (p=0.000, and r=0.323) explained by a fairly higher range of agreement for top-down places (median average bottom-up= 1.741; top-down= 2.367). Conversely, for the second item, statistical differences were not reported (p=0.110, and r=0.128). Triangulation with the

qualitative responses in the focus groups discussions reveals that in fact top-down places allow a greater connection with nature that is enhanced by a learning process. These feelings were more associated with the places Tinajas, viewpoint, and Pan de Azucar Hill, which are projects that are part of the master plan of the 2011 administration denominated Jardin Circunvalar (Green Belt) (see Chapter 5, Section 5.4):

> *"we can connect with nature and the landscape there"* (FG6-5); *"It is important because people can go there to have fun and breathe pure air, to me it represents contact with nature"* (FG1-3); and *"it is important for the community because there we find spaces for learning, to me it is a place to know my neighbourhood better"* (FG1-3).

6.6.1.11 ***The spiritual significance of bottom-up and top-down places***

A specific item included in the survey aimed to explore the level of spiritual significance attached to bottom-up and top-down places. The main purpose of integrating this item *This place has spiritual significance for me* (Question 20 in the survey, see Tables 7, 8, and 10) was to explore an additional level of meaning that these places might represent for Villatina residents. This level of meaning has been widely investigated by scholars in place and space perception and the associated patterns of social activities shaped by personal and shared meanings (Norberg-Schulz, 1980; Canter, 1977; Kaplan 1984; Sime, 1986; Stedman 2003; Manzo, 2005; Lewicka, 2010). In fact, one of the most influential theorists in this matter, Norberg-Schulz, introduced the idea of a place as 'a space plus character' where space is regarded as existential, opposed to a '*mathematical dimension'* (Sime, 1986: 51). In the same vein, however, from a more positivistic school of thought, Kaplan (1984) postulated that more than *'tangible'* economic factors and social relations explain the transcendental level of place meaning – the focus should be in the *'intangibles'* (Lewicka, 2010: 187). Although this idea could introduce different interpretations of what 'intangibles' are – particularly in psychology and environment studies – to provide a better clarification, Christopher Alexander (1979) offers a different understanding by asserting that '*The quality imbued in places have adhered to 'the timeless way' of designing';* in other words, the '*quality without a name'.* In this frame of ideas, one could say that the *'intangibles'* that define a place (Kaplan, 1984) or the *'plus character'* of a space (Norberg-Schulz, 1980) are timelessly linked to the character of the place that is not constrained by physical boundaries *per se*; however, it possesses a quality of definition that transcends even social relations. In other words, it is felt but does not depend on the external boundaries. It exists but is individually created in a personal dimension where – perhaps – thought and spirit meet.

Asking the participants if the places have a spiritual significance for them goes beyond only identifying feelings of attachment towards a place (Lewicka, 2010). In fact, the spiritual

connotation of a place might not necessarily introduce religious ideas; on the contrary, it could be interpreted as the fourth element that complements Relph's definition of place: '*elements of a specific landscape with both built and natural elements, a pattern of social activities that should be adapted to the advantages or virtues of a particular location and a set of personal and shared meanings' (*Relph, 1976:61). Nevertheless, more than an element, the spiritual significance of a place might in fact introduce a very different dimension of place perception, one that goes beyond the scientifically recognised and researched cognitive and psychological dimensions of place (Canter, 1977; Aitken, 1990: 249; Droseltis and Vignoles, 2010; Scannell and Gifford, 2010).

The results obtained for this question showed statistical differences across the places supported by a substantial large-effect size (p=0.000, r=0.720). Additionally, descriptive statistics showed that bottom-up places have a stronger spiritual meaning for Villatina residents than top-down places do (bottom-up median average= 2.964, top-down median average= 4.929). It is important to clarify that this statistical difference reported by the test, can be further explained by the descriptive results depicted in Table 6.8 that report the individual overall response values given for each place. It could be observed that for the bottom-up category, only two places reported a strong level of spiritual significance, place 2 – the church, and place 12 – home, with average responses of 1.35 and 1.15 respectively – a very high level of agreement. Conversely, for place 1 corresponding to the community centre and place 3 representing the library, the responses showed a higher level of disagreement at 5.80 and 4.58. In other words, these places have a lower spiritual meaning for Villatina residents. On the other side, for the places included in the top-down category, the average responses for each of the places reported very high ranks of disagreement, implying that those places were not perceived to have spiritual significance for the residents: Tinajas: 4.88 (place 6), UVA Sol de Oriente: 4. 74 (place 7), Mirador de la torre: 4.92 (place 10), and Morro Pan de Azucar: 5.03 (place 11) (see Table 6-10).

Returning to the discussion of the spiritual significance of a place, it was revealed by the statistical results that only two specific places were indeed considered to have strong spiritual significance for Villatina residents; those were the church and home. A deep level of meaning was attributed to both places; however, it could be inferred that the church has the primary function to be a spiritual place for the residents. Nevertheless, residents included home as a place that has a very deep spiritual meaning for them. The reasons why these two places have a high level of spiritual significance for Villatina residents were explained in the focus group discussions. According to the participants, both places (the

church and the home) were fully self-built by the community. In fact, the church was a community effort, in which even the economic resources came directly from the community instead of from an external benefactor. This active engagement has created strong spiritual bonds linked to the place creating a *'timeless way'* of connecting and perceiving the place:

> *"For us there is a strong spiritual significance attached to the places that have been built by the community, because we have worked together so they represent union and effort. It is a reminder that we have accomplished a lot of things together, with our effort. Of course, we have received support from other institutions, but the spirit of improvement has come directly from us"* (FG6-5).

On the other hand, although top-down places were regarded as a sign of progress, the residents have not developed any sort of spiritual connection with those places. This could be explained by the lack of active participation of the residents in the construction and management of the places. Additionally, as was explained in the previous chapter (Section 5.6), after the intervention of the local government there has been a shift in responsibilities where the community assumes the help of the government and loses direct action or agency towards the top-down places (see Chapter 5, Section 5.4.2).

6.6.2 **Differences across bottom-up and top-down places**

In this section of the investigation it was clearly identified that residents have different perceptions towards bottom-up developed and top-down places. The examination of the statistical results triangulated with the qualitative data from the focus groups revealed that nearly all the items measured in the survey reported statistically significant differences across the two places categories (see Figures 6-10 and 6-11). For the categories community activism (CA), defence of the territory/safety (DT), and place attachment (PA) (identified in this thesis as the social resilience factors developed by residents after the disaster), the significant statistical differences across bottom-up and top-down places suggests that Villatina residents' perceptions towards bottom-up places are strongly linked with these specific social resilience components, unlike top-down places. The category community attachment (CA-2) presented less difference across the two places, and it was only possible to establish that top-down places might be perceived as places that allow more community gathering; however bottom-up ones might contribute more to the social development of the community.

These results suggest that irrespective of the intervention of the local government and the fact that more than 30 years have passed since the disaster, bottom-up places nowadays are linked with feelings of activism, territorial defence, place attachment, and community

attachment. This demonstrates that places that are community-led (built and managed) could have determinant effects within residents of slum communities in Medellin and could preserve and/or promote behaviours that allow residents of these settlements to cope with the constant threats to which they are exposed (i.e. extreme violence from drug gangs' conflicts). For the remaining items included in the survey large statistical differences were identified with a high level of association toward bottom-up places for the items Q6, Q26, Q7, Q15, and Q20. For the items Q12, Q29, Q22, and Q5, statistical differences were not reported.

Relevant statistical differences were reported for items measuring perceptions of violence and crime which, according to descriptive values, were largely linked only with top-down places. The perception of top-down places as spaces for drugs and violence, constitute an important finding that requires further investigation, as well as discussion with the local planning authorities, who could benefit from these results in order to establish whether top-down places are promoting or creating different forms of violence in Villatina (and possibly in other informal settlements where top-down projects have been developed).

6.7 **Campo Santo Memorial Place**

In this section the statistical results obtained for Campo Santo memorial park are presented. This was analysed separately since it was found that the place was originally built through bottom-up actions, and later modified by the local government using PDS. On this basis, the survey results obtained for the Campo Santo are presented to report the average scores for each of the questions, as well as standard deviations and median averages. The information provided in Table 6-11 reports the results for the categories Community Action (CA), Defence of the territory (DT), Community Attachment (CA-2), and Place Attachment (PA). Table 6-12 presents the results of the rest of the items.

Table 6-11. Mean and Median average and standard deviation for Campo Santo for the categories CA, DT, CA-2, PA

Category	Statement	Means	Std Deviation	Median average
CA	Q9_Fight for my citizen's rights here	5.45	2.55	7
DT	Q17_Helped to protect from illegal invasions	5.24	2.66	7
	Q3_Help to control gangs and crime	6.16	1.82	7
	Q4_Helps me feel protected safe	6.41	1.69	7
CA-2	Q1_Be with community and participate	2.21	2.15	1
	Q28_I Can gather with my community	1.42	1.32	1
	Q31_Contributes to social development of the community	3.07	2.83	1

	Q8_I feel part of the community in this place	1.89	1.91	1
	Q2_ Sense of coexistence and union	3.07	2.34	3
	Q19_Represents community division	6.47	1.59	7
PA	Q23_Part of who I am	3.15	2.71	1
	Q24_Emotional attachment	2.35	2.38	1
	Q25_Sad if this place no longer exists	1.22	1.06	1

1=Agree; 7=Disagree

Table 6-12. Mean and Median average and standard deviation for Campo Santo for the rest of the items

Category	Statement	Means	Std Deviation	Median average
KL	Q6_I Can access to knowledge in this place	3.55	2.71	3
S/R	Q7_Contributes to my health,	6.08	2.11	7
	recreation and relaxation	1.63	1.50	1
SC	Q10_Has contributed to the social change after the disaster	1.69	1.88	1
	Q11_Represents change and hope	1.66	1.74	1
	Q15_Represents progress for me	6.45	1.68	7
SL	Q12_Symbol of respect	1.05	0.50	1
	Q13_Sacred place	1.21	0.99	1
AS	Q29_This place has positively changed the neighbourhood image	1.26	1.03	1
	Q14_This place is beautiful	1.12	0.82	1
FI	Q16_Financial importance	6.87	0.73	7
V/C	Q18_Space for drugs	1.26	1.19	1
	Q27_It will be violent as in the past	2.45	2.54	1
LD	Q21_Memory of the disaster	1.23	1.15	1
	Q22_Sense of loss	1.32	1.33	1
NE	Q30_Learning and ecology	2.96	2.18	3
	Q5_Nature connection	1.69	1.49	1
SG	Q20_Spiritual significance	1.91	2.13	1

1=Agree; 7=Disagree

The results obtained for Campo Santo memorial space reveal that for all the items included in the categories community action (CA), and defence of the territory (DT) the median average response was 7 (corresponding to strongly disagree with the statement). This demonstrates that Villatina residents do not consider this place to promote community action anymore as it did in the past. Additionally, Campo Santo is perceived as a place that has not protected the neighbourhood from illegal invasions, has not helped to control gangs and crime, and does not provide feelings of protection and safety. Conversely, for the items included in the category community attachment (CA-2), residents considered that Campo Santo has largely promoted community participation (mean= 2.21, STD=2.15, median average= 1), gathering (mean= 1.42, STD=2.32, median average= 1), contribution to the community social development (mean= 3.07, STD=2.83, median average= 1) and feelings of

being part of the community (mean= 1.87, STD=1.91, median average= 1), and represents a sense or coexistence and union (mean= 3.07, STD=2.34, median average= 3). Furthermore, for the last item in this category *this place represents community division* (Q-19), it was identified that residents do not consider Campo Santo as a place that represents community division (mean= 6.47, STD=1.59, median average= 7). For the items included in the category place attachment (PA), survey responses reported a high level of attachment towards the place with median averages of 1 for the three items: "*this place is part of who I am*" (Q-23), "*I feel emotional attachment towards this place*" (Q-24), and "*I would feel sad if this place no longer exists*" (Q-25).

The results obtained for the categories CA-2 and PA reveal a high emotional attachment towards this place, which could be explained by the memory of the disaster attached to Campo Santo. Furthermore, Campo Santo is highly perceived as a place that facilitates community participation, helping to promote community attachment and social interaction that is translated in feelings of coexistence and union among neighbours. However, these perceptions of place and community attachment contrasted sharply with the perceptions conferred to the categories CA, and DT where, clearly, survey participants did not perceive Campo Santo as a place that promotes community activism and believe it has not helped to promote defence of the territory. These contrasting perceptions denoted in the statistical analysis reveal the positive and negative impacts of places that are built by the community and later transformed/improved by the local government (mutual mechanisms of development (see Chapter 4, Section 4.5.4). Initially, it could be suggested that the feelings of place and community attachment have remained intact since this place was built by community members, and, in the case of Villatina, it has a very specific connotation as this was part of the area where the disaster occurred. Nevertheless, the factors that promoted the existence of the Campo Santo – community activism and defence of the territory – according to the survey responses are not associated with the place anymore; instead nowadays it is perceived as unsafe.

These results are corroborated by the multiple interviews and focus groups discussions with community leaders and residents of Villatina, who expressed that the Campo Santo was severely affected after the intervention of the local government, and although residents feel a strong attachment to it, the dynamics in the place have changed dramatically: It has become a place where multiple drug gangs operate both day and night (see Chapter 5, Section 5.4.1). Community leaders and residents expressed that before the intervention of the local government the Campo Santo used to be the responsibility of the community, and

the activities held in the place promoted activism and protection; however, after the intervention, the place became to be the government's responsibility. Furthermore, the space initially built on by the community to replace the chapel was replaced by a multipurpose covered place that is rarely used.

For the rest of the items included in the survey it is of special interest that mostly all of the items reported a median average of 1 (corresponding to strongly agree with the statement). Only the items *this place contributes to my health* (Q-26), *this place represents progress for me* (Q-15), and *this place has financial importance for me* (Q-16) reported a median average of 7 (strongly disagree). However, it must be noted that the values obtained for the items *this is a space for drugs* (Q-18) were mean= 1.26, STD=1.19, median average= 1, and *I am afraid this place will be violent as it was in the past* (Q-27) were mean= 2.45, STD=2.54, median average= 1. These results reveal that residents perceive the Campo Santo as a violent place. Contrastingly, feelings of spiritual significance, symbols of respect, change and hope, and contribution to the social change of the community are attached to the Campo Santo. As explained previously, the memory of the disaster, and the fact that this place was built by the community, could have generated a strong emotional connection. However, in spite of the deep spiritual significance of this place, violence and criminal activities have deterred residents from visiting the park.

6.8 **Discussion**

In the initial section of this chapter, diverse theories of place experience and place meaning were introduced, from which it was argued that places are subjected to multi-dimensional changes that are heavily influenced by social, cultural, political and economic factors. This was reinforced by the idea that a place, from a subjective and perceptual perspective, should never be considered as unchanging. In fact, place is vulnerable to time that, as an impermanent notion (Leach, 2002: 129), influences the changes of the place meanings according to the lived experiences. Finally, the recognition of the latter will lead one to an understanding that the meanings of place are the representations of the situated experiences given by individual mental constructions. For the case of highly vulnerable settlements that suffer from volatile changes – as it was reviewed in Villatina – the recognition and identification of those experiences is of importance in order to understand how the residents of these settlements have evolved by socially adapting to the constant changes in the built environment.

After investigating the iterative changes of place perception according to Villatina residents through the lenses of socio-constructivist schools, it is here argued that the evident process of change (imposed by the landslide in 1987, and the outbreak of the civil war) became a complexity canvas against which residents re-developed their own social reality, which was by no means isolated from the physical domain. In fact, the multiple threats (i.e. natural hazards, and violence) shaped the perception and experience of place in a way that enabled residents to build specific community places (i.e. community centre, church, home, library). In the quantitative and qualitative exploration, it was found that nowadays, these places denominated as bottom-up grassroots places in this thesis (see Chapter 4) and built under extreme circumstances nearly two decades ago are highly associated with strong feelings of community activism, defence of the territory, community attachment, and place attachment (identified in this thesis as the social resilience factors developed by residents after the disaster). Furthermore, these places were considered by the residents participating in the survey as places that provide a sense of safety and protection.

On the other hand, this thesis found (Section 6.3.2) that some top-down places (built through PDS by the local government) were considered to be among the most relevant places in the neighbourhood according to residents of Villatina (i.e. UVA learning centre, Tinajas leisure and learning centre, Morro pan de azucar (ecology paths and urban farming), and el Mirador de la Torre (view point)). Nevertheless, those places (except for the UVA Sol de Oriente) were negatively perceived by residents who had associated them with feelings of violence, crime, unsafety and fear. This could be explained by the isolated location and function of the places (i.e. public open spaces), which are mainly part of the green belt project. Interestingly, feelings of community attachment were promoted by these places. Furthermore, residents asserted that these places have represented change and progress in the neighbourhood and are aesthetically appealing. These results show the importance of top-down places in the neighbourhood which, beyond their physical appearance, have provided a sense of community and improvement.

Likewise, the statistical results reported for the Campo Santo Memorial Park demonstrate that, although the park is perceived as aesthetically appealing and has promoted community interaction and participation, after the intervention of the local government the park has suffered a range of changes caused by extreme violence (i.e. drug gangs settling in the park). This has caused residents to perceive the park as a place of fear and drugs – as shown in the statistical results in Table 6-12. Nevertheless, survey participants reported to feel a strong place and spiritual attachment towards the park (see Table 6-11 Q23, Q24, Q25 and Table 6-

12 category Q20). These contrasting feelings of fear and attachment – as previously mentioned – could be linked with the connotation and significance of the place as a 'memorial place' of the disaster that occurred in 1987, which, according to Schramm (2011), are expected from places that leave traces of violence and suffering (Schramm, 2011: 5).

Furthermore, the active engagement of the community in the construction of the place in 2005 could have intensified the sense of attachment and emotional connection to the place. A previous study conducted by Sampson and Gifford (2010) investigated the influence of place-making on individuals' health and well-being after major disturbances (i.e. forced resettlement), and its relationship with place attachment. The results of this study that was conducted with a group of young people with refugee backgrounds living in Australia showed that, in fact, place-making provides restorative powers after major disturbances in place attachment, and enhanced the social connection to others (Sampson and Gifford, 2010: 128). Based on this, it could be argued that people who engage in a place-making process – after a major disturbance in people's place attachment (i.e. a disaster: Agyeman, 2009; 509) undergo a process of healing in their emotional well-being that strengthens the place and community attachment – since the social connections during the place-making process are enhanced. From this angle, the Campo Santo memorial park – viewed as a place that was built by the community in a place-making process (see Chapter 4, Section, 4.5.3) – provided to residents a restorative feeling that helped them to preserve the memory of the neighbourhood and place attachment. In other words, Campo Santo is part of their identity.

In fact, since place attachment is part of human construction of the world that exists at the subconscious level of awareness and influences behaviour (Korpela, 2012), the creation of place attachments – as argued in the work of Korpela, (1989, 1992) – are formed towards places that contribute to the satisfaction of emotional needs of people, enabling them to create and maintain their identities. Furthermore, Rubinstein and Parmelee (1992) asserted that when place attachments are formed (the self-identity with the place), there is a '*sense of continuity of place memories and attachments to a current place that work as a way of retaining positive self-image*' (Korpela, 2012:447). From this point of view, it could be argued that the strong place attachment and spiritual significance of the Campo Santo for Villatina residents is the result of the place-making process after the disaster in which the community was engaged. Consequently, the Campo Santo provided feelings of recovering and emotional healing after the shock of the landslide. This facilitated the emotional connection of residents towards the place, which seems to be preserved over time. In other words, the

'sense of continuity' of the place memories and attachment as explained by Rubinstein and Parmelee has remained until the present day.

Nevertheless, the statistical results obtained from the Campo Santo Memorial Park, indicate that when the local government intervenes, through the use of PDS, in these places that are built by the community in place-making or grassroots processes, feelings associated with community activism, and defence of the territory are lost (see Table 6-11) – as it was explained in the qualitative exploration of the Campo Santo in Chapter 5 (Section 5.4). In other words, these results confirm that the top-down empowerment (Chapter 5, Section 5.6) apparently created by PDS does not promote activism in the community. Conversely, dependency on the government is enhanced. Therefore, although place attachment was reported to be high (see Table 6-11), it should not be an indicator that empowerment has occurred. In fact, Mihaylov and Perkins (2004: 71) asserted that '*it is only through translating place attachments to social capital and collective action* (empowerment) *at the community level that the full benefits of attachments to cherished places and people are realized'.*

6.8.1 **Invented and invited places of cooperation: the co-creative action of the bottom-up**

From this perspective, it is important to trace the difference between bottom-up and top-down developments that emerged from the exploration conducted in this chapter. After the analysis of the quantitative and qualitative findings, it is argued that the collective action that was created through bottom-up places constitutes the most evident difference between the bottom-up and top-down. This difference comes from the self-initiative of the community to rebuild or re-make their local environment, thus transcending the boundaries of their disadvantaged condition. The act of gathering a unique force of action that worked through cooperation made possible the emergence of a place-making process that was deeply rooted in their local identity and struggle for survival. In fact, it could be observed that this mode of cooperation is unique to this community since they share a similar structure of experiences mainly shaped by the disaster in 1987. Under this idea, it is important to examine the '*potentials, qualities, and limits of cooperation*' which, according to Gebser (1949) depend on the structures of consciousness that are born (Combs, 1991: 2).

According to Margoulis (1981), even at the minute level of single-cell organisms, cooperation is the common environment for symbiosis. Although the mechanics of cooperation are indeed complex (Combs, 1991), the increasing order in which organisms develop depends on the level at and degree to which all separate organisms interact and join

together in *'elaborate behavioural exchanges';* in the case of humans these interactions create societies, cities, networks, communities, and families, among others (Combs, 1991:3). The symbiotic elements that create structures of cooperation in the human scale are known as 'synergy'. In other words, the collection of dynamics that foster exchange of mutual goals and interests that benefit both communities and individuals create *'synergetic communities'* – as defined by Ruth Benedict (Maslow and Honigmann, 1970). Nevertheless, according to Raine Eisler (1987), even in the most perfect societal structure ruled by cooperative interactions humans tend to fall into polarities of behaviour. One of those extremes is known as the *'partnership model'* that, according to Eisler (1987), is ruled by a principle of active togetherness. The second is the *'dominator model'* that works in hierarchical relationships of control and has political interests or agendas (Combs, 1991). An example of this division inside cooperative structures was revealed in Villatina with the community centre. Clearly, the evaluations given to this place by Villatina residents portrayed an institution that has been permeated by self-centred egotistic political agendas. The degeneration of this community institution gave rise to a second structure of cooperation that could be subscribed in the *'partnership model'* defined by Eisler (1987). As a result, diverse grassroots movements ruled by peaceful processes emerged. These parallel community actions are defined by a collective consciousness of cooperation in which the primary agenda is to survive the constant threats with which the community is confronted daily.

From this perspective, we could think of the cooperation that occurred in Villatina as part of a parallel process. Although this process seemed to have taken place outside of a spatial configuration, it may have been part of a '*cause and effect relationship'* (Gebser, 1949) between the residents that participated in the process of reconstruction. These interactions between the community members triggered the collective will for improvement and action towards finding external support (Mohrhoff, 2008: 74). In fact, this could be also explained through the theory of invited and invented spaces developed by Miraftab (2005, 2009). According to this theory, *invited spaces* are occupied by grassroots actions in the company of '*allies*' that could be non-governmental organisations and/or other institutions. The *invented spaces* represent the *'collective actions of the poor that challenge the status quo*' (Miraftab and Wills, 2005: 195). It is in these two spaces that the '*cause and effect relationship'* explained by Gebser (1949) is manifested in form, and not in a binary connotation, but instead in a *'mutually constituted one'* (Miraftab, 2005: 195). In other words, it manifests as a shared cause of improvement to defy the oppressive status quo. In the case of Villatina, it was the local government eviction campaigns and corruption of their

local community institution (i.e. the community centre), which gave rise to collective actions. These actions were initiated by grassroots movements of the community and were supported by external organisations and institutions or 'allies', such as the church and educational institutions (e.g., Universidad Nacional).

According to Miraftab, grassroots activities of this nature tend to move back and forth between these two spaces (Miraftab and Wills, 2005: 195). It is in these two spaces of action that the cooperation *'partnership model'* (explained by Eisler (1987)) evolves. The invited and invented spaces are part of the resistance of the poor, which challenge the mechanisms of power and control. But at the same time the grassroots actions that result are part of a cooperation process. To explain this level of cooperation, Combs (1991:10) argued that the models of peaceful cooperation ruled by partnerships '*are not a structure among structures'.* Instead, these models are the *'ability',* the *'clarity'* to function by experiencing one's individual aspirations with *'transparency'* and in the context of the society around. In other words, this level of cooperation that Combs refers to, and which Miraftab defined as invited and invented spaces, is part of a sense of collectiveness, a shared awareness that allows for the co-creation of partnerships and community spaces that overcome '*self-serving agendas*' and promote collective actions (Combs, 1991:10).

Viewed through the perspective of invited and invented spaces (Miraftab and Wills, 2005) or the cooperative partnership model (Eisler, 1987), the ability to initiate a process of change that undoubtedly was triggered by the disaster in 1987 could be understood as a natural process of resilience to overcome the crisis, which was unique to residents of Villatina. In the urban space, the resilience process manifested through the internal grassroots actions that evolved within invited and invented spaces. This outcome led to the co-creation of bottom-up places. Previously, it was argued (see Section 6.3.2) that these places were by no means defined strictly by function. Based on the survey findings, the bottom-up places included in the survey (Church, Library and Home) were given almost identical responses. Of particular interest was the association between these places with feelings of community activism, defence of the territory, community attachment, place attachment, and spiritual significance. These findings are independent of their function.

These findings could be an indication of how the place-making sense process in Villatina transposed the '*temporal and spatial constrains of perception'* and created an alternative space in which a different degree of objectivity carries the potential of new discoveries (Combs, 1991:10). In this sense, the places are defined beyond their mere function, and are

objectively viewed by the users as multi-purpose places in which invited and invented spaces evolve.

6.9 **Summary**

Clearly, the Villatina community manifested a strong sense of attachment for bottom-up places which, as found in this chapter, was not tied to their original function. In fact, these places transcended the boundaries of functionality and became places for the community – timeless 'places of hope'. In other words, these places could be considered not only the manifestation of the insurgent planning activities that commonly emerge in these types of communities (Holston, 1995, 2008; Miraftab, 2005, 2009) but are places of freedom in which a heavily traumatised community affected by war and geological hazards managed to carve with their own effort and agency, and had the courage to defend their neighbourhood from violence and eviction attempts. Pericles once suggested that freedom is the sure possession of those alone who have the courage to defend it (Thucydides, 470–c. 400 BC). In the same vein, in Villatina, the bottom-up places are indeed the manifestation of courage and the claim for freedom of a community that has tried to claim its right to be part of the city (Lefebvre, 1967).

The question that arises with the results obtained in this chapter is to what extent the top-down developments might be affecting the intrinsic value that is contained in these communities which, as demonstrated in this chapter, is also manifested at the physical level with their self-built architecture. To what extent do the new developments designed and built by the local government capture the real essence of the communities or, on the other side, are disregarding and affecting the collectiveness? The findings of this chapter are telling us that the worth of Villatina community – or informal settlements – should not be measured by aesthetic perceptions or predefined values. In fact, although top-down places are perceived as beautiful and signs of progress, these places were not regarded as places of community action, empowerment, protection, or spiritual attachment.

7 Discussion and Conclusions

To finalise this thesis, this section presents a summary discussion oriented towards the construction of arguments that could illuminate ways of understanding the patterns of development of informal settlements in Medellin. The claims presented in Section 7.1: *Meanings in the spatial form: approaching formulations in informal settlements* aim to nurture the existing urban planning policies that are applied in Medellin informal settlements; they do not intend to introduce an ultimate theory or solution that could be immediately applied in PDS projects. Instead, they offer an in-depth examination of the potential capabilities found among Villatina residents that ultimately sheds light on internal processes of community resilience and organisation that, if well understood, could be integrated in future participatory design projects developed by the local government in informal settlements. Following this, a theoretical model named *Community resilience – a co-creative model* is presented in Section 7.1.1. Section 7.2 presents the conclusion of this thesis in which the aims and questions that directed this investigation are addressed.

7.1 Meanings in the spatial form: Approaching participatory formulations in informal settlements

Initially, attention is drawn to the idea that community activism, in any form, could become the hidden strategy to prevent multiple problems of crime in Villatina. Although the idea of community activism has been widely developed in literature to be a key aspect to strengthen community movements (Castells, 1983; Douglas and Friedmann 1997; Caldeira, 2000; Sandercock, 1998; Holston, 2009; Miraftab, 2009), the complex dynamics of Medellin slums recognised as the most dangerous in the world, the long civil war history in Colombia that heavily affected these settlements, and the ongoing post-conflict process that the country is currently facing pose multiple challenges in terms of the future urban directions that the city of Medellin should take in order to address the latent social problems in the slums. Given the unique history of development of Medellin and all Colombian cities (heavily influenced by the longest civil war in human history), the researcher argues that it is imperative to embrace the situated changes and realities that have shaped the perception of place in Medellin slums –specifically referring to the case of this investigation. By this is the intention is to suggest that although the extensive literature on place and participatory design and all its acquainted streams of research have created the grounds for the importance of place and ultimately have informed policies and urban practices (Manzo and

Pekins, 2006), in the face of extreme events and societies, these theories and concepts could become entrenched in arguments that do not relate to the realities of Medellin slum residents.

An example of this is the misleading concept of participation applied in planning projects developed in urban slums in Medellin. Villatina served as a case study to identify that slum residents will not be empowered just by the participation of the residents in top-down projects that apply informative workshops or PDS (see Chapter 5). In fact, in Chapter Five it was demonstrated that the top-down places developed with PDS have by no means generated 'empowerment'– defined in this investigation as the manifestation of community activism, place attachment, and defence of the territory (see Chapter 5, Section 5.6.1). Conversely, places that are built and managed by the communities generate feelings of community activism, defence of the territory and community attachment, among others, suggesting that despite time, bottom-up places continue to be a representation of an empowered community.

Furthermore, the high association of top-down as places of fear, violence and crime should be understood as indicators for the following: 1) whichever method of participation (PDS) is applied in slum communities needs to address the current situation and reality of the settlements; 2) no method should remain unchanged, and needs to be flexible enough to allow feedback and modification; 3) interventions in these settlements need to include predictive models of behaviour that should be based on the past and present social dynamics of the settlements in order to avoid or minimise new forms of conflicts (i.e. crime or violence) – in the case of Villatina, top-down places seem to have been used by drug gangs; and 4) urban theory and practice needs to move beyond the idea of slum communities as parasitic, disorganised and powerless communities (Lombard, 2014: 4) towards more integrative and parallel ideas that enhance the capabilities of residents through empowerment (Sen, 1999).

The exploration of this case study provided the opportunity to investigate the essence of slum residents who have demonstrated that they have intrinsic values of resilience that allowed them to attain high levels of social development through community kinship under the most extreme conditions. This leads to the understanding that although induced participation has been proven flawed (Cooke and Kothari, 2001; Hardoy and Pandiella, 2009; Jabeen *et al.,* 2010; Miraftab, 2010), from the Villatina case study, it could be concluded that if community activism is enabled along with place and community attachment, residents could co-create shared strategies of defence of the territory against diverse threats; for

instance crime, violence, and natural disasters. The role of 'place-self-building' in Villatina was demonstrated to be a determinant to create these factors associated with community activism; therefore, it is argued that although top-down places seem to be generating new forms of crime, if these places in the phase of creation and management integrate the principles of community activism, a new and more integrative history of urban place in slum communities could be written.

7.1.1 **Community Resilience: A Co-creative Model**

In the light of a new era of social planning that includes ideas of inclusion and co-creation between both bottom-up and top-down, the words of Leonie Sandercock (1998) are borrowed to elaborate this section. In her book '*Towards Cosmopolis: Planning for multicultural cities*', Sandercock reminds urban planners that the achievements obtained in urban planning theories and their impact in urban and planning practices are still not enough to solve the future challenges of our society. The old thinking of separation between social or cultural groups, abolishment of the opposition, and competition has led to the creation of unhealthy urban practices – in which all the cities and societies have evolved. This old model of thought in the face of the tangible environmental crisis of this planet only unveils its failure. Nevertheless, Sandercock invites us to sustain a spirit of hope, by understanding that while societies continue to approach the limits of their local natural environments (i.e. environmental degradation), new creative minds have started to emerge, challenging the status quo of the old practices. This new era of thinkers comes from a strong and longstanding stream of knowledge initiated by activists in research and education in urban planning areas a few decades ago (among them Arnstein, 1969; Freire, 1970; Friedmann, 1987, 2011; Gilbert, 1994; Sen, 1999; Caldeira, 2000, 2017; Gilbert and Davila, 2002; Roy, 2005; Davis, 2006; Coupe *et al.*, 2007; Davidson *et al.,* 2007; Holston, 2009; Brand and Davila, 2011; Miraftab, 2010; Lombard, 2014). These scholars have committed years of research to contribute to new forms of thinking about urban planning, with a strong emphasis on vulnerable and segregated communities (i.e. informal settlements in the global south). Their contribution has helped to surpass the old apocalyptic image of informal settlements, towards a more creative and positive view that recognises the capacities, resourcefulness, and internal resilience of these communities (Roy, 2005).

Furthermore, the contribution of these thinkers has led to the understanding that there is a need for transformative practices that, instead of deleting a history of events, embrace an evolutionary thought of inclusion in which the production of space is grounded on the

experience of those who inhabit it, to the extent of integrating the existent grassroots-community structures as an essential component for the social and spatial development of these settlements. This – as argued nearly two decades ago by Sandercock – could become the first step towards imagining a better future for informal settlers (Sandercock, 1998). Therefore, to conclude this thesis, a graphical model of community resilience and co-creation is presented, which was developed in direct association with the findings of this study; see Figure 7-1. This graphical model aims to present an alternative route of participation for projects that are to be developed in urban informal settlements in Medellin, and it includes some of the relevant aspects found to play a key role in promoting community resilience in these types of environments.

Initially, it is important to clarify that this model only constitutes a conceptualisation of the findings obtained in this thesis; therefore, its application should be analysed and localised according to the context (Villatina). This graphical model extends the notion of time and the affectation of it in the space, which – as argued in Chapter 5 – might occur in a linear form. However, the shape of lived events appears to align as nodes of connections and networks that give life to new interactions in the space that ultimately form the built environment. In this space of interconnections and networks – only referring to informal settlements (Villatina case study) – individuals live and evolve in a continuous fluctuation of events, more often conflicted by external forces of disturbance (i.e. war, drugs, extreme violence, poverty, and disasters). However, at the same time, these are counter-balanced by other forces that arise from the human-created emotions of solidarity, cooperation, union, togetherness, and need for well-being. Under these polarised forces, residents of informal settlements in Medellin grow and live, understanding the world as a constant struggle, as a battle for survival, in which – once again – the two poles of truth emerge: good and bad, positive and negative (i.e. community cooperation and extreme violence). Nevertheless, the notion of danger in the urban space of these settlements has given rise to unique forms of social dynamics, which are intertwined with the networks of events previously mentioned.

With a focus on the dynamics that could be considered to pertain to the positive pole (i.e. solidarity, cooperation, union, togetherness, etc) different levels of collectiveness (i.e. community networks, community action, and defence of the territory) are found. These levels, although identified in this thesis as the components of community resilience, are simply the manifestation of resourcefulness and 'adaptation' embedded in human nature and that in this study have been identified to be of grassroots nature, as they come directly from the individuals and are not imposed (see Chapters 4 and 5). Although these components

are often overlooked by local governments and top-down institutions, they constitute the primary source of survival of these communities without which individuals would be unable to cope with the extreme environments in which they reside. Nevertheless, it is argued that, given the historical canvas against which these oppressed 'parallel' societies have developed (i.e. segregation, poverty, abandonment, etc.), as ironic as it might sound, this shared survival collectiveness has promoted the existence of unique human capacities that have been represented in actions of resistance and advanced resourcefulness (i.e. insurgent planning). Therefore, as an integral part of this graphical model, the notion of insurgent planning is included which, in the case of Villatina residents, constitutes the counteractive force to the sometimes-traumatic environment that residents are exposed to.

The proposal is to understand insurgency as an expression of co-creation, dialogue, and participation in informal settlements – as exposed by Holston (2008). In the Villatina neighbourhood, the insurgent planning that emerged after the disaster allowed the co-creation of grassroots actions and places that were the outcome of the teamwork and cooperation of its residents. This was part of an iterative process of dialogue and action between Villatina residents and external institutions. In his key work: '*The pedagogy of the oppressed*' – that has been widely used in citizen participation discourses (Miraftab, 2010) – Paulo Freire defines activism as an act of reflection on one's existence. According to Freire (1970:88) '*human existence cannot be silent, nor can it be nourished by false words. Human beings are not built in silence, but in word, in work, in action-reflection'.* This praxis or work that is innate in humans constitutes, according to Freire, a right of everyone '*not the privilege of some few persons*' (p. 88). From Freire's provocative and inspiring work, the insurgent planning that emerged in Villatina could be interpreted as an **act of hope** (quote: *'as long as I fight I am moved by hope; and if I fight with hope, then I can wait* (Freire, 1970:92), **an act of love** (quote: *'Love is an act of courage, not of fear. No matter where the oppressed are found, the act of love is commitment to their cause – the cause of liberation'* (Freire, 1970:89); and, subsequently **an act of comprehension** of the external reality. In fact, according to Freire, de-coding this reality is indispensable in order to fight against the dominated consciousness in which the majority of the oppressed might live. In other words, insurgent planning could be interpreted as the representation of a self-reflective path to freedom. Therefore, its principles need to be preserved and acknowledged in any urban planning participatory discourse in Medellin informal settlements.

Nevertheless, as the bottom-up insurgent actions are of importance, so are the top-down actions. The advancements of citizen participation in social projects in Medellin, and the

noticeable mobilisation of resources to improve the neighbourhood's infrastructure of these settlements can be approximated to new inclusionary urban planning practices. Therefore, the top-down formulations (PDS) are integrated in the model; however, the PDS is seen more as the vehicle to sustain the community collectiveness that gives rise to community resilience. By this it is meant that PDS should constitute a solid structure of support to the community. It is on this level where the expert knowledge interacts and nurtures the local communities in order to promote empowerment. The old thinking that induced participation generates community action, attachment, sense of responsibility and ultimately defence of the territory was demonstrated to be flawed in Chapter five. Furthermore, grassroots developed places not only generated all those feelings, but also provided a sense of safety and protection. Nevertheless, as a matter of fact, top-down places were considered to generate feelings of pride. Ultimately, the findings of this thesis are telling us that both bottom-up and top-down strategies need to be combined in a framework in which interaction, empowerment, defence of the territory and co-creation can occur.

Understanding that both bottom-up and top-down actions are equally important and necessary for the development of residents in informal settlements, a new ideology of integration and balanced bottom-up and top-down actions could emerge. By this, it is not suggested that problems might not arise, and that a perfectly balanced interaction between communities and government would be fully created. However, it is suggested that by bringing back or realising the potential of the community collectiveness that has helped the communities to remain empowered (i.e. the principles of their insurgent planning) a more flexible, conscious society less dependent on the local government could emerge. Undoubtedly, time might change the systems and with it the societies; nevertheless, if the shared collective values are promoted by both parties (bottom-up and top-down), community resilience could remain and evolve into autonomous systems that could be part of bigger grassroots movements. With this, the old idea of dependent and disempowered communities will be lost in the dust of old practices in order to give place to new sustaining communities (systems) that work under community ideologies of co-creation.

Figure 7-1 presents a conceptual co-creative model of action in which bottom-up and top-down actions are part of a cyclical and feedback process. The communities (bottom-up) and local government (top-down) are represented in the two sides of the model as: insurgent planning and top-down (institutions). The geometrical shape of this model outlines the levels of interaction of each component and allows flexibility to integrate new components emerging in the process of co-creation. A hierarchical order is not suggested. Instead, a

continuous cyclical and balanced interaction between all the components is introduced. At the heart of the model, in the central horizontal axis (level three), the main components are displayed that set the base for the creation of citizen 'empowerment'.

Five levels are shown. Level one denominated 'grassroots-architecture' encompasses the idea of creating placemaking processes with the direct intervention of the communities. On the second level, 'interaction – knowledge exchange', the direct collaboration between top-down and communities is facilitated through participative methods of dialogue. Knowledge exchange refers to the opportunity to nourish the communities by providing direct contact with experts (e.g., architects, designers, engineers, etc.) through education programmes aimed to enhance the social capital and improve the built environment. On the third level, the interactions of four equally weighted components create a balance between the contributions of the top-down and bottom-up.

On the left side of the graphical model (insurgent planning), the components 'community actions' and 'community networks' are displayed, which are an integral part of the process as they represent the activism of the communities. On the right side of the model (top-down institutions), the components 'support' and 'political will' are shown in order to represent the political, financial, and expert knowledge provided to the communities. These four components set the norms or rules of interaction between bottom-up and top-down, which need to be balanced to create empowerment as an outcome (as shown at the centre of level three). Empowerment in this model is seen as a non-induced concept, which departs from a principle of co-creation to strengthen community ties and activism.

The core component 'interaction – knowledge exchange', sits in between bottom-up (insurgent planning) and top-down (institutions) to interconnect the components 'community networks', 'community action' (interlinked in blue), 'viability -political will', and 'support' (interlinked in orange). The union of these creates the fourth core component 'defence of the territory' – also identified as level 4. Finally, the component 'co-creation' located at the highest level in the model, summarises the process of interaction between bottom-up and top-down.

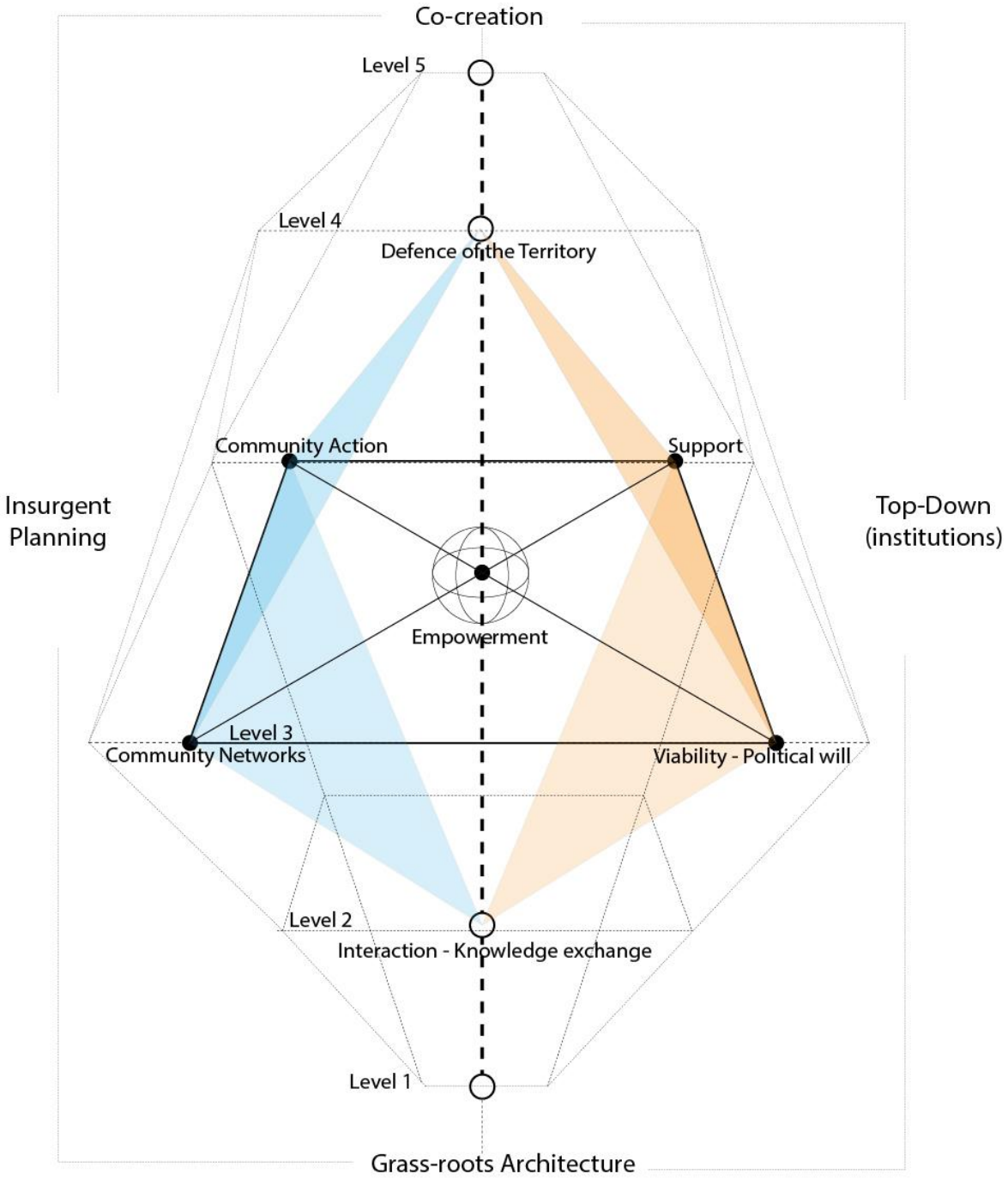


Figure 7-1. Co-creative model of action in Medellin informal settlements

7.2 **Conclusions**

This investigation was conducted under the hypothesis that residents of Medellin informal settlements might be capable of initiating internal processes of community resilience in the after math of natural disasters (i.e. landslides). Additionally, it was argued that such processes might be influenced by insurgent planning principles, which are unique to the communities' social structure and context. The reason to believe that any resilience

process in these settlements might be also influenced by insurgent planning is the long history of segregation and attempts of eviction by the local government, extreme violence unleashed by the civil war, and the exposure to natural disasters (Roy, 2005). Chapter one reviewed the fact that insurgent planning literature understands the action of residents of informal settlements as their unique force of protection against external threats, supported by community grassroots actions and networks (Miraftab, 2009). With these ideas in mind, this thesis has questioned whether residents of Medellin informal settlements can create community resilience strategies in a post-disaster reconstruction of the built environment (research question one). To answer this, the settlement Villatina (Comuna 8), one of the most exposed areas to natural disasters in the city that has followed a long process of post disaster reconstruction after one of the biggest landslides reported in Medellin in 1987, was selected as the main case study. Additionally, this settlement was one of those most affected by the extreme violence unleashed by the civil war conflicts in Medellin.

The results of this exploration revealed that residents of Villatina managed to rebuild the neighbourhood following strategies grounded in cooperation and community networks with external institutions. It was found that an insurgent planning process took place after the disaster, in which the survivors of the disaster organised in order to fight the attempts of eviction and extreme violence caused by the civil war. Consequently, the strategies of community resilience that emerged were directly linked with the insurgent actions of the community, defined by strong place attachment, community attachment, defence of the territory, and necessity of progress – a clear representation of grassroots actions (Castells, 1983). The outcome of such strategies became visible in the neighbourhood through social programmes and grassroots places created directly by the community (i.e. community restaurant, house self-building, Campo Santo, community centre, and library).

In sum, the Villatina residents created a unique process of community resilience that was defined by insurgent planning strategies. This provides an account of the resourcefulness and capacity of residents of these settlements to co-create their local history and environment, which in the case of Villatina occurred in the middle of two disasters: civil war and the 1987 landslide.

In addition to understanding whether residents of informal settlements can create community resilience processes after disasters, this thesis reviewed the latest participatory design strategies (PDS) applied by the local government in the last decade. Previous studies conducted in these fields suggested that induced top-down participatory design projects

used by local governments foster dependency and affect the internal micro processes that might occur at the local level (Cooke and Kothari, 2001; Umemoto, 2001; Miraftab, 2010). Furthermore, it has been argued that participatory approaches might restrict autonomous empowerment (Freire, 1970; Miraftab, 2010). Since, Villatina was found to be one of the neighbourhoods that has benefited the most from PDS projects, an exploration to understand if the PDS applied in Medellin informal settlements have enhanced empowerment and community resilience or otherwise was conducted (research question two).

It was revealed that the participatory strategies applied by the government have failed to integrate the local grassroots actions of Villatina residents that were determinant during the reconstruction process. Furthermore, the internal micro-processes of the community developed after the disaster – which are believed to be part of a resilience process (Cote and Nightingale, 2011) – have been ignored or not included in the participatory process. Consequently, in this thesis was found that neither empowerment nor community resilience has been fully created by top-down PDS. In fact, it was revealed that since these strategies have not been enough to create a sense of responsibility and protection towards top-down places, the community has become dependent on the local government, creating a 'shift in responsibilities' (see Section 5.6.2). This, as argued in Sections 5.6.1 and 5.6.2, has disrupted the local grassroots actions of the community. Therefore, there conclusion reached herein is that empowerment or community resilience would not be generated by induced participatory strategies unless even the smallest representation of power that exists in the communities (i.e. community associations and corporations) shares equal responsibilities with the state in the process of transformation of the environment.

If top-down PDS have affected the empowerment of the community it could be that their capacity of community resilience was also affected. Therefore, this thesis aimed to determine whether bottom-up and top-down developed places are generating community resilience or otherwise. For this, the main differences between bottom-up and top-down developed places were explored (research question three) according to the perceptions of Villatina residents.

The qualitative and quantitative data analysis conducted in Chapter 6 showed that residents of Villatina have different perceptions towards bottom-up developed places and top-down places. It was revealed that the bottom-up places studied in this thesis (see Section 6.3.2) were associated with feelings of community activism, defence of the territory, and

place attachment – identified to be part of the social resilience components developed by residents after the disaster (see Section 4.9). On the other side top-down places were not associated with these resilience components; however, community attachment, community gathering, and sense of pride were found to be linked to top-down places. Additionally, it was found that top-down places were perceived as places of drugs and fear. This reveals that despite the multiple attempts of the local government to improve the safety conditions of the neighbourhood, crime continues to evolve, affecting the physical space of Villatina.

Finally, this thesis aimed to provide a conceptual model for understanding how post-disaster bottom-up and top-down actions could be part of a cyclical and feedback process in which communities are empowered through the actions and support of local government. In Section 7.1.1 a conceptual model based on a co-creation principle was presented. The proposal was to include the insurgent planning actions of the community as part of the process by also recognising the grassroots actions and networks of the communities as part of their contribution. The top-down was included as one of the most relevant actors; however it was rather seen as a vehicle through which 'dialogue' can be achieved (Freire, 1970). Finally, it was suggested that, if combined in this co-creative process, bottom-up and top-down could finally create empowerment: however, not an empowerment that is induced, forced or imagined, but an empowerment that naturally emerges and is unique, autonomous and present in the residents of informal settlements.

7.3 Original Contribution of the Research

A contribution of this thesis was the 'community-led approach' that yielded valuable data. Because of the methodology used, community engagement in data collection process was achieved. Additionally, important relationships between the researcher and residents were built, as well as the opportunity for knowledge exchange. The initial outcomes include an increased sense of responsibility and volunteers felt a sense of involvement during the process of data collection, which resulted in self-motivated behaviours. As a general contribution, the community-led approach could be considered as an initial step towards the implementation of a full-scale data collection methodology that could help the community and researchers to work together in the future.

In September 2017, some of the preliminary results from this thesis were shared with and presented to local academic and planning institutions in Medellin. Extended meetings to

discuss the results of the project and potential impacts concluded that further research was needed to improve the PDS currently used by the local government.

An important contribution of this thesis was the identification of the social resilience strategies created by members of the Villatina community, which were crucial in the process of reconstruction after the landslide in 1987. Although the resilience strategies emerged as a response to the landslide, they became a defence mechanism used by residents to fight against the government eviction campaigns and the extreme violence unleashed during the civil war. Consequently, the results of this thesis contribute to an initial understanding of how residents in informal settlement respond to both geological disasters and extreme violence by creating specific strategies of cooperation in and outside their community. Nevertheless, further research should be conducted in other informal settlements in order to explore how the exposure to double disasters (i.e., geological and violence) may have shaped both the social and physical environment of these communities.

This thesis demonstrated that top-down developed places through PDS are not enhancing community resilience and empowerment in the communities. Through analyses of the community-built place after the disaster, Campo Santo - later reformed by the local government using PDS – showed that it was possible to determine that PDS are not enough to create empowerment. These strategies disregard the internal networks and corporations in the community and communities may then become dependent on the local government to provide protection and maintenance to the places.

A final contribution outlined in this thesis was the identification of the differences between bottom-up and top-down developed places (PDS). The main differences found were the sense of responsibility, activism, emotional, and spiritual attachment towards bottom-up places. This were found to be absent for top-down places.

Although creating place attachment has been of primary importance in PDS projects, this component alone is not enough to create a sense of responsibility in the community. On the contrary, the places built through place-making processes and community activism (i.e., the places built after the disaster), were identified as symbols of respect and activism. Ultimately, these results suggest that there is an urgent need to restructure the way the communities are enabled to participate in the design and construction of PDS projects.

7.4 **Areas for Future Research**

From the results obtained in this thesis, it was identified that to address the problems of vulnerability associated with natural disaster exposure in informal settlements (i.e. landslides and flooding), it is imperative for local institutions in Medellin to continue monitoring the changes that occur in these settlements. Therefore, the development of strategies that allow the government and local institutions – with the direct involvement of the communities – to track the changes associated with new vulnerabilities to natural disasters and crime is increasingly urgent. Consequently, the 'community-led data approach' could be a starting point in order to create community-led online monitoring programmes to help identify the biggest risks in the neighbourhoods (e.g., violence, hazards, landslides, etc.). Through these bottom-up programmes, more specific information related to the rapid and constant changes in these settlements could be gathered and, effectively, could inform the local government and PDS. The information collected can be used to: a) identify settlement areas that are vulnerable to landslides or flooding; b) identify if new families settling in disaster risk areas; c) monitor socio-spatial changes (i.e. incidents of crime in existing public space; and d) drive change of use in use of urban spaces.

Additional research could be conducted in these settlements in order to establish to what extent public open green spaces can contribute to the residents' well-being, as widely investigated in other studies – for instance, Iwasaki and Mannell (2000), Wolcha *et al* (2014) and Jennings *et al*. (2016) – or whether they could become potential hubs of crime due to the violent history of these settlements – as it was demonstrated in both Campo Santo memorial park, and Tinajas leisure park.

Finally, similar case studies to Villatina could be studied in future research in order to continue exploring to what extent and under what circumstances residents of informal settlements can create community resilience strategies.

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Appendices

Appendix 1: Fiscalia General de la Nacion – Contexto Office letter

FISCALÍA

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July 2016

This office attached to the "Fiscalia Genera de Nacion", which documents and investigates the acts of forced displacement related with the internal armed conflict in Colombia in the Department of Antioquia and its capital city of Medellin, confirms that will provide assistance to the researcher Diana Marcela Benjumea Mejia to establish communication with the unit of "Care and Repair of Victims of Conflict" in Medellin. They will facilitate access and communication of the investigator with the communities and local leaders of the informal settlements located in disaster prone areas in the city of Medellin.

Once the investigator is introduced in the community, it is then her responsibility to provide relevant explanations and answers to any questions or concerns to the participants involved in the study if so required without compromising the "Fiscalia General de la Nacion".

The research project will be primarily conducted by the investigator, and will be directed in accordance to the fulfilment process of her doctoral studies at the Department of Architecture and Built Environment, the University of Nottingham. The execution of the research project and the data obtained from the study will be handled confidentially by the investigator in compliance with the ethics protocol demanded by the University of Nottingham.

Martha Lucia Mejia Duque
Court Delegated Prosecutor
Medellin
Colombia

Diana Marcela Benjumea
PhD Candidate in Philosophy and Social Sciences
The University of Nottingham
Department of Built Environment & Architecture
Faculty of Engineering

Appendix 2: Survey structure September 2016

English Version:

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UNITED KINGDOM · CHINA · MALAYSIA

Participant No: _____ Gender: F☐ M☐ Age: _____

1. Which part of Colombia you are from: _____

2. Time living in Villatina: _____

3. ¿Did you witness the disaster in 1987? Si_____ NO_____

4. ¿Are you displaced by civil war/ or natural disaster? Civil war ____ Natural Disaster ____

5. Name the most significant places for you in the neighbourhood in order of importance (The first corresponding to the most important and the10 the least important):

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Spanish versión:

The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA

Participante No: **Sexo: F** ☐ **M** ☐ **Edad**: _____

1. De que parte de Colombia es: _____

2. Cuanto tiempo ha vivido en Villatina: _____

3. ¿Estuvo presente durante el desastre del 1987? Si_____ NO_____

4. ¿Fue usted desplazado por la violencia/ o desastre natural? Violencia_____

Desastre Natural_____

5. Nombre los lugares más significativos para usted en el Barrio en orden de importancia (ej. el 1er lugar correspondiente al más importante y el 10 al menos importante):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Appendix 3: Survey structure September 2017

Survey September 2017: English

Participant No: _____ **Gender: F** ☐ **M** ☐ **Age:** _____

1. What part of Colombia are you are from: _____

2. How long have been a resident of Villatina: _____

3. Were you a resident of Villatina at the time of the disaster in 1987? _____ NO_____

4. Were you displaced by civil war/ or natural disaster? YES____ NO___

If yes, please specify: Civil war ____ Natural Disaster ____ Other_____

5. Do you own the house you are living in now? YES____ NO___

   If your answer is yes, please go to question 6, otherwise skip to question 8:

6. Did you self-build your own house? YES____ NO____

   If your answer was yes, please go to question 7, otherwise jump to question 8:

   If yes, could you specify whether

   (a) You received any external help form the government or other institutions

   (b) What type of help did you receive

   (c) Was this help useful?

   _____

7. Would you move to another neighbourhood if given the opportunity? YES___ NO____

8. Why?

   _____
   _____
   _____

In the following section, you will be asked a series of questions, please select the number below that best represent your opinion. Your answer should to be given from a 1 to 7 scale, where 1 is strongly agree, and 7 strongly disagree.

1. Do you think a natural disaster poses a threat to you now?

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

2. If another natural disaster happens (similar to the disaster in 1987), in your opinion, do you believe that the community will be capable of self-organising and initiating the process of reconstruction of the built environment?

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

3. In your opinion, to what extent do you think the community will need government intervention during the post-disaster reconstruction process if a natural disaster occurs:

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

Can you identify and name the interventions you believe the community will need?

_____

_____

_____

_____

_____

4. After the disaster in 1987 in Villatina, are the residents of the neighbourhood more resilient and prepared if another disaster of similar magnitude occurs?

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

5. In your opinion, to what extent do you agree or disagree with the following statements:

- I think it is important that the community takes part in the process of development of projects that are developed by the local government

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- I think that the projects developed by the local government should integrate more the community members in the process of development

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- I think I would feel a stronger sense of attachment for my neighbourhood if I was involved in the process of development of projects developed by the government

Strongly agree Undecided Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

6. In your opinion, do you think the community and its leaders are as active as they used to be before (e.g. after the disaster)

Strongly agree Undecided Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

7. In your opinion, do you think that it is the government's responsibility to take care of the places that they build in the neighbourhood?

Strongly agree Undecided Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

8. In your opinion, do you think the community action towards the improvement of the built environment for the residents of Villatina, was stronger before (e.g. after the disaster – during the process of reconstruction) than now?

Strongly agree Undecided Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

9. Which of the following aspects do you think are needed in Villatina to create positive social changes:

- Community acts together and leads projects for the benefit of the residents

Strongly agree Undecided Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Community is integrated in the process of development of projects (i.e. Infrastructure) done by the government

Strongly agree Undecided Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Community feels attached to the neighbourhood

Strongly agree Undecided Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Community and government work together and share responsibilities to improve the neighbourhood

Strongly agree Undecided Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- The community protects the territory (e.g. from illegal invasion of the territory from displaced communities)

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- The government protects the territory (e.g. from illegal invasions)

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Both community and government protect the territory (e.g. from illegal invasions)

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

10. Thinking about how the community of Villatina used to be after the disaster during the process of reconstruction and improvement of the neighbourhood, do you think the community is now?

- More attached to the neighbourhood

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- More active and involved in projects that improve the neighbourhood

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- More organised and acts to improve the conditions of the neighbourhood

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Has strengthened networks and connections with external organizations and local government

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Is more independent on government help and intervention

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Has initiated more projects and programs to help improve the life conditions of Villatina residents

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Is strongly attached to their neighbours and community members

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

11. In your opinion, to what extent have recent government-built projects developed over the last decade (i.e. all the projects developed in the last decade: including UVAs, leisure parks, Tinajas, etc) helped the community to:

- Organise and create strategies of development to benefit the neighbourhood

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Strengthen networks with local and private institutions to find resources to develop projects in the neighbourhood

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Create community action and motivate community residents to act together towards the improvement of their life conditions and neighbourhood

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Create a stronger sense of attachment to the neighbourhood

Strongly agree — Undecided — Strongly disagree

① ② ③ ④ ⑤ ⑥ ⑦

- Create a stronger sense of attachment to their neighbours and community members

Very much — neutral — not at all

① ② ③ ④ ⑤ ⑥ ⑦

12. What are the biggest threats in Villatina nowadays?

Crime

Strongly agree neutral strongly disagree

1 2 3 4 5 6 7

Drug consumption

Strongly agree neutral strongly disagree

1 2 3 4 5 6 7

Risk of natural disasters

Strongly agree neutral strongly disagree

1 2 3 4 5 6 7

Evictions

Strongly agree neutral strongly disagree

1 2 3 4 5 6 7

Settlement of displaced communities in the neighbourhood

Strongly agree neutral strongly disagree

1 2 3 4 5 6 7

Extreme poverty

Strongly agree neutral strongly disagree

1 2 3 4 5 6 7

SECOND SECTION PLACE IDENTIFICATION

In this section, you will be asked to evaluate 12 different places of your neighbourhood according to 33 different statements. For each place, you will be asked to indicate form a 1 to 7 scale, where 1 means that you completely agree with the statement in relationship with the place and 7 means that you strongly disagree.

Strongly agree neutral strongly disagree

1 2 3 4 5 6 7

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	1 Community centre	2 Church	3 Family library	4 Campo Santo	5 Football pitch	6 Tinajas Leisure park	7 UVA (learning centre)	8 Police Station	9 Health centre	10 Mirador de la Torre	11 Morro pan de azucar	12 Your Home
This place encourage me to be with my community and participate with it												
This place gives me a sense of coexistence and union with the community												
this place has helped to control gangs and crime												
This place helps me feel protected/safe												
I feel connected with nature when I visit this place												
I can access to knowledge in this place												
In this place I can recreate and relax												
I feel part of the community in this place												
I can fight for my citizen rights in this place												
This place has contributed with the social change after the disaster												
This place represents change and hope												
I think this place is a symbol of respect												
I think this place is a sacred place												
I find this place beautiful												
This place represents progress for me												
This place has financial importance for me												
I think this place has helped protecting the neighbourhood from more invasions												
this place is a space for drugs (i.e. narcotics)												
This place represents community division												
This place has spiritual significance to me												
This place represents the memory of the disaster												
There is a sense of 'loss' when I think of this place												
I feel this place is part of who I am												
I feel a sense of emotional attachment to this place												
I would feel sad if this place no longer existed												
This place contributes with my health												
I am afraid this place will be violent as it was in the past												
This place has changed positively the image of the neighbourhood												
I feel in this place I can gather with the community												
This place represents learning and ecology												
This place contributes a lot with the social development of the community/neighbourhood												

12 your home

Survey September 2017: Spanish

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Participante No: **Sexo: F** ☐ **M** ☐ **Edad**: _____

1. De que parte de Colombia es: _____

2. Cuanto tiempo ha vivido en Villatina: _____

3. ¿Estuvo presente durante el desastre del 1987? Si_____ NO_____

4. ¿Fue usted desplazado por la violencia/ o desastre natural? SI___ NO___

Si su respuesta fue SI, por favor especifique: Violencia_____ Desastre Natural_____ otro_____

5. Es usted propietario de la casa que habita? SI__ NO__

Si su respuesta fue si, responda:

6. ¿Auto construyo su vivienda? SI___ NO___

Si su respuesta fue SI, podría especificar:

a) Usted recibió ayuda del gobierno u otras instituciones
b) Que tipo de ayuda recibió
c) ¿Fueron estas ayudas convenientes para usted?

7. Se mudaría a otro vecindario si tuviera la oportunidad SI____ NO____

¿Porque?_____
_____
_____
_____

En la siguiente sección se le pedirá que responda una serie de preguntas, su respuesta debe ser dada en una escala de 1 a 7, donde 1 significa que usted está totalmente de acuerdo y 7 significa usted está totalmente en desacuerdo.

1. ¿Usted cree que desastres naturales son una amenaza para usted hoy?

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

2. ¿Si otro desastre natural ocurriera (similar al desastre en 1987), en su opinión, usted cree que la comunidad sería capaz de auto-organizarse e iniciar el proceso de reconstrucción del barrio?

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

3. En su opinión, ¿cree que la comunidad necesitaría la intervención del gobierno local en el proceso de reconstrucción si un desastre natural ocurriera?

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

Podría usted identificar y nombrar que intervenciones usted cree que la comunidad necesitaría_____
_____
_____
_____
_____

4. Después del desastre de 1987 en Villatina, ¿usted considera que los residentes del barrio están más preparados si otro desastre natural similar ocurriera?

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

5. En su opinión, que tanto está de acuerdo o en desacuerdo con las siguientes afirmaciones:

- Yo creo que es importante que la comunidad tome parte en el proceso de desarrollo en los proyectos que son realizados por el gobierno local

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

- Yo creo que los proyectos desarrollados por el gobierno local deberían integrar más los miembros de la comunidad en el proceso de desarrollo de los mismos

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

- Yo creo que mi sentimiento de arraigo por el barrio será mayor si participara en el proceso de desarrollo de los proyectos ejecutados por el gobierno (ej. Infraestructura, programas, etc.)

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

6. En su opinión, usted cree que la comunidad y sus líderes son activos como antes (ej. Después del desastre)

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

7. En su opinión, ¿usted cree que es responsabilidad del gobierno, cuidar y proteger los lugares que ellos construyen en el barrio?

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

8. ¿Usted cree que la acción comunitaria de los residentes de Villatina era más fuerte antes (ej. después del desastre -durante el proceso de reconstrucción y mejoramiento del barrio) que ahora?

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

9. ¿Cuáles de los siguientes aspectos usted cree que son necesitados en Villatina para crear cambios sociales positivos?

- La comunidad actúa junta y lidera proyectos que beneficia a los residentes

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

- La comunidad participa activamente en el proceso de desarrollo de proyectos que transforman la imagine del barrio y son realizados por el gobierno

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

① ② ③ ④ ⑤ ⑥ ⑦

- La comunidad se siente fuertemente arraigada por el barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- La comunidad y el gobierno trabajan juntos y comparten responsabilidades para mejorar las condiciones físicas y sociales del barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- La comunidad protege el territorio (por ejemplo, de invasiones ilegales o intentos de desalojo por parte de las autoridades)

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- El gobierno protege el territorio de invasiones ilegales

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Ambos la comunidad y el gobierno protegen el territorio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

10. Piense como la comunidad de Villatina era después del desastre en el proceso de reconstrucción y mejoramiento del barrio. Usted cree que la comunidad hoy en día es:

- Mas arraigada al barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Mas activa y participativa en proyectos que mejoran el barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Mas organizada para actuar y mejorar las condiciones del barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Ha fortalecido las conexiones con organizaciones externas y gobierno local para buscar mejorar las condiciones del barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Es más independiente de la intervención del gobierno

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Ha iniciado más proyectos y programas que ayudan a mejorar las condiciones de vida de los residentes de Villatina

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- La comunidad está fuertemente arraigada a sus vecinos y miembros de la comunidad

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

11. En su opinión, usted considera que los proyectos desarrollados por el gobierno local en la última década (ej. UVAs, Parque Tinajas, Morro Pan de Azucar, etc.) han ayudado a la comunidad a:

- Organizarse y crear estrategias de desarrollo para beneficiar al barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Fortalecer las conexiones con las organizaciones y gobierno local para desarrollar proyectos en el barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Crear un sentido de arraigo por el barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

- Fortalecer el sentido de arraigo por los vecinos y miembros de la comunidad

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

12. ¿Cuáles son las amenazas más grandes en Villatina hoy en día?

Violencia-Crimen

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

Consumo de drogas

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

Riesgo por desastres naturales

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

Desalojos por parte del gobierno

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

Asentamiento de comunidades desplazadas en el barrio

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

Pobreza extrema

Totalmente de acuerdo — indeciso — Totalmente en des acuerdo

1 2 3 4 5 6 7

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SEGUNDA SECCION IDENTIFICACION DE LUGARES EN EL BARRIO

En esta sección se le pedirá que evalué 12 lugares diferentes de su barrio de acuerdo a 32 diferentes afirmaciones. Para cada lugar, se le pedirá que indique de 1 a 7, donde 1 significa que usted está totalmente de acuerdo y 7 que usted está totalmente en desacuerdo, su opinión sobre cada lugar. Recuerde que es su opinión personal.

Totalmente de acuerdo			neutral			Totalmente en des acuerdo
1	2	3	4	5	6	7

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	1 Centro de accion comunal	2 Iglesia del barrio	3 Biblioteca Familia	4 Campo Santo	5 Cancha la Libertad	6 Parque Tinajas	7 UVA Sol de Oriente	8 Estacion de Policia	9 Centro de Salud	10 Mirador de la Torre	11 Morro pan de azucar	12 Su casa
Este lugar me anima a estar con mi comunidad y participar con ella												
Este lugar me da un sentido de convivencia y unión con la comunidad												
Este lugar ha ayudado a controlar las pandillas y el crimen												
Este lugar me ayuda a sentirme protegido / seguro												
Me siento conectado con la naturaleza cuando visito este lugar												
Puedo acceder al conocimiento en este lugar												
En este lugar puedo recrear y relajarme												
Me siento parte de la comunidad en este lugar												
Puedo luchar por mis derechos ciudadanos en este lugar												
Este lugar ha contribuido con el cambio social despues del desastre en 1987												
Este lugar representa el cambio y la esperanza												
Creo que este lugar es un símbolo de respeto												
Creo que este lugar es un lugar sagrado												
Me parece hermoso este lugar												
Este lugar representa progreso para mí												
Este lugar tiene importancia financiera para mí												
Creo que este lugar ha ayudado a proteger el vecindario de más invasiones ilegales												
Este lugar es un espacio para las drogas (es decir, narcóticos)												
Este lugar representa la división de la comunidad												
Este lugar tiene significado espiritual para mí												
Este lugar representa la memoria del desastre												
Hay un sentido de "pérdida" cuando pienso en este lugar												
Siento que este lugar es parte de quien soy												
Siento una sensación de apego emocional a este lugar												
Me sentiría triste si este lugar ya no existiera												
Este lugar contribuye con mi salud												
Me temo que este lugar será violento como lo fue en el pasado												
Siento en este lugar puedo reunirme con la comunidad												
Este lugar ha cambiado positivamente la imagen del barrio												
Este lugar representa el aprendizaje y ecología												
Este lugar contribuye mucho con el desarrollo social de la comunidad / barrio												

1

Torcoroma o/Sol de Oriente 2

3

4

5

6

7

8

9

10

11

12

Su Casa

Appendix 4: Interview guide Focus Groups

Fist part of the focus groups Conducted in Villatina 2016:

1. Please could you tell us you name and tell us if you played any role in the process of reconstruction after the disaster?

2. Which are the most representative neighbourhood changes after the disaster?
3. How the disaster impacted or affected you?

4. Could you please describe which the most important phases in the reconstruction process are?

5. What was the function of the community, before, during and after the disaster?

6. Has the Sense of belonging for your neighbourhood changed? How?

7. Could you name five positive aspects after the disaster?

8. Could you name five negative aspects after the disaster?

9. Do you think a disaster is an opportunity to improve?

10. Could you please identify which were the positive aspects in the built environment after the disaster?

11. Which were the mechanisms that allowed those changes to occur?

12. What do you think of displaced population that has settled in the neighbourhood after the disaster?

13. How the social dynamic has been affected by this?

14. What is the biggest problem of Villatina nowadays?

15. What are the most important aspects of Villatina community?

16. From all the things we have discussed today, which are the most important aspects for a community to be resilient after a natural disaster

Second Part of the Focus groups: Places Activity

Here I am presenting you a list of places in Villatina with the photos of the same place. The places have not been organised in any order, however, can all of you try to organise these places in order of importance for the community? The order starts with the most important place to the least. While you establish the order, could you also discuss the reason why the place is or is not important, and what is the meaning of each place for the community (See photos in the next page).

ACCION COMUNAL	CANCHA LA LIBERTAD	IGLESIA VILLATINA	PARQUE TINAJAS	CENTRO DE SALUD	BIBLIOTECA FAMILIA
					

CAMPO SANTO	UVA SOL DE ORIENTE	ESTACION DE POLICIA	MIRADOR DE LA TORRE	SU CASA
				

Appendix 5: Consent form formats

Focus groups English

INFORMED PARTICIPANT CONSENT FORM

By choosing to continue, you provide consent for

- I have read the Participant Information Sheet and the nature and purpose of the focus group has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I am free to withdraw from the study at any given time without reason and my details and answers would not be recorded prior to my completion of the questionnaire. In addition, any collected data will also be withdrawn from the study.
- I understand that I am to participate anonymously and my answers will be used for research purposes.
- I understand that, while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I have been given contact detail in case of enquiries and further discussion of the study
- I understand that hardcopy data from this experiment will be stored for a minimum period of seven years in a secure location in accordance with University regulations. All hardcopy data will be stored in a locked desk drawer, in the Sustainable Research Building (SRB) Postgraduate Office, Department of Architecture & Built Environment, University of Nottingham. Only the researcher, the supervisors listed above and the individual participants will have access, upon written request, to this data.
- I understand that I may contact the researcher or supervisors if I require further information about the project.

Sincerely,

Researcher: Diana Marcela Benjumea Mejia

laxdb 15@nottingham.ac.uk

Signed …… (Participant)

Participant Print name …… Participant No.……

Signed …… (Researcher)

Researcher Print Name ……

Date ……

FORMULARIO DE CONSENTIMIENTO

Focus groups Spanish

The University of Nottingham
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Al participar en este estudio usted da su consentimiento para:

- He leído la hoja de información del participante y la naturaleza y el propósito de los grupos de discusión han sido explicados. Entiendo y estoy de acuerdo en participar.
- Entiendo el propósito del proyecto de investigación y mi participación en el mismo.
- Entiendo que soy libre para retirarme del grupo de discusión en cualquier momento sin razón y más detalles, mis respuestas no serían grabadas antes de mi realización del cuestionario. Además, los datos recogidos también serán retirados del estudio.
- Entiendo que voy a participar de forma anónima y mis respuestas serán utilizadas para fines de investigación
- Entiendo que, si bien la información obtenida durante el estudio puede ser publicado, no voy a ser identificado y mis resultados personales serán confidenciales.
- Se me han dado los detalles de contacto en caso de que las consultas sobre el estudio
- Entiendo que los datos de este grupo de discusión se almacenarán durante un período mínimo de siete años en un lugar seguro, de acuerdo con la normativa de la Universidad. Todos los datos serán almacenados en papel en un cajón del escritorio bloqueado, en el Edificio de Investigación Sostenible (SRB) Oficina de Postgrado, Departamento de Arquitectura y Medio Ambiente Construido, Universidad de Nottingham. Sólo el investigador, los supervisores mencionados anteriormente y los participantes tendrán acceso a estos datos, previa solicitud por escrito.
- Entiendo que puedo contactar al investigador o supervisores si necesito más información sobre el proyecto.

Cordialmente,

Investigador: Diana Marcela Benjumea Mejia

Laxdb 15@nottingham.ac.uk

Supervisor: Prof. John Chilton (Supervisor)

ezzjcc@exmail.nottingham.ac.uk

Firma …… (Participante)

Nombre del participante …….…… Participante No.……

Firma …… (Investigador)

Nombre del Investigador ……..…

Fecha ……..

Consent Form Surveys: English

PARTICIPANT CONSENT FORM

By choosing to continue, you provide consent for

- I have read the Participant Information Sheet and the nature and purpose of the survey has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I am free to withdraw from the study at any given time without reason and my details and answers would not be recorded prior to my completion of the questionnaire. In addition, any collected data will also be withdrawn from the study.
- I understand that I am to participate anonymously and my answers will be used for research purposes.
- I understand that, while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I have been given contact detail in case of enquiries and further discussion of the study
- I understand that hardcopy data from this study will be stored for a minimum period of seven years in a secure location in accordance with University regulations. All hardcopy data will be stored in a locked desk drawer, in the Sustainable Research Building (SRB) Postgraduate Office, Department of Architecture & Built Environment, University of Nottingham. Only the researcher, the supervisors listed above and the individual participants will have access, upon written request, to this data.
- I understand that I may contact the researcher or supervisors if I require further information about the project.

Sincerely,

Researcher: Diana Marcela Benjumea Mejia

laxdb15@nottingham.ac.uk

Supervisor: Dr. Peter Rutherford

Signed …… (Participant)

Participant Print name …….. Participant No.……

Signed ……(Researcher)

Researcher Print Name ……

Date ……

Consent Form Surveys Spanish

FORMULARIO DE CONSENTIMIENTO

Al elegir a seguir que da su consentimiento para:

- He leído la hoja de información del participante y la naturaleza y el propósito de la encuesta han sido explicados. Entiendo y estoy de acuerdo en participar.
- Entiendo el propósito del proyecto de investigación y mi participación en el mismo.
- Entiendo que soy libre para retirarme de la encuesta en cualquier momento sin razón y más detalles, mis respuestas en el cuestionario no serán retenidas. Además, los datos recogidos también serán retirados del estudio.
- Entiendo que voy a participar de forma anónima y mis respuestas serán utilizadas para fines de investigación
- Entiendo que, si bien la información obtenida durante el estudio puede ser publicado, no voy a ser identificado y mis resultados personales serán confidenciales.
- Se me han dado los detalles de contacto en caso de que las consultas sobre el estudio
- Entiendo que los datos de esta encuesta se almacenarán durante un período mínimo de siete años en un lugar seguro, de acuerdo con la normativa de la Universidad. Todos los datos serán almacenados en papel en un cajón del escritorio bloqueado, en el Edificio de Investigación Sostenible (SRB) Oficina de Postgrado, Departamento de Arquitectura y Medio Ambiente Construido, Universidad de Nottingham. Sólo el investigador, los supervisores mencionados anteriormente y los participantes tendrán acceso a estos datos, previa solicitud por escrito.
- Entiendo que puedo contactar al investigador o supervisores si necesito más información sobre el proyecto.

Cordialmente,

Investigador: Diana Marcela Benjumea Mejia

Laxdb15@nottingham.ac.uk

Supervisor: Dr..Peter Rutherford

Firma …….. (Participante)

Nombre del participante ……..Participante No.……

Firma …… (Investigador)

Nombre del Investigador …….

Fecha ……

Appendix 6: Example of Coding Matrix focus groups

Phase 1: Summarising the data under question headings, generating initial codes							
Label	Post-disaster community strategies						
Groups	**Community Interventions**	**Protective strategies**	**Community strategies**	**Sense of belonging and place attachment**	**Shock after the disaster**	**New incomers**	**Associated Dimensions**
Group (1)	Community Self-grouping (Convites)	Disaster area protection	Community leadership Community Cooperation	Community help to find solutions to problems	Stays in the memory	Deforestation Cultural collision Intimidation and fear	<u>Community agency</u>
Group (2)	Self-development housing	Declaration of Saint Area	Community action	After urban improvements it is stronger	Sensitive community to disasters	Abandoned places (houses sold at low prices) Distrust in these communities	
Group (3)	Work in networks	Campo Santo to defeat fear of the zone	Community organisation to improve the existing infrastructure	The community action and togetherness made stronger the sense of belonging	Physiological affectation of the disaster (trauma) Being treated as human beings	Confrontation for territorial control (invisible boarders) Identity loss Could impact positively (people transformation) Refuse to be part of the community dynamics	<u>Emotional coping mechanisms (adjustment mechanisms)</u> <u>Community networks links with institutions</u>

						Accepted in the neighbourhood Cultural collision	
Group (4)	Bottom up Self-made neighbourhood improvement (infrastructure) Church, Campo Santo, community centre, Main roads, services, Community restaurant, learning centre, leisure grounds, transport, family library)	Community self-made housing	Community cooperation and **resistance**	Finding strategies to improve life quality through community interaction Attached to the neighbourhood and friends	Trauma after the disaster, fear of another disaster	Cultural diversity Conflicts between community members and violence Segregation of the neighbourhood	<u>Resistance and protection</u> <u>Bottom up Self-made neighbourhood</u>
Group (5)	Self-made infrastructure	Protection of their territory	Community collective action Community solidarity and cooperation	More attached to the neighbourhood after the disaster and transformation process Protection of their houses after the disaster	Strong life impact Constant fear of another disaster	Cultural collision Territorial power	
Group (6)	Housing upgrading programs		Necessity of progress Community union to find solutions	After the disaster and being survivors the attachment is greater	Fear of risk zone Life is uncertain	More violence Helped the community to improve	<u>Self-improvement</u>

				Would not live anywhere else, even if the conditions are better			

Phase 2: Abstraction of themes comparison across groups (Identifying a thematic framework)						
Label	Post-disaster external intervention					
Group (1)	Relocation of victims	Housing projects for relocated victims				Attention to victims
Group (2)	Infrastructure development, resent interventions (UVA, campo santo, Tinajas, roads)	Public services provided (water, energy (EPM))				Policy urban programmes of slum upgrading (last decade) Top down improvements
Group (3)	Government support with the community initiatives of improvement (housing upgrade, community restaurant)					Government response towards social programmes created by the community
Group (4)	Education improvement	Health services provided	Legalisation of houses			House tenure and life quality improvements

Group (5)	Intervention of institutions (church, university)	Local government intervention long after the disaster	2008 Intervention of local government			Neighbourhood development sponsored by institutions
Group (6)	Long term progress government intervention	External aid	Housing upgrading programs			Local policies of house upgrading

Phase 3: Clustering in themes and charting

Resilience factors (included in the framework of community resilience)	***Excerpt***
Community action and leadership	Si, fue gracias a nosotros porque nos acercamos a esas instituciones. Gracias al doctor Gonzalo Gaviria. No, hubiera tenido los mismos resultados, porque la transformación se dio gracias a que ellas se organizaron, porque eso fue liderado por ellas. Ellas organizaron y llevaron a cabo. Pero yo por eso hablo de continuidad, porque ellas le dieron continuidad al proceso, y si no hubiera sido por su constante intervención con seguridad el estado no hubiera estado presente. si porque digamos que por fin alguien pensó en hacer algo bueno para la comunidad y no para ellos mismos. sino que penso en la comunidad, entonces un día se dijo vamos hacer un sancocho y ese día se hizo, entonces fue un líder favorable un líder bondadoso sin interés. la comunidad si estuvo muy pendiente, así no fuera económicamente si físicamente estuvo pendiente la comunidad. Mariela, la acción comunal ha participado mandando las solicitudes con las necesidades que tiene el barrio.

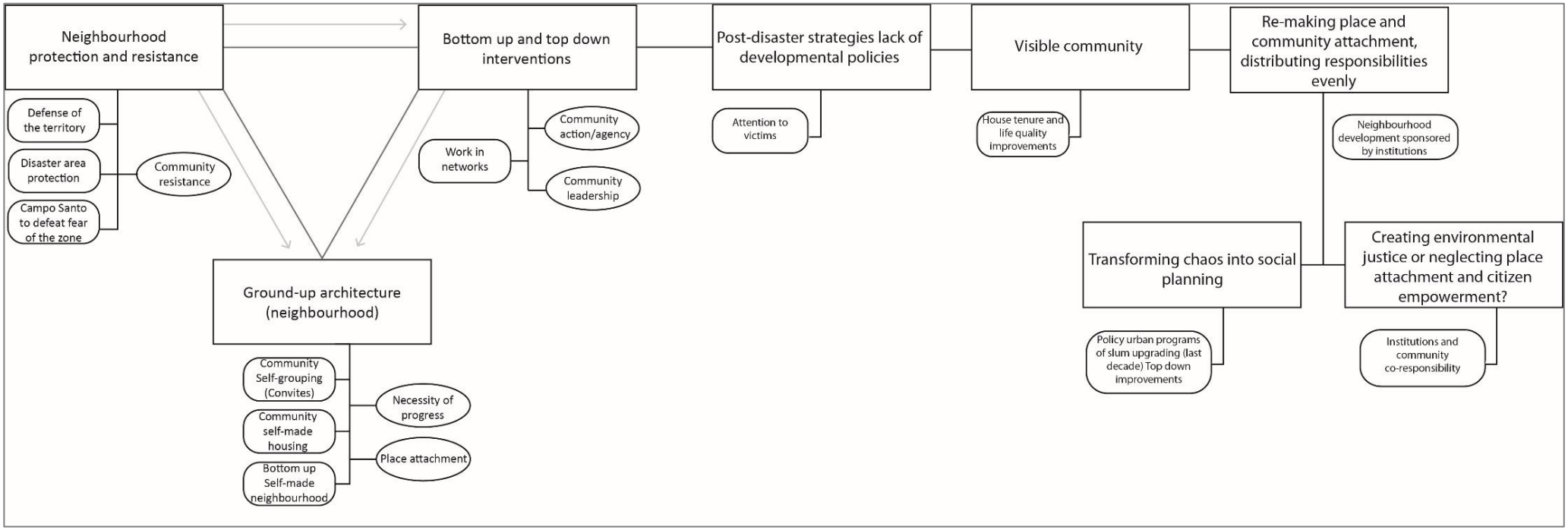
Community resistance	Pues yo diría que lo que estaban diciendo ella, que como vieron que no pudieron desalojarnos, sabiendo que el desastre no fue directamente aquí sino allá abajo, y no pudieron entonces debido a eso ya se vieron en la obligación de cambiarnos un poquito nuestra forma de vida darnos los servicios. Si, por las manifestaciones de la comunidad, los colectivos que eran el más grande apoyo que teníamos nosotros, eran ellos. Después del desastre todo el mundo cuidaban las casas, los hombres pernotaban mucho, porque de ahí en adelante comenzaron con alertas de otros deslizamientos entonces los que podían sacar los hijos y las mujeres las sacaban y los que no pues se quedaban acá arriba, y los que no se quedaban el hombre pernotaba cuidando las casas y el sector por si veían algo más, pues todo el mundo quedo traumatizado con lo que sucedido Mientras tanto a nosotros nos toco hacer un cambuche por allá en el tanque, nos toco muy duro. Eso fue un domingo en esa semana después ya no dejaban amanecer a nadie en las casas, entonces nos tocaba ir amanecer a la manga bajo un cambuche con los hijos porque era peligroso Después que fue algo también insólito, nos iban a sacar de acá. entonces nos tuvimos que revolucionar. Por ejemplo la policía quemaba llantas para que la gente no subiera a sus casas porque nos quería desalojar. Teníamos que cuidar el barrio toda la noche, eso fue después del desastre. hace 15 o 16 años nos iban a sacar de acá. Que porque esto era de alto riesgo nos iban a sacar pero con la intensión de que por acá iban hacer un edificio No nos iban a sacar por ayudarnos. Porque nos iban a traer era máquinas para tumbarnos las casitas, y como decía yo, yo en ese tiempo tenía 7 muchachos donde nos íbamos a meter y la mayoría tenía familia. No por ayudarnos, entonces como la comunidad se revelo, mire que también hubo unión en esa rebelión, todos nos unimos y nos pusimos a vigilar a llevar el chocolate. Los colectivos nos ayudaban mucho para cuidar las vías atravesando las busetas mientras que acá nos iban a tumbar porque era zona de riesgo en la parte de arriba formaban el barrio llamado Sol de Oriente, que nos queda a una cuadra. entonces como alegábamos nosotros, si a nosotros nos va a matar el morro entonces porque están construyendo allá.

Necessity of progress	la concientización de la gente, de querer vivir mejor, ósea me concientizo que ya no puedo tener esta casa de palo sino de material, para vivir mejor. la necesidad del progreso la comunidad vio esa necesidad.
Place attachment and belonging (community place attachment and belonging)	Entre uno más sufre más quiere el barrio Uno se apropia de las cosas, usted tiene sentido de pertenencia se apropia de esto y le da mucha alegría que cuando usted está luchando por algo y le dan el SI, es una satisfacción muy grande saber que va a traer cosas para acá y que va a ayudar a las personas que lo necesitan. En mi caso cuando me dijeron SI para el restaurante para traer a Villatina. La casa que me dio Corvide para el restaurante comunitario para 250 niños, al acabarse eso una señora se apropió de la casa y el proyecto se terminó. Yo me amaño es aquí. No yo no me voy, porque para mí esto es sagrado, esto por acá es sagrado. Yo soy muy agradecida y nosotros vinimos acá de limosna, gracias a Dios que la casita nos llegó, con mucho sacrificio, pero nos llegó. Pues, diría que es lo mejor que había podido conseguir en la vida, porque donde llegue y donde veníamos, nosotros veníamos sin nada, solo con hijos.

Phase 4: connection of themes and sub-themes, (Mapping interpretation)

Top down strategy	***Impact in the neighbourhood***	***Theme***
Attention to victims	Housing projects for relocated victims	Post-disaster strategies lack of developmental policies
	Relocation of victims	

Top down strategy	***Impact in the neighbourhood***	***Theme***
House tenure and life quality improvements	Legalisation of houses	*Visible community*
	Health services provided	
	Education improvement	



Phase 5: defining and naming themes

Coding identifier	Theme	Definition
BURS	Bottom-up Resilience	Identified Bottom-up Resilience components during the process or reconstruction after the disaster in 1987
BURS-CPA	Community Place Attachment	
BURS-N-P	Necessity of Progress	

BURS-PA	Place Attachment	
BURS-DT	Deference of the territory	
BURS-NCA	Networks and Community Action	
BURS-MST	Mechanisms of Transformation	Mechanisms of Development used by the community to plan and re-build the neighbourhood.
BURS-INV-INV	Invited and Invented Places	Grassroots Places built after the disaster by the community
PDSTD	Participatory Design top-down places	
PDSTD -HP	Hope and progress	
PDSTD-PD	Sense of Pride	Opinions and emotions linked to Top-down places
PDSTD-FR	Sense of fear	
PDSTD-PDRS	Place for Drugs	
BTUTPD	Bottom up and top down places perceptions	Place perceptions for bottom-up and top-down places identified during the focus groups discussions
BTUTPD-CA	Community Action	
BTUTPD-DT	Defence of the Territory	
BTUTPD- CA2	Community Attachment	
BTUTPD-PA	Place Attachment	
BTUTPD-KL	Knowledge and Learning	Place perceptions for bottom-up and top-down places identified during the focus groups discussions
BTUTPD-S/R	Sports and Recreation	
BTUTPD-SC	Social Change	
BTUTPD-SL	Symbolic Level	

BTUTPD-AS	Aesthetic Satisfaction	
BTUTPD-FI	Financial Importance	
BTUTPD-V/C	Violence and Crime	
BTUTPDLD	Link to the Disaster	
BTUTPD-NE	Nature and Ecology	
BTUTPD-SG	Spiritual significance	