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ABSTRACT

There is a global trend on increasing of disasters especially of urban flood disasters, that leads to unbearable economic costs and Mexico is not the exception. In order to cope with this, disaster risk reduction based on building resilience among communities and nations is being promoted globally. Despite some countries including Mexico, have made great efforts, at most cases effective disaster risk reduction has not been achieved. There is the need for develop and assess efforts towards resilience building, following a generalized resilience concept that allows a practical application. Present research contributes to the understanding and assessment of the urban community flood resilience capacity. It provides a proposal of method for rapid assessment of community flood-resilience based on evaluation of the flood-coping measures. The proposed assessment method complements assessments focused on causal-factors of resilience capacity development. The assessment seeks to trace evidence of resilience capacity to floods by analyzing (1) community's performance in terms of previous flood impacts and flood coping measures developed at disaster risk management cycle stages, and (2) measure-related performance meaning in terms of urban flood resilience key properties. This assessment method was applied to case study of *Magisterial* urban community at Mexico; the Magisterial is a teachers' small urban community under flash flood susceptibility and that presents recent flood disaster record. Main input data came from interviews and questionnaires and was submitted to quantitative-qualitative analysis.

The assessment method allowed identifies evidence of resilience properties at the Magisterial. The suburb has developed self-organization in two ways: organized and improvised; where only improvised measures are ultimate decentralized because do not depend on any central institution. Both ways of self-organization have been key to the manteinance of the community, but it seems that improvised community measures are reflecting more the dynamic resilient capacity of survival and maintenance of functionality over time under an uncertain environment. The Magisterial has also been learning from disasters and has made institutional, behavior and physical adjustments. Moreover the community stock of flood-coping measures allows partial redundancy with family and municipal measures. Also, solidary attitude is believed that has promoted improvised measures for survival and recovery, besides of producing place attachment that favors community resilience capacity development.

Key words: Resilience assessment, Community resilience, Urban floods, Flood-coping measures, Disaster Risk Management Cycle, Disaster Risk Reduction.

RESUMEN

Existe una tendencia global de aumento de desastres, especialmente de desastres por inundaciones urbanas que conlleva a costos económicos incapaces de sobrellevar, y México no es la excepción. Para enfrentar esta situación, la reducción del riesgo por desastre basado en construir resiliencia entre las comunidades y las naciones esta siendo promovida globalmente. A pesar de que en algunos países incluyendo México, se han hecho grandes esfuerzos, en la mayoría de los casos reducción efectiva del riesgo por desastre no se ha logrado. Existe la necesidad por desarrollar y evaluar esfuerzos dirigidos a la construcción de la resiliencia, siguiendo una concepto generalizado de resiliencia que permita una práctica aplicación. La presente investigación contribuye al entendimiento y la evaluación de la capacidad comunitaria de resiliencia a inundaciones urbanas. Esta provee una propuesta de método para la rápida evaluación de la resiliencia comunitaria a inundaciones. El método de evaluación propuesto complementa evaluaciones enfocadas en los factores causales del desarrollo de la capacidad de resiliencia. La evaluación se centra en rastrear evidencia de la capacidad de resiliencia a inundaciones a través de analizar (1) el desempeño de la comunidad en términos de previos impactos por inundación y medidas para lidiar con las inundaciones que han sido desarrolladas en las fases del ciclo de manejo de riesgos por desastre, y (2) el significado que ha tenido este desempeño en términos de propiedades claves de la resiliencia urbana a inundaciones. Este método de evaluación fue aplicado al caso de estudio de la comunidad urbana *Magisterial* en México; la Magisterial es una comunidad de maestros que posee susceptibilidad a inundaciones súbitas y que presenta un record reciente de desastre por inundaciones. La mayor cantidad de la información de entrada para la evaluación provino de entrevistas y cuestionarios y fue sometida a análisis cualitativo y cuantitativo.

La evaluación permitió identificar evidencia de propiedades de la resiliencia en la Magisterial. La colonia ha desarrollado organización propia en dos formas: organizada e improvisada; donde sólo las medidas improvisadas son verdaderamente descentralizadas porque no dependen de ninguna institución central. Ambas formas de organización propia han sido clave para el mantenimiento de la comunidad, pero parece que las medidas comunitarias improvisadas están reflejando más la capacidad dinámica de la resiliencia en la sobrevivencia y el mantenimiento de la funcionalida en el tiempo en un ambiente incierto. La Magisterial también ha estado aprendiendo de los desastres y ha realizado ajustes institucionales, de comportamiento y físicos. Además, el conjunto de medidas comunitarias para lidiar con las inundaciones permite una redundancia parcial con las medidas familiares y municipales. También, la actitud solidaria se cree que ha promovido medidas improvisadas para la sobrevivencia y la recuperación, además de estar fomentando el arraigo al lugar, mism que favorece el desarrollo de la resiliencia comunitaria.

Palabras clave: Evaluación de resiliencia, Resiliencia comunitaria, Inundaciones urbanas, Medidas para lidiar con inundaciones, Cyclo de Manejo de Riesgo por Desastre, Reducción de riesgo por desastre

TABLE OF CONTENT

INTRODUCTION 5

STATE OF THE ART 7

FLOOD RESILIENCE RELEVANCE AT GLOBAL CONTEXT 7
FLOOD RESILIENCE RELEVANCE AT MEXICAN CONTEXT 10
GAPS IN DISASTER RESILIENCE RESEARCH 14

OBJECTIVES 19

CASE STUDY: MAGISTERIAL OF CIUDAD VALLES CITY 20

THE SUBURB IS UNDER FLOOD RISK 21
MAGISTERIAL SUBURB HAS RECENT DISASTER FLOOD-RECORD 24

THEORETICAL FRAMEWORK OF ASSESSMENT METHOD 27

ADOPTED RESILIENCE CONCEPT 27
PROPOSED THEORETICAL FRAMEWORK FOR COMMUNITY FLOOD RESILIENCE ASSESSMENT 30
COMMUNITY RESILIENCE APPROACH: DEFINITION AND MAIN TRAITS 30
URBAN COMMUNITY FLOOD RESILIENCE: DEFINITION AND KEY PROPERTIES 32
COMMUNITY DISASTER RESILIENCE PROCESS 33

METHODS 40

METHODOLOGICAL CONSIDERATIONS FOR APPLICATION TO CASE STUDY 41
STEP 1: GATHERING AND ORGANIZING DATA FROM FIELD 43
STEP 2: ANALYZING INFORMATION FROM FIELD 53
EXPECTED PRODUCTS OF COMMUNITY FLOOD RESILIENCE ASSESSMENT 54

RESULTS 55

1. ASSESSMENT OF COMMUNITY FLOOD RESILIENCE RESPONSES 55
PHASE A: IDENTIFICATION OF IMPACT RESPONSE 55
PHASE B: IDENTIFICATION OF COPING RESPONSE 58
PHASE C: IDENTIFICATION OF ADJUSTMENT AND ADAPTATION RESPONSE 65
2. ASSESSMENT OF COMMUNITY FLOOD RESILIENCE POTENTIAL 69
PHASE D: STRENGTHS AND WEAKNESSES AT KEY PROPERTIES OF RESILIENCE 69

DISCUSSION OF RESULTS 79

LIMITATIONS OF THE ASSESSMENT APPLICATION AT CASE STUDY 85

ANALYSIS OF ASSESSMENT METHOD PERFORMANCE 87

CONCLUSIONS 89

OUTLOOK 91

REFERENCES **92**

ANNEXES **98**

ANNEX INTERVIEW FORMAT FOR MAGISTERIAL INFORMANTS **99**
ANNEX QUESTIONNAIRE FORMAT FOR MAGISTERIAL RESPONDENTS **107**
ANNEX DOCUMENTS PROVIDED BY SPECIALIZED INFORMANT **117**
ANNEX TRANSCRIPTION OF FIRST INTERVIEW TO SPECIALIZED INFORMANT **120**
ANNEX TRANSCRIPTION OF SECOND INTERVIEW TO SPECIALIZED INFORMANT **132**
ANNEX TRANSCRIPTION OF INTERVIEW TO KEY INFORMANT **136**
ANNEX MATRIX OF SYNTHESIS OF INTERVIEWS' DATA **140**
ANNEX DETAILS OF PERFORMANCE OF COPING-RESPONSE AT MAGISTERIAL SUBURB **157**
ANNEX SUBURBS OF CIUDAD VALLES MUNICIPALITY UNDER FLOOD RISK **160**
ANNEX PHOTOGRAPHIC REGISTER OF 2008 FLOOD EVENT AT CIUDAD VALLES CITY **161**
CIUDAD VALLES 161
MAGISTERIAL SUBURB 162

INTRODUCTION

There is a global trend on increasing of flood events, causing floods to become the most frequent event among "natural" disasters (Jha *et al.*, 2011; CENAPRED, 2013). Flood disasters are also increasing faster than any other kind of disaster (CENAPRED, 2013). This global tendency comes along with increasing unbearable economic costs (GAR, 2011), which has had strong consequences at urban areas (Jha *et al.*, 2011). Lately, disaster risk management is changing towards more adaptive attitude (Lei *et al.*, 2013); and communities are seen as potential strong contributors to local disaster risk management (Rademacher, 2013). Mexico is a clear example of this global tendency. Mexican government, as many other governments around the world that have committed to Hyogo Framework for Action 2015-2015, has been conducting efforts for developing resilience at national and local scale, but there are still strong limitations in terms of financial resources and operative capacities (SINAPROC, 2013). Mexico recognizes that shares a common challenge with other nations, the challenge of fostering resilience capacity building practices that seek for community-level disaster risk reduction (Ibid.). Mexican government investments in disaster risk reduction strategies are focused on projects for construction of flood-preventive infrastructure (CONAGUA, 2011) but should include initiatives for strengthening of local flood resilience-related measures that are already taking place inside communities.

In order to develop and assess concerted efforts towards resilience-building and disaster risk reduction, there has to be a concrete understanding and definition of resilience concept that can be practically operationalized at flood risk management strategies (De Bruijn, 2004); despite the disaster resilience research, there is still no general accepted definition nor practical operationalization (Garschagen, 2011).

Moreover, several attempts of resilience assessment frameworks have been developed through diverse approaches (Mitchell & Harris, 2012; Price-Robertson & Knight, 2012), must of them have been limited to assessments of vulnerability levels (Mitchell & Harris, 2012) that are impractical for monitoring real implementation resilience-building efforts. Even though resilience capacity is a complex concept, it needs to be narrowed down for practical application and evaluation (Mitchell & Harris, 2012; Klein et al. 2003 in Garschagen, 2011) because there is a pressing need to find ways of measure disaster resilience capacity objectively and repeatedly (Zhou *et al.*, 2009).

The present research addresses previous concerns; it contributes to practical understanding and assessing of the community flood resilience capacity. The research offers a proposal of method for rapid assessment of community flood-resilience. A conceptual framework of community flood resilience is proposed as basis for the assessment method. Conceptual framework follows a community approach in which resilience capacity is implicitly analyzed through (1) community's performance regarding previous flood-impacts and its response in terms of development of flood-coping measures at disaster risk management cycle, and (2) potential of this community's performance to foster urban flood resilience key properties of localized flood-response, timely adjustments after every flood and diverse and redundant flood-related measures. Proposal of rapid assessment is applied to *Magisterial* suburb at Ciudad Valles, San Luis Potosi, Mexico and results and considerations regarding the method are presented.

State of the art

Flood resilience relevance at global context

Extreme weather events are being more intense and frequent (Lei *et al.*, 2013). This hazard event global tendency is in part responsible for an increasing on disaster's intensity (USAID, 2007), which has lead to more people affected and higher impact-related costs (CRED, 2012; Albrito, 2012). Moreover, it is expected an increase in the frequency and intensity of the most severe weather hazard-related disasters over the next decades due to the main drivers of risk: climate change, deficient planning and management of urbanization, environmental degradation, poverty and weak governance (UNISDR & WMO, 2012).

Flood disaster phenomena trend shows a clear example of this global tendency. "In the past twenty years…the number of reported flood events has been increasing significantly" (Jha *et al.*, 2011 p. 19); nowadays floods are the most frequent events among the natural disasters (Jha *et al.*, 2011; CENAPRED, 2013) and they are increasing faster than any other kind of disaster (CENAPRED, 2013). There has been an increase of 114% at the annual average of people exposed to floods between 1970 and 2010, this means around 32.5-69.4 million of more people per year (GAR, 2011)[1]. Related to this, the economic loss risk is increasing rapidly because of the rising exposure of economic goods belonging to households and communities (GAR, 2011; Albrito, 2012), even though there has been identified a significant drop in the world mortality risk associated to impact of weather hazards. This scenario sets up a critical situation that so far has not been fully addressed by the governments, specially those experimenting high economic growth rates (GAR, 2011).

[1] This partially has to do with the fact that more people are establishing on floodplains, condition that has become more intense and faster in low and lower-middle-income countries (GAR, 2011). Although it is not sure whether this increase in frequency and severity of hazardous events may be blamed on climate change, population growth or unsustainable development (De Bruijn, 2004 p. 53).

The flood risk[2] and related economic loss risk, is now even more intense at urban areas, where there is a higher concentration of population and economical assets that increase the consequences of flood-impacts (Jha *et al.*, 2011). Moreover, urbanization rate will continue increasing over the next decades[3] (Jha *et al.*, 2011; UNISDR, 2012), and urban floods will be responsible of most part of the total flood impact (Jha *et al.*, 2011).

"Since flood disasters still occur and even increase in frequency and severity, flood risk management must be reconsidered" (De Bruijn, 2004 p. 53). Flood risk management traditionally has followed a management paradigm of controlling nature, so it has addressed floods by mitigation through flood control infrastructures (Liao *et al.,* 2012). This kind of management has led to "…flood disasters become more frequent and increase in severity, despite centuries of experience with flood management" (Parker, 2000 and Takeuchi, 2002 in De Bruijn, 2004 p. 53). There is the need for new strategies, or even innovative approaches, oriented towards future flood coping response (De Bruijn, 2004); alternative flood hazard management focused on resilience is an example of recent-emerged alternative management concepts that integrate a broader perspective (Liao *et al.*, 2012).

Disaster risk management and resilience approach

Human settlements have dealt before with extreme events under deep uncertain environments (Lei *et al.*, 2014). De Bruijn (2004) identifies that disaster risk management (DRM)[4] has change its approach over the time; at the beginning followed a management paradigm of controlling nature because it was focused on preventing or avoiding disaster events by controlling events' characteristics; DRM was later

[2] "Flood risks consist of two elements: the hazard, in the form of peak discharges, and the consequences, the resulting damage and social disruption" (De Bruijn, 2004 p. 54).

[3] It is estimated that world urban population increase 60% in 2030, and 70% in 2050 –this will mean the double of the rural population for 2050 (Jha *et al.*, 2012).

[4] Disaster Risk Management refers to the systematic process based on administrative directives, organizations, and operational skills and capacities, to implement activities and measures for prevention, mitigation and preparedness in order to avoid, lessen or transfer the adverse impacts of hazards and thus the possibility of disaster (UNISDR, 2009).

oriented to reduce the disaster events by modifying vulnerability traits of the settlements subject to impacts. Nowadays it seems that DRM is changing towards a more adaptive attitude (Lei *et al.*, 2013) through resilience strategies (De Bruijn, 2004). Moreover, the United Nations Office for Disaster Risk Reduction and the World Meteorological Organization, in its reflections about Post-2015 UN Development Agenda makes clear this change of perspective when expresses that "communities will have to adapt even more to these stressful environmental conditions, through disaster risk reduction and resilience building measures" (UNISDR & WMO, 2012 p. 4).

Resilience approach focuses on building the capacity to adapt to uncertainty, because it considers strategies for dealing with changes, not trying to control them (De Bruijn, 2004; Adger et al. 2005 in Lei *et al.*, 2013). Resilience strategies focus on setting and conducting a flexible response to, and a rapid recover from disaster events (De Bruijn & Klijn, 2001; Vis *et al.,* 2001 in De Bruijn, 2004). Thus, resilience approach uses a different approximation to achieve the efficient management and even the reduction of disaster events in a population.

Moreover, resilience approach is now winning attention in today's scenery of high economic loss risk related to disaster events. Since late studies have started to contemplate communities as active and solidary networks that can make big contributions to local DRM (Rademacher, 2013), community resilience concept is gaining weight in political and public international discourse (Price-Robertson & Knight 2012); especially in natural hazards and disasters discourse (Kuhlicke, 2013). Also, related to Disaster Risk Reduction (DRR)[5] strategies, resilience concept received great attention after the adoption of the Hyogo Framework for Action (HFA) 2005–2015: Building the Resilience of Nations and Communities to Disasters in 2005 (Djalante *et al.*, 2013).

The Hyogo Framework for Action (HFA) is a global and partially successful effort

[5] "DRR offers a systematic and comprehensive method of identifying, assessing and reducing the risks of disaster within disaster management cycle from prevention, mitigation, emergency management to rehabilitation" (UNISDR 2007 in Djalante *et al.*, 2013 p.2110).

to apply and promote resilience approach to DRR. This framework is an international effort that is conducted by United Nations together with 168 countries. The main goal is to achieve in 2015, a significant reduction on the disaster events' intensity by building resilience to disaster among nations and communities (UNISDR, 2005).

A general overview of the countries' improvements regarding the Hyogo Framework is provided in the Global Assessment Report on Disaster Risk Reduction of 2011 (GAR, 2011). The 2009-2011 Progress Review in GAR (2011) concludes that the HFA goal has not been reached yet, despite there has been an overall improvement in: governance and institutional arrangements, risk identification and early warning, knowledge and education, identifying risk and preparedness and response measures. But any of those achievements can assure that an effective implementation of DRM (focused on DRR) has been reached by most of the countries. There are still a lot of weak points that need to be addressed. Few countries have successfully proved the reduction of their disaster losses and impacts, and have conducted detailed assessment of their risks. The investment in DRM is still low, almost any of the countries have dedicated national budget to risk reduction strategies. And there has been shown little progress related to the use of knowledge, innovation and education to build a culture of safety and resilience at all levels; very few countries have integrated risk reduction knowledge into school curricula and training efforts, and most of the countries report important gaps in developing awareness strategies for the population. (GAR, 2011)

Flood resilience relevance at Mexican context

Mexico, as member of the United Nations and as participant of the Hyogo Framework, has shown interest in disaster risk reduction strategies. CONAGUA (2011) reported a national investment of 107, 000 millions of Mexican pesos towards flood disaster risk reduction projects for construction of pluvial drainage and control of flood-runoffs. In 2013 more diverse disaster risk reduction strategies were

implemented, according to the Mexican national report about the progress of the implementation of the HFA (2011-2013) produced by the National Civil Protection System (SINAPROC, spanish acronym) (SINAPROC, 2013); unfortunately an official detailed description of this achievement is not provided.

Mexican government efforts for building local-resilience

SINAPROC (2013) states the existence of national strategies for promoting disaster resilience culture at national, regional, municipal and community level. Related to more local levels, *Safe Municipality Resistant to Disasters* and *Community Brigades* are the most outstanding efforts that have been officially published.

- *Safe Municipality: Resistant to Disasters* ("Programa Municipio Seguro: Resistente a Desastres") is a Mexican program that derives form UN international campaign "Making cities resilient: my city is getting ready" (Civil Protection Agency, 2011). It invites municipalities to voluntary work together with society and private sector in order to achieve a local disaster risk reduction. The municipality chooses the time lapse of its participation within the program; during its participation, municipality can award levels of certification according its achievements (Civil Protection Agency, 2011). In 2013, 70 municipalities where participating and SINAPROC had conducted technical verification of electric installation in settlements, offered scholarships for civil protection training, evaluated municipal development plans in terms of disaster prevention and preparedness measures, revised contingency programs, among other measures (SINAPROC, 2013).

- *Community Brigades* is a community level government program that could be more related to community resilience building capacities. Since 2004 it was created as a net of volunteer community members that seek to promote a disaster preventive culture inside their suburbs. These volunteers are supported by local entities of Civil Protection Agency (CPA)[6], which provides them with capacitation

[6] Civil Protection Agency (CPA) is a Mexican governmental organization that was created since 1985, as a government initiative to deal with the massive earthquake disaster of 1985 at Mexico City (Macías in Valadez, 2011). CPA was created at national level, but it has state and municipal sub-agencies. CPA is supported by other

in order to guide the community responses pre-, in- and post-disasters, and to strength CPA efforts. (Civil Protection Agency, 2014)

Parallel to these programs, other governmental actions have may be relevant for community resilience in México. SINAPROC (2013) states without further detail, that (1) a community assessment process has been started in order to identify the urgent needs in terms of basic emergency responses, to recurrent flood events in urban settlements located at the center of the national territory; (2) there has been also a redesign of a model for social community participation at local level, and (3) has conducted permanent consultation instruments for attending the population proposals, demands or participation in civil protection tasks.

SINAPROC (2013) also recognizes that despite the governmental programs and efforts, there are strong limitations regarding financial resources and operative capacities of the governmental institutions; there is still the challenge of fostering community disaster risk reduction practices in the next years.

Mexican flood disaster tendency

This marginal progress in disaster risk reduction strategies is consistent with disaster record in Mexico. Long-term tendency shows that there has been an increasing in disasters-related economic costs, even though human losses have been decreasing (with an annual average between 1980-1999 of 506 and 2000-2011 of 178) (Civil Protection Agency, 2012). Excluding drought and freeze events, it is estimated that the annual average costs of disasters at national level increased in 187.3%, from 701 million dollars between 1980 and 1999, to 2,014 million dollars between 2000-2011 (CENAPRED in Civil Protection Agency, 2012).

More specific, flood disaster tendency shows that flood disasters are recurrent and have aggravated in last years (INE, 2012) over a considerable proportion of the Mexican territory. CONAGUA (2011) considers that approximately 62% of the total

government dependencies when contingencies require additional support. Some of these dependencies are: Bombers, Integral Family Develop Agency (DIF), Mexican Army, Health Secretary, and even non-governmental like Red Cross. (Valadez, 2011)

national population lives in areas with historical flood impact and future high flood predisposition, areas that are located within 17 administrative States (out of the 32 that conform the whole country) of central and south regions of the country. Due to this higher exposition, floods have been responsible for the 49% of the total amount of houses destroyed and damaged between 1970 and 2011 in Mexico, according to the International Disaster Database, EMDAT–CRED (GAR, 2011).

México's government should overcome its limitations and promote community resilience under a wider scope that could also include communities' own capacities to build resilience. "The role of central government in community resilience will always be limited" (Edwards, 2009 p. 80), because it has limited financial resources and operational capacity, besides time limitation of programs due to presidential periods.

It is true that "disaster risk reduction can be effective at the local level only when undertaken in collaboration with disaster-prone households and communities - where emphasis needs to be put on local government participation in the planning and implementation of disaster risk reduction activities at the community level" (Albrito, 2012 p. 296). But it is also true that in long term, each community is able to strength its resilience capacity by its own means without any external aid; this can be achieve because "Community resilience is an everyday activity" (Edwards, 2009 p. 79) that comes along with daily activities and first-hand experiences. It grows and "manifests itself in meetings and conversations, dialogue and training, skills and information and – when disaster occurs – action" (Edwards, 2009 p. 79). This inherent community ability has to be considered by the government when planning and implementing programs like *Community Brigades*, so that official plans and programs at local and regional level can also contemplate the very local processes of resilience and the community-driven measures that are already taking place inside each small group of neighbors.

Gaps in disaster resilience research

Lack of generalized resilience concept

In order to be aware of disaster resilience capacity in societies, there has to be a generalized idea of what is understood as the resilience capacity, how it develops and how it can be identified in real cases; and there also has to be a way to concretely measure it so that we can assure the effectiveness of building-resilience efforts.

Unfortunately, disaster resilience research attempts have not yet provided a general accepted definition of the resilience concept nor either achieved a practical operationalization of it in order to support planning and management (Garschagen, 2011; De Bruijn, 2004) [7].

The disaster resilience is an antique and broadly used concept that is still not consented. The resilience concept originated since the Classical times in XVII century when it was used in arts and literature (Alexander, 2013)[8]. Moreover, the resilience concept was first used in formal studies at Engineering field in 1858 to describe a material's property of resist; it was later applied to Ecology science as the ability of disturbed ecosystems of being able to preserve their properties (Alexander, 2013). Later, the resilience concept was also used at many fields like psychology, organizational, institutional, climate change adaptation research (Alexander, 2013; Hutter *et al*., 2011) and even law (Alexander, 2013). Several researches have traced the multiple modern approximations that the resilience concept has adopted (Alexander, 2013; Liao *et al.*, 2012; Lei *et al.*, 2013; Garschagen, 2011; Zhou *et al*., 2009; Hutter *et al.*, 2011; Kuhlicke, 2013; Folke, 2006; Birkman, 2006). And as a result, several capacities have been recognized as elements of resilience condition: capacity to resist (Constantino & Dávila, 2011), capacity to absorb (Adger, 2006; Klein

[7] De Bruijn (2004) extends this need of concrete understanding and definition of resilience concept in order to its optimal application to flood risk management strategies.

[8] Alexander's (2013) review proves that resilience concept was not originated at Engineering field as Maguire & Cartwright (2008) stated, nor in Ecology science as Gallopín (2006), Folke (2006) have suggested.

et al., 2003 in Garschagen, 2011; Haase, 2013), capacity to self-organize (United Nations in USAID, 2007; Lorenz, 2013; Adger, 2006; Berkes, 2007 in Kuhlicke, 2013; Klein *et al.*, 2003 in Garschagen, 2011; Liao, 2012) and capacity of learning (United Nations in USAID, 2007; Berkes, 2007 in Kuhlicke, 2013; Liao, 2012). These revisions allow identify the main perspectives of the concept, varying from a capacity of a system to maintain structural balance by "recovering from disturbances", to a broader dynamic system capacity of "maintaining functions" before, during and after disturbances, through self-organizing, learning and adapting (Lei *et al.*, 2013; Folke, 2006). Moreover the resilience capacity has been seen as a biophysical, social and socio-ecological attribute, according to the type of system that is being under study (Zhou *et al.*, 2009).

To summarize, there is not yet a consensus definition of the resilience concept (Lei *et al.*, 2013; Alexander, 2013; Gallopín, 2006; Hutter *et al.*, 2011; Price-Robertson & Knight, 2012; Zhou *et al.*, 2009). Ideally, the concept would need to be fully understood before being applied to real situations with the goal of building resilient communities (Gwimbi, 2009).

Multiple conceptualization of the resilience concept in disaster-related management

Even though the resilience concept is very antique, its introduction into hazards management is more recent (Berkes 2007 in Liao *et al.*, 2012). Disaster risk research started to apply system's approach to disaster risk management, and considered disasters as emergent events resulting from the interaction between social and ecological systems (De Bruijn, 2004). The resilience concept is introduced to disasters' research as an effort to incorporate to management strategies the uncertainty in which natural hazards and disasters emerge (Kuhlicke, 2013). Building resilience capacity roughly means a better strategy to overcome uncertainty in crisis management (Boin & McConnell, 2007; Bruijn, 2004) and in recovery-disaster management (Bruijn, 2004).

Along with the introduction of resilience concept to disaster risk research, the scope of the resilience concept has grown even more (Kuhlicke, 2013). The resilience

concept, in disaster risk research, has been understood at least as three capacities: to respond to a disturbance, to self-organize and to learn and adapt (Lei *et al.*, 2013). Resilience has been seen in diverse ways, varying from a simple concept to an approach or even more, a science (Kuhlicke, 2013).

This lack of consensus in the understanding of the resilience concept has set different ways to approach resilience-based disaster risk management, including flood management, with important implications in practice. Liao *et al.* (2012) sets an example for natural hazard management where there are two main interpretations about resilience concept, the engineering resilience and the ecological resilience. Engineering resilience is referred as the ability to bounce back to an original condition (maintain stability), this means to be able to resist and recover functions while passing through disturbances, and it is tend to be measured in terms of fast recovery. Ecological resilience, in the other hand, is related to an ability of persist while passing through perturbations (survive), by reorganizing in a different way than the initial one; and it is often measure by the magnitude of disturbance that a system can resist until it changes its properties in order to maintain same functions. These two approximations are not compatible; one seeks for stability and sees disturbances as threats, and the other one looks for change and take disturbances as learning opportunities (Liao, 2012). Liao (2012) and De Bruijn (2004) agree that "In natural hazard management…engineering resilience prevails in current definitions of community resilience" (Liao, 2012 p. 2).

Lack of practical resilience assessment schemes for monitoring efforts

There is diversity of perceptions of the disaster resilience concept and different "…understanding and weight given to concepts such as coping, capacity, vulnerability and adaptive capacity (Mitchell & Harris, 2012 p. 3) [9]. Thus, several attempts of

[9] "The relationship between such concepts and resilience is rarely developed in full, and by no means universally agreed" (Mitchell & Harris, 2012 p. 3). In Cutter *et al.* (2008) there is proof of this, and there are shown

resilience assessment frameworks have been developed with considerable differences in their approaches, methods and tools used, leading to highly variable resilience measurements (Mitchell & Harris, 2012; Price-Robertson & Knight, 2012) (some of them enlisted in Price-Robertson & Knight, 2012, p.11). But "Much of the work on disaster resilience draws understanding of the relationship with vulnerability and seed to measure levels of that vulnerability rather than resilience itself" (Mitchel & Harris, 2012 p. 3). Examples of resilience assessment frameworks are briefly characterized:

- Longstaff *et al*. (2010) proposes a complex assessment based on enablers of resilience. It subdivides the community into subsystems (ecological, economic, physical-infrastructural, civil society and governance) and assesses each of them in terms of key resilience attributes, like: use of resources, diversity and redundancy of resources, institutional memory, innovative learning and cohesion.

- Cutter *et al.* (2008) has proposed the Disaster Resilience of Place (DROP) Model, a place-based model for assessing resilience. Here it also conceptualizes resilience as a pre-disaster condition but also as a post-disaster process. This assessment is also focused on assessing enablers of resilience; it uses indicators of several nature: ecological, social, economic, institutional, infrastructural and of community competence. Besides it recognizes external factors and its influence in community resilience.

- McAslan (2011 in Price- Robertson & Knight, 2012; McAslan, 2010) suggest a less complex framework based also on community resilience enablers. McAslan recognizes the difficulty involved in developing a universally applicable model of the community resilience, and identifies the factors that are generally agreed in the literature and classifies them into three main categories of resilience enablers: (1) *physical characteristics* of the community (e.g., local infrastructure, local

examples of multiple linkages between vulnerability, resilience and adaptive capacity that are currently being used in research.

emergency and health services); (2) *procedural characteristics* of the community, such as systems that are in place to respond to, and recover from, disasters (e.g., disaster policies and plans, local knowledge); and (3) *social characteristics* of the community (e.g., community cohesion, community leaders).

Despite these frameworks, it has been identified a strong lack of attempts to make the resilience concept operational in order to support planning and management (Klein *et al.*, 2003 in Garschagen, 2011). "…there is a pressing need for measuring the disaster resilience objectively and repeatedly and enhancing the resilience in disaster-prone areas of the whole world" (Zhou *et al.*, 2009, p. 27). UNISDR & WMO (2012) also recognizes the need to establish ways to measure progress for DRR and resilience, and has set the consultations on a post-2015 framework for Disaster Risk Reduction as an opportune space to provide critical inputs related to the issue in order to provide tools to reach consensus about resilience assessment indicators and considerations.

Measuring the resilience capacity is not trivial. "The context-specific nature of risk, the dynamic nature of change and the complexity of capacities associated with resilience make systemic measurement challenging and lead to…a simpler frame for evaluation to be considered" (Mitchell & Harris, 2012 p. 3). Klein et al. (2003 in Garschagen, 2011, p. 28) agrees with previous authors when propose an example of a way to make a useful application of resilience concept by just considering it "…in a more narrow sense—referring exclusively to the capacity to absorb perturbations and to self-organise". And besides considering a less complex frame for the resilience capacity evaluation, the spatial and temporal scale-boundaries must be considered regardless the discipline approach in a resilience assessment tool (Mitchell & Harris, 2012).

Objectives

The overall finality of this research study is to contribute to the understanding and practical measure of the urban community flood resilience capacity by providing a proposal of a method for rapid assessment of community flood-resilience plus its application to a case study.

The proposal of rapid assessment is applied to a case study at Magisterial suburb, in Ciudad Valles, San Luis Potosi, Mexico. The assessment method seeks to find out if the community shows evidence of exercise of the flood resilience capacity by providing answers to the following interrogants:

- How has the community performed in relation to flash flood events?
    - What types of flash flood related impacts does the community have faced?
    - What measures related to flood coping the community has been implementing at pre-, in- and post-flash flood events?
    - How have these measures originated and improved (if so) by the community through time?
- What does this community's performance has meant in terms of urban flood resilience key properties at community level?

And apart from the research objectives and assessment method goals, the resilience assessment results aim to serve as basis for future awareness tool for the Magisterial suburb community.

Case study: Magisterial of Ciudad Valles city

The Magisterial (suburb) is located inside the Ciudad Valles city, within Ciudad Valles municipality located in the *Huasteca* region of San Luis Potosi State in Mexico (E-local.gob, 2013; SDESLP, 2013; Valadez, 2011) (image 1).

Image 1 Location of the study site: Magisterial suburb in Ciudad Valles, San Luis Potosi, Mexico. Source: Google Earth version 7.1.2.2041

Magisterial is a small complex of residents. It consists of 317 inhabitants living, in 107 houses, were 92 were inhabited in 2012 (INEGI, 2012) (image 2); it comprises six built blocks and an empty block (INEGI, 2012); and three walkways and four streets cross it. It is located over an approximate area of 23,400 square meters (Google Earth version 7.1.2.2041) at the northwestern part of the territory of Ciudad Valles municipality. The suburb limits southwest with the National Pedagogic University (UPN) and northeast with the National Union of Education Workers (SNTE) facilities.

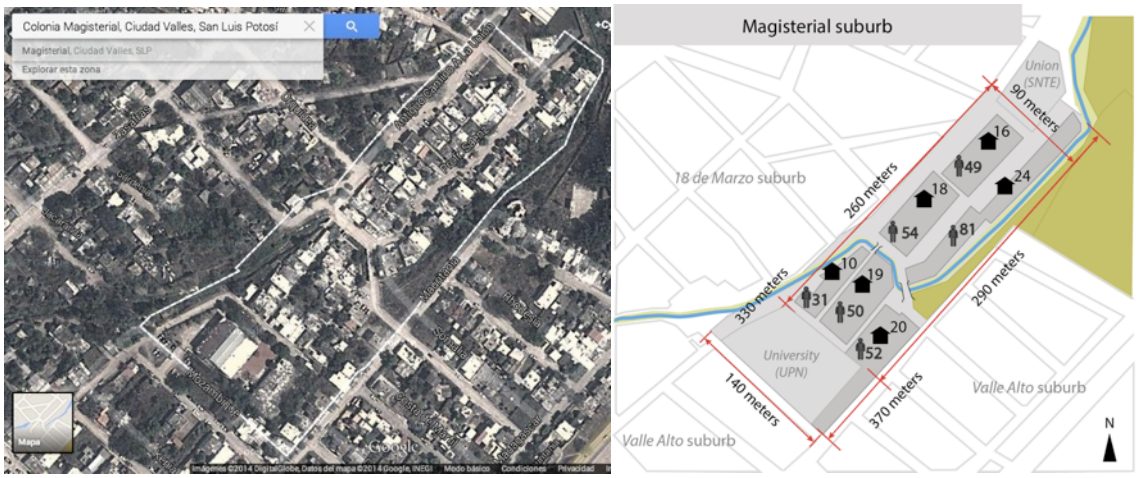


Image 2 Satelite view of Magisterial suburb (left) and CROQUIS of Magisterial Suburb in gray (right). Source: Google Earth version 7.1.2.2041 (left), own based on INEGI, 2012; GOOGLE Earth version 7.1.2.2041 and image 1. from Annex Documents provided by Specialized informant (right)

The suburb presents two main characteristics that make it suitable to apply a practical assessment of community resilience to floods development: it is under flood risk and it has a recent disaster flood-record.

The suburb is under flood risk

The Magisterial inherits the flood risk conditions from the city, the municipality and the region where it is settled. Ciudad Valles municipality occupies the second position in the state rank of high flood frequency[10], with 13 (out of 120) registers between 1970 and 2011 (Desinventar, 2013)[11].

Ciudad Valles capital city is the most populated urban zone in the *Huasteca Potosina*[12] (SDESLP, 2013). Ciudad Valles is an urban area at the lowest part of the *Río Valles* river basin (Agenda Ambiental, 2008)[13], over a low hills valley of the Sierra Madre Oriental (Valadez, 2011; topographic map in INEGI, 2009) (image 3).

[10] Between 1970-2011 Ciudad Valles has accumulated damage due to floods consisting on households affected (3 374), people evacuated (330), relocated (90) and affected in some aspect (17 200) (Desinventar, 2013).
[11] The State Capital of San Luis Potosi occupies the first position with 14 strong floods registered between 1970 and 2011 (Desinventar, 2013)
[12] Ciudad Valles capital city has 167, 713 inhabitants registered in 2010 (INEGI, 2013)
[13] Ciudad Valles municipality has an average height of 70 meters above sea level (Valles City Hall, 2012)

Image 3 Location of Ciudad Valles municipality. A part of the Mexican Golf is shown at right, and Central plateau at left. Source: Google Earth version 7.1.2.2041

This location allows a particular interaction between the coastal winds, solar radiation and topography that produces a warm-subhumid regional weather with abundant rain during summer[14] (INEGI, 2009); also this region falls into the Atlantic North Region of influence of tropical cyclones, mainly from August to October (CENAPRED, 2007). Moreover, this basin is characterized by an expansion of the agricultural lands over areas with natural vegetation; this condition has implications in terms of variability of temporal and spatial pluvial precipitation regime and also increasing or decreasing of superficial runoffs (Santacruz, 2011)[15].

Local hydrological conditions of Ciudad Valles are also contributing to its floods susceptibility. This city is settled within the influence zone of a big river called *Río Valles*, which crosses among a portion of the city (Valadez, 2011). This river has several temporal tributary effluents that are promoted in several impermeable surfaces along the city during rainy season[16] (CONAGUA 2008 unpublished in Agenda

[14] Ciudad Valles municipality has an anual average precipitation of 1243.8mm. Months with more precipitation are June, July, August, September and October, and months with less precipitation are from December to March. (Valles City Hall, 2012)

[15] Santacruz (2011) offers a basin analysis between 1976 to 2000 in terms of vegetation and uses and its implications in water provision.

[16] Five main intermittent streams that run inside the urban area have been identified and named as: Alameda, La Lajita (Arroyo Puercos), Las Cruces, Sin Nombre y Las Lagartijas (CONAGUA 2008 unpublished in Agenda Ambiental, 2008).

Ambiental, 2008). Rains, runoffs and river interact together to generate combined pluvial and fluvial floods (Valadez, 2011).

Image 4 In lighter blue line approximate original location of stream channel La Lajita in the suburb, the actual river channel location in darker blue. Source: own based on annex Transcription of first interview to Specialized informant

Due to this condition, Ciudad Valles municipality has preventive, emergency and recovery efforts regarding flood events (Valadez, 2011), even though it seems no to be involved in national programs. Municipality does not participate at the national program of *Safe Municipality: Resistant to Disasters*, according to database at Government Secretary (SEGOB, 2012), and it seems that this municipality has not community brigades for flood events (any related official publication was found).

Moreover, the suburb, located inside Ciudad Valles city, is considered under flood risk. This suburb was built in 1990 (Valadez, 2011) over the channel of an intermittent stream called *Arroyo La Lajita (*also called *Los Puercos*); a reduction and deviation of the stream was made in order to install the residential infrastructure (Valadez, 2011; Annex Transcription of first interview to Specialized informant). The original channel of the stream was not sinuous (image 4), and it is calculated to had reached 4 to 5 meters wide and used to carry considerable amounts of runoff that caused trees to grow inclined follow the runoff direction; people even used to swim inside it (Annex Transcription of first interview to Specialized informant).

During rainy events La Lajita's stream has caused the suburb an affectation of at least 80 households out of 107; the suburb is the second most affected by floods in Ciudad Valles[17] city (Agenda Ambiental, 2008; Annex Transcription of first interview to Specialized informant); but in terms of relative affected-area this suburb outstands

[17] The *Praderas del Río* suburb is the most affected suburb in Ciudad Valles, with a register of 112 affected households by the rising river of *Río Valles* (CONAGUA 2008 unpublished, in Agenda Ambiental 2008) (Annex Suburbs of Ciudad Valles municipality under Flood Risk).

for being one of the smallest suburbs of the city under flood risk (Agenda Ambiental, 2008; Annex Suburbs of Ciudad Valles municipality under Flood Risk).

Magisterial suburb has recent disaster flood-record

The Magisterial welcomed its inhabitants 20 years ago. In 1994, within four years from its construction, the suburb was inaugurated and had its first inhabitants (image 5). The municipality donated the suburb to the Teachers' Union, who started to offer houses to teachers under a loan system managed by a well-known bank. Not all the properties were finished 20 years ago, when the first neighbors arrived, some of them were finished few time later (Annex Transcription of first interview to Specialized informant).

Image 5 Foundation Plate of Magisterial Suburb. Source: own

The Magisterial suburb extreme flood record consists of two main floods, one in 2004 and the strongest one in 2008. Specific published information regarding this events was not found, instead information of pioneer neighbors of suburb was used (Annex Transcription of first interview to Specialized informant and Annex Transcription of first interview to Key informant).

The suburb started its disaster flood-history 10 years ago. The neighbors had their first extreme flood event experience during rainy season in 2004. Within 10 years of living without extreme flooding, the neighbors did not imagine that rain would cause such damage. It is said that a 3-day rain caused the 2004 flooding. The stream exceeded the channel height and the water reached the houses causing a flash flood[18]

[18] Flash floods are the result of sudden and intense rain events that occur at specific areas. They can cause small streams become, in matter of minutes, violent torrents capable of strongly damage. (CENAPRED, 2013)

of 1.20 meters in depth (image 6) and with an approximate duration of 20 minutes, 10 minutes to reach the climax and 10 minutes to go through the suburb to lower areas.

Image 6 Specialized informant and Dra. Julio indicating the flood depth reached in 2004, proved by the further construction of the wall. Source: own

During the flood, strong runoffs, like rivers, were generated along the walkways of the lower part of the suburb, where rocks, trees, trash, stationary-gas tanks, and even cars were dragged by the torrent. The interior of the first floor of houses suffered strong damage due to the force of the water; appliances like fridges and stoves, beds, furniture, clothes and other objects were severely damaged and often completely lost. Also, psychological damage was done to some neighbors and still cause them to suffer from anxiety or other symptoms every time heavy rain starts to pour.

The second extreme flood event in Magisterial suburb in 2008 was stronger than the first[19]. The cause of this intense flood apparently was the combination of constant rains through 9 days approximately, followed by a downpour event, together with the apparent opening of the gates from La Lajita dawn (located at the upper part, outside the city). Massive discharge of water ran through the channel and inevitably flooded the suburb. The duration of the flash flood was similar to the 2004 event, in 10 minutes the water had passed through the suburb, but the maximal depth reached was 1.80 meters (image 7).

Image 7 Specialized informant shows the flood level reached in 2008, evidenced by the rusty metal at the door. Source: own

[19] The 2008 flood event was reported by Martínez-Castro (2008) and Valadez, (2011) as the first extreme flood event in the Magisterial, even though neighbors assure it was the second, but the strongest one.

Witnesses tell that it felt a lot more destructive than the previous flood; cars were completely lifted by the water torrent and were dragged for several meters until they crashed against walls, tunnels, etc. (image 8). Along with cars, stationary-gas tanks, rocks, trash, household items and even farm animals like cows and pigs, were dragged by the water. Inside the households the types of damages were to the same items but more intense, in some cases even window-glass broke due to the force of the water trying to get inside the house. It was reported that 40 households were affected during this 10 minutes (Martínez-Castro, 2008). Moreover, some people got paralyzed during the event and were unable to act quickly, but some other people respond faster.

In some cases, people was hit and pushed by the water inside their houses; but by fortune, there was any casualty identified in the suburb during any of this two flood events. Also, both events took place during the early morning, around 5 and 6 a.m. this increased the slow response of the neighbors.

Image 8 Total loss of vehicles and composition of the debris of 2008 in Magisterial Suburb.
Source: Annex 2008 Extreme Flood event in Magisterial

Theoretical framework of assessment method

Adopted resilience concept

Essence and components of the resilience concept

Despite the multiple interpretations of the resilience concept, it seems that "dynamism" is identified as the essence of the resilience capacity in every perspective (Alexander, 2013). As the Ecological resilience approach considers (under dynamic systems perspective), resilience is not about returning to the pre-disaster conditions, but to moving forward to new stages of existence in dynamic equilibrium (Liao, 2012). The resilience capacity means resisting, absorbing, accommodating to, and recovering from the effects of a hazard in a timely and efficient manner (UNISDR, 2009); its primal objective is to survive from hazardous events (Cutter *et al.*, 2008).

If the resilience capacity implicates survival (Cutter *et al.*, 2008), then it only develops under specific baseline and response conditions. The entity, system or community must likely to develop resilience ability must be exposed to hazards' impacts[20] and possess vulnerability traits, "characteristics and circumstances…that make it susceptible to the damaging effects of a hazard" (UNISDR, 2009 p. 30). Moreover, it has to posses a dynamic response to hazard impacts[21], this response implies not only survive but to take advantage of changes (Gwimbi, 2009).

The resilience capacity depends on vulnerability trait. This research does not understand both concepts as opposites, as Twigg (2007) suggest, instead it follows a "Vulnerability Preference" understanding modality where resilience and adaptation

[20] Exposure understood as "the presence of people, livelihoods, environment, economic, social or cultural assets in places that could be adversely affected" (Mitchell & Harris, 2012 p. 2). The research considers that contemplating exposition as an independent component from vulnerability, it can give the possibility to identify potential vulnerability and resilience levels for particular hazards which expositions has not been fully identified or even detected yet, but that could exist in a future within an uncertain environment like the one we live in, so it gives openness to the analysis of potential risks under an uncertain conditions.

[21] A dynamic response refers to the one that is at constant change, activity, or progress (Oxford Dictionaries, 2014)

are embedded in vulnerability (Lei *et al.*, 2013)[22]; so resilience capacity is somehow part of vulnerability trait (Turner *et al.*, 2003; Zhou *et al.*, 2009; Birkman, 2006).

In this research, vulnerability is seen as the combination of inherent conditions of an entity (modified from Turner e*t al.*, 2003[23]) that together with exposure conditions enable susceptibility to hazards' impacts. Sensitivity is "a resultant condition"; it is the degree of affectation or modification by external or internal disturbances (Gallopin, 2006 p. 295) that depends on human and biophysical internal characteristics of the system (Turner *et al.*, 2003). Resilience condition can be as "the modulating condition" of vulnerability; it is triggered by the sensitivity condition and implies the active-dynamic response of the system to survive to hazard impacts. For example, a crisis or disaster event[24] of a specific hazard (e.g. floods) can lead to the emergence, development or even disappearance of coping responses (local emergency voluntary brigades, practices or knowledge) from a community-system, and thus a modulation of internal vulnerability traits (minimization or intensification) and the consequent sensitivity condition. In some cases, coping responses emerged can even influence a change on the level of exposure to hazard-impacts (e.g. temporal migration to a safer zone) (image 9).

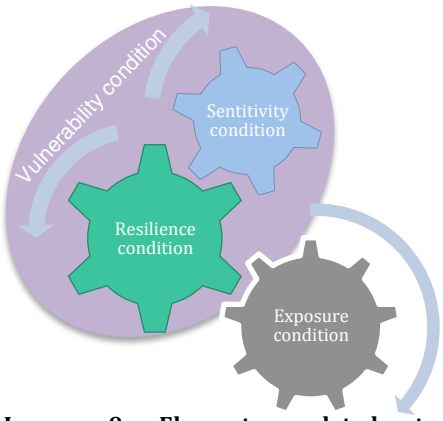


Image 9 Elements related to susceptibility of a hazard: Relations between vulnerability components and exposure to a hazard condition.

[22] Lei *et al.* (2013) identify three kinds of modalities of understanding of vulnerability, resilience and adaptation. "The first modality is named as a ''vulnerability preference" which is emphasized by both the climate change and disaster risk researchers. This preference tends to integrate the components of resilience and adaptation into the framework of vulnerability. The second is called ''resilience preference,'' which considers vulnerability and adaptation as parts of resilience…has largely been adopted in social–ecological research by a famous academic community ''Resilience Alliance.'' The third modality named ''overlapped relationships'' believes that the connotation of V, Re, and A is overlapped rather than mutual contained. …any single concept of V, Re, or A …need to be understood based on an integral consideration of the three elements" (Lei *et al.*, 2013 p. 614-615). Vulnerability is expressed in terms of inherent conditions in several dimensions of an entity, resilience depends on these conditions

[23] Turner *et al.* (2003) considers exposure to be also a component of vulnerability, but this research does not considers exposure as a part of vulnerability in order to give more openess to explore potential vulnerability to hazards that are not yet threatening but that are most likely to do so in medium-long term.

[24] A crisis event derives into a disaster event when there is damage produced to people or goods (Wilches, 1993).

Resilience capacity is seen inside vulnerability through the component of *capacity of response or coping capacity* (Gallopin, 2006; Birkman, 2006; Smith & Wandel, 2006; Turner *et al.*, 2003; Lorenz, 2013). The coping response or coping capacity is "The ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters." (UNISDR, 2009, p. 8). This ability gets reflected on the strategies and measures for disaster risk reduction (Twigg, 2007). The coping capacity concept and the disaster resilience concept in some cases have been considered as synonyms (Twigg, 2007). But recently studies have tended to analyze resilience not as an outcome (like coping capacity is seen) but more as a process (Mitchell & Harris, 2012) fueled by impacts of hazardous events, a process that implies "learning, adaptation, anticipation and improvement in basic structures, actors and functions." (Mitchell & Harris, 2012 p. 2).

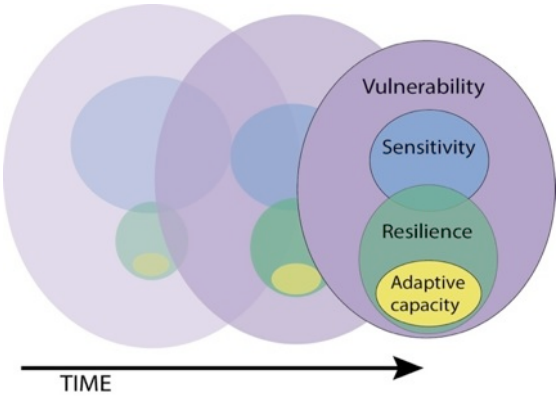


Image 10. Conceptual linkage between Vulnerability, Resilience and Adaptive Capacity where Resilience and Adaptive capacity are nested concepts within an overall vulnerability structure (taken and modified from third perspective of understanding in figure 1 of Cutter *et al.*, 2008). Shows ideal development through time.

Following the same "Vulnerability Preference" modality of Lei *et al.* (2013), vulnerability can lead to resilience, and resilience can lead to adaptive capacity. Resilience has also relation with adaptive capacity (Turner *et al.*, 2003; Lorenz, 2013; Klein *et al.*, 2003 in Garschagen, 2011; Folke, 2006; Smith & Wandel, 2006; Adger, 2006; Liao, 2012). Adaptive capacity is the ability "…to learn in response to disturbances" (Gunderson & Holling, 2002 in Turner *et al.*, 2003, p. 8075); coping response mechanisms can promote adaptation in long term (Turner *et al.*, 2003) (Image 10)[25]. Adaptive capacity allows to develop a process were "…groups of people add new and improved methods of coping with the environment to their cultural

[25] There has been related coping capacity to a short-term capacity, and the adaptive capacity to a long-term capacity (Gallopin, 2006).

repertoire''(O'Brien and Holland, 1992, p. 37, in Smith & Wandel, 2006, p. 283).

Proposed theoretical framework for Community flood resilience assessment

This research assessment differs from much of previous work on disaster resilience, because it is not based on measure vulnerability levels[26], but to measure concrete outcomes from the use of resilience capacity through disaster risk reduction management cycles.

In order to introduce the rapid resilience assessment method, theory behind it is explained in this section. In general terms, the theoretical framework for the assessment follows a community approach, in which resilience capacity is understood in terms of concrete outcomes (coping response measures) from a resilient performance at the community. These measures develop within time through constant adjustments and adaptations that seek to refine them in order to become more localized, diverse and redundant with other internal and external efforts (key properties of resilience).

Community resilience approach: definition and main traits

Community concept can serve as a framework to study a group of individuals development of resilience related skills and capabilities (Edwards, 2009). A community can be related to several aspects, but in the case of hazard research, the spatial delimitation is key to define a community. A community can be understood as a small group of people that has came together through shared concerns (Maguire & Cartwright, 2008 in Price-Robertson & Knight, 2012), this people also live in the same geographical area (Price-Robertson & Knight, 2012; Twigg, 2007) and near the same risks (Twigg, 2007). In this research, community approach study allowed to group

[26] "Much of the work on disaster resilience draws understanding of the relationship with vulnerability and seed to measure levels of that vulnerability rather than resilience itself" (Mitchel & Harris, 2012 p. 3).

agents with similar, but not totally equal, vulnerability and exposure conditions but also alike hazard-response perspective.

Community scale is relevant in resilience paradigm, because it is consider the focal point of impact related to hazards and disaster events (Rolfe, 2006; Kulig, 2000 in Gwimbi, 2009), where efforts can be conducted in order to achieve basic resilience, community resilience (Longstaff *et al.*, 2010).

The community resilience concept is the ability of a "…community…exposed to hazards to resist, absorb, accommodate to, and recover from the effects of a hazard in a timely and efficient manner..." (UNISDR, 2009, p. 24). Unlike other approaches that focus on vulnerability to disaster or on needs during disaster emergency, community resilience approach is interested on understanding what can be done by the community itself (Twigg, 2007), how it can develop a dynamic response to change by generating an ability to use "…community resources to transform and respond to change in an adaptive way" (Maguire & Cartwright, 2008 in Price-Robertson & Knight, 2012, p. 4), and how this can be self-fostered (Twigg, 2007).

Community resilience is also not a final state but a dynamic process (Mitchell & Harris, 2012). A "disaster resilient community" is an ideal because any community will ever be fully capable to be safe to all possible hazards (Twigg, 2007; UNISDR, 2012). Then community resilience is not about reaching an overall reduced vulnerability condition but instead it is only related to the capacity to adapt to changes in the physical, social or economic environment, learn from experience and improve over time (Price-Robertson & Knight, 2012). In this research, changes are disaster events (like a flood event in a suburb) and they can deteriorate the community-system and at the same time they can perform as a development-agent of disaster resilience capacity inside the community (Liao, 2012); this event can be seen as a chance to adjust structures and processes and also to build knowledge (Liao, 2012; Folke, 2006).

Urban community flood resilience: definition and key properties

Likewise community resilience concept and ecological resilience approach, urban resilience to floods has to do with survive and benefit from flooding (Liao, 2012). The urban community has to maintain a desirable regime during these events in terms of livelihood security, economic performance, etc. (Adger 2000, Cumming et al. 2005, Gunderson 2010 in Liao, 2012) through enhancing "floodability" (physical ability to accommodate flooding with minimum to null damage) and by reorganizing when damages have been presented in community (Liao, 2012). Liao (2012) has defined urban flood resilience in terms of "floodability" and capacity of reorganizing, critical for a community's survival, and has stated three key properties of urban resilience to floods:

1. Localized flood-response capacity

Communities' ability to self-organize in order to generate decentralized measures to cope with floods and not to entirely rely on centralized measures[27] like flood-control infrastructure measures. Community by itself has to be able to quickly come out with alternative measures to reduce or avoid flood damages, and not just depending on external help provided by government or aid agencies. (Liao, 2012)

2. Timely adjustments after every flood

This property has to do with the ability to learn from each flood and make improvements. Learning process and associated adaptive capacity can be traced when there have been adjustments in behavior, physical or institutional aspects once a flood or several flood events have previously occurred. Flood events provide the community with new understanding about them and people's own vulnerability aspects. Novelty is key to generate new adjustments that does not follow the previous configuration of community traits (Walker et al. 2004, Adger 2006, Berkes 2007 in Liao, 2012).

[27] Centralized measures are planned and implemented by a single entity (like Civil Protection Agency) on which all responsibility relies; but decentralized measures emerge and are implemented by local entities, like the community and even from different levels of its own organization so responsibility relies on several entities and not on a central government (Oxford Dictionaries, 2014).

3. Redundancy in subsystems

This property relates to flood-response diversity of alternatives across organizational scales. "A flood hazard management system with redundancy would comprise a diversity of measures for mitigation, preparedness, response, and reorganization" (Liao, 2012 p. 6) distributed across the different levels of urban organization, for example, households, communities and municipality. The inter-scale diverse-functional replication allows overall flood-response capacity not to be easily overwhelmed, because flood-related responses between scales are being mutually backed up.

These three key properties strongly rely on diversity and flexibility aspects. Diversity provides new opportunities, in terms of several ways to re-organize, several ideas to adjustments, and several measures to choose from in case actual structure and functions of the community is not providing a convenient flood-response. Also, flexibility provides capacity to embrace new opportunities, and thus define the resilience development process of the community. With flexibility, immediate changes based on diverse options can be made in a community. (Liao, 2012)

Community disaster resilience process

As stated in previous chapters, the resilience capacity can be understood as an outcome but also a process that implies a dynamic and complex set of several conditions (Mitchell & Harris, 2012) (driven by interrelated factors of vulnerability, exposure, and other external) that determine particular community responses to hazard impacts; such responses can promote (or not) development of key properties of urban flood-resilience.

Community resilience as a response

Following the need for more practical understanding of resilience capacity for more accessible and rapid assessments, present research proposes to approach community resilience capacity in terms of actual flood-coping responses, and not by focusing on complex sets of internal and external community traits that can behave

sometimes as resilience enablers (see other assessment frameworks for resilience in State of the art chapter).

Turner *et al.* (2003) through his proposal of vulnerability framework, generates a concrete approach to understand resilience capacity in terms of responses without losing the consideration of its dynamic essence. In his framework, vulnerability is described in terms of exposure to hazard, sensitivity and resilience, under double-way logic of ”hazard-consequence” where sensitivity and resilience relate to the consequence part.

It is worth to highlight that even though the present research does not consider that exposure is part of vulnerability, the resilience components that Turner *et al.* (2003) explore are borrowed for this research. This approach is found useful in this research because it reduces the complexity of resilience concept, instead of focus on explore vulnerability-interrelated traits it focuses on its concrete outcomes (coping measures) while also considering dynamism within time.

Turner *et al.* (2003) implies that resilience capacity can be identified as three kinds of responses:

1. *The Coping Response*

It has to do with the exercise of the coping capacity, “The ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters.” (UNISDR, 2009, p. 8). Coping response measures can be of several natures: planned from previous learning or totally improvised, originated from or adopted by the community, public or private, individual or group, short- or long-term, preventive or reactive, etc. The outcomes of the measures are determining the developed resilience level of the community at a specific moment, and can even impact higher hierarchical systems like the neighborhood or the city.

2. The Adjustment and Adaptation Response

It is related to the adaptive capacity and is the ability "…to learn in response to disturbances" (Gunderson & Holling, 2002 in Turner *et al.*, 2003, p. 8075). This response takes place when "the capacity of response…is…enhanced by learning and reorganizing strategies to respond to the experience of loss over time" (Zhou *et al.*, 2009, p. 30). This response represents the dynamic component of resilience, because it provides the changes in coping response based on previous experience; and "in some cases, coping mechanisms *per se* give way to adaptation, significant system-wide changes in the human–environment conditions" (Turner *et al.*, 2003 p. 8077).

3. The Impact Response

The Impact Response consists of the actual loses that the community suffer due to the disaster event. The impact responses are fully influenced by the other two responses, together with sensitivity, hazard exposure and other external conditions of the community.

The development of Community's Flood-Coping Response over time implies also the development of the resilience key properties of localized, adjusted and more diverse and redundant coping measures. More developed Flood-Coping Response will allow "floodability" and capacity of reorganizing for future flood-disaster events.

Resilience in Disaster Risk Management cycle

The resilience concept has been often viewed as a property that mainly defines in-disaster and post-disaster measures inside a Disaster Management Cycle (Zhou *et al.*, 2009) but it also has implications in pre-disaster measures (Djalante *et al.*, 2013). Related to urban environment resilience approach, resilience can have strong implications in Disaster Risk Reduction (DRR) efforts (UNISDR, 2012); Twigg (2007) even considers that DRR is the sum of actions, or the process itself, to achieve a resilience level (Twigg, 2007). Resilience process can even be a major determinant

for urban systems to improve sustainability[28] (UNISDR, 2012; Batica & Gourbesville, 2012) at least to flooding processes (Batica & Gourbesville, 2012).

Djalante *et al.* (2013), Edwards (2009) and Queensland Government (2011) considered resilience to be implicit within the actions that are being taken under risk management frameworks. They propose to apply resilience concept in disaster risk management cycle in order to achieve development of such capacity inside communities. Djalante *et al.* (2013) exposes the term Integrated Disaster Resilience, which depends on the integration of Disaster Risk Reduction strategies and its development through all the stages of "risk knowledge, mitigation, preparedness and emergency management, and recovery and reconstruction" (Djalante *et al.*, 2013, p. 2111). He also highlights that the community has to be the center of all the efforts (Djalante *et al.*, 2013). Edwards (2009) has reached a similar conclusion with the proposed term of "social resilience cycle". The skills and capabilities that confer resilience ability need to be based on the social resilience cycle, comprised of four stages, which are consistent with the components of a disaster risk management cycle: mitigation, preparedness, response phase and recovery phase. Moreover, the National Partnership Agreement on Natural Disaster Resilience of Australian Governments have developed a definition of disaster resilience concept based on the disaster risk management cycle phases. Resilience is understood as the capacity to prevent, mitigate, prepare for, respond to and recover from the impacts of disasters (Queensland Government, 2011); and by this disaster resilience is the capacity to perform a successful Disaster Risk Management towards the reduction of risk (Disaster Risk Reduction Management)[29]. The Queensland government has even

[28] "Within the context of sustainable development, which aims at an efficient use of an area whilst maintaining equity between generations and within the current generation, flood risk management aims at coping with uncertain and variable discharge waves" (De Bruijn, 2003 in De Bruijn, 2004 p. 53-54)

[29] Disaster risk management "is an extension of the more general term "risk management" to address the specific issue of disaster risks." (UNISDR, 2009 p. 10) Disaster risk management is a systematic process of using skills and capacities to implement strategies with the final objective of "…avoid, lessen or transfer adverse effects of hazards through activities and measures for prevention, mitigation and preparedness." (UNISDR, 2009 p. 10) Disaster risk reduction is "The concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters" (UNISDR, 2009 p. 10-11).

based its building-resilience project in measures along the disaster risk management cycle comprised of prevention, preparation, response and recover phases.

The present research uses the disaster risk reduction management cycle phases to provide temporal scale to the analysis of the process of development of flood resilience capacity within a community. Djalante *et al.*'s Disaster Risk Reduction phases (2013) have been chosen because they can provide more detail to the analysis; the three common phases (pre-, in- and post-) are described in terms of stages as follow:

Pre-disaster phase

- Risk knowledge stage has to do with the access to information on the frequency of weather-related hazards and the expected impact of such events (McAslan, 2010).
- Mitigation stage has to do with minimizing damage via reducing vulnerability and exposure conditions (Edwards, 2009)
- Preparedness stage is related to preparatory measures for when an event occur, this efforts seek to produce an optimal coping with the effects that come along with such event (Queensland Government, 2011).

In-disaster phase

- Emergency management stage consists of relief and support measures immediately before or after and during the hazard event, in order to achieve an immediate reduction of the affectations (Queensland Government, 2011).

Post-disaster phase

- Recovery and reconstruction stage is characterized by the execution of efforts that aim to restore basic functions of the social and physical components of the community such as infrastructural services, emotional stability, economic wellbeing, restoration of environment, etc. (Queensland Government, 2011).

Conceptual model for disaster resilience process

Previous sections stated the theory in which is based the present proposal of conceptual model for disaster resilience process. The conceptual model of the process of resilience building is based on the idea of Turner *et al.* (2003) resilience responses and Liao (2012) urban-flood resilience key properties, temporarily framed in Djalante *et al.* (2013) stages of Disaster Risk Reduction Management cycle, supported by the Social Resilience Cycle idea of Edwards (2009) and the resilience-based disaster management project of Queensland Government (2011).

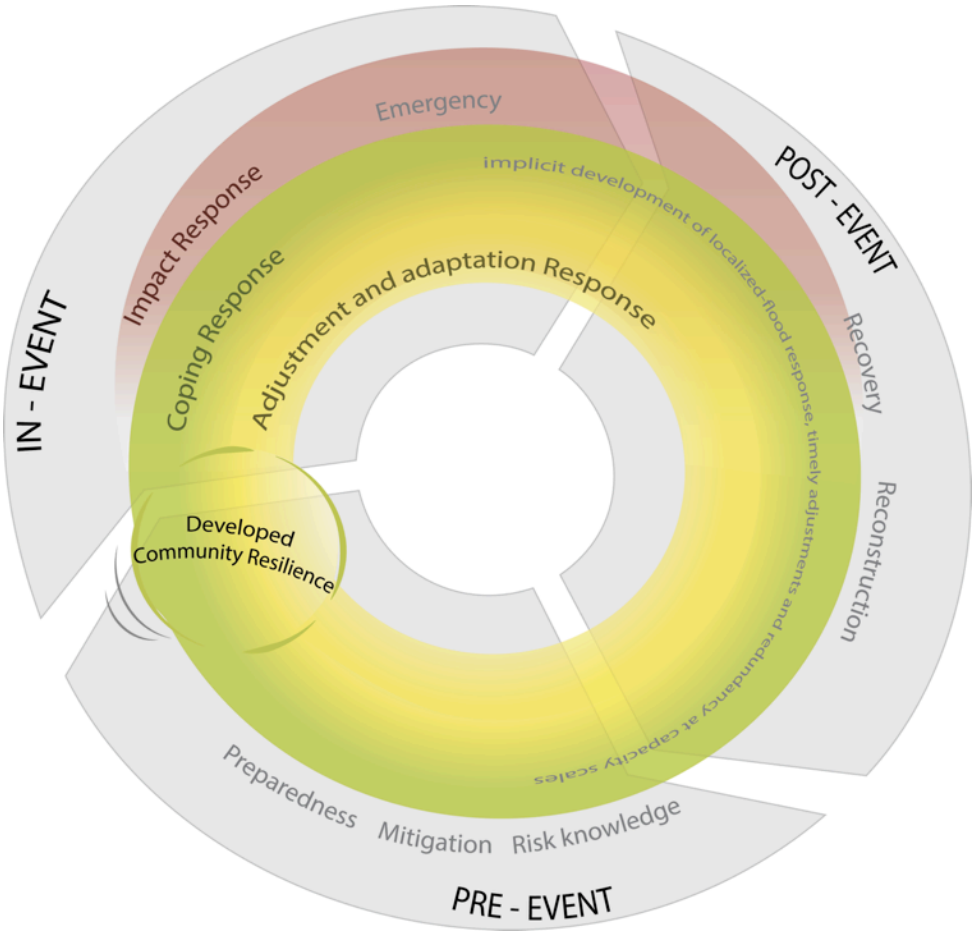


Image 11 Conceptual model for community disaster resilience building process. Source: own

Community Resilience ability (shown in green and yellow ring at image 11) is developed and performed at every stage in the Disaster Risk Reduction cycle (light gray background). This ability is an emergent capacity that builds on a complex set of

dynamic conditions internal and external to community, but that can be concretely traced in terms of Coping Response measures (green ring) that the community performs before (risk knowledge, mitigation and preparedness measures), during (emergency measures) and after the disaster event (recovery and reconstruction measures).

The Developed Community Resilience is represented by a stock of coping response measures that has been built due to the development of Adjustment and Adaptation Response over time. The community passes through a Disaster Risk Reduction cycle each time it suffers from a disaster event and presents different kinds of damage as Impact Response (red form). To pass through this cycle several times means to suffered from several disaster events but also means that community accumulates disaster-related knowledge and experience over time.

And while transiting each cycle, the community generates Adjustment and Adaptation Response (yellow ring), which consists of all new measures or improvements (either by improvisation or learning from past) that will be later internalized and adopted by the community, thus will become part of the Coping Response. By having developed Adjustment and Adaptation Response in the past, Coping Response has being constantly developing through time, promoting adaptation process to disaster events.

The Developed Community Resilience (shown in green and yellow "moving" ball) is the actual resilience state of the process that can be identifiable at any specific time. It is the latest version of Coping Response (green ring) that the community has implemented and thus it reflects the development stage so far of the urban flood-resilience key properties.

Moreover, this model is supported on Liao (2012) perspective where flood events are periodic and each event brings new knowledge and experience that can lead to an improvement or even creation of diverse coping strategies over time, and sometimes can also to lead to bigger adjustments at structural or functional level of a community (Liao, 2012).

METHODS

As stated before, the rapid assessment proposal seeks to find out if a community shows evidence of resilience capacity to flash floods by analyzing (1) its performance in terms of previous flash flood impacts and flood coping measures developed at disaster risk management cycle stages by the community through time, and (2) what does this measure-related performance has meant in terms of strengths and weaknesses for urban flood resilience key properties.

The rapid resilience assessment proposal of this research consists of two main qualitative sub-assessments that are consistent with research questions and sub-questions (Objectives chapter) (Image 12). Each sub-assessment involves specific products and will be described in next subchapters.

1. Assessment of community flood resilience responses:

   Objective: Identify and analyze the three resilience responses in DRMcycle (Impact Response, Coping Response, Adjustment and Adaptation response, for details see Theoretical Framework). It comprises:

   - Phase A: Assessment of Impact Response, by identifying the most common types of impacts that floods have cause to the suburb.
   - Phase B: Assessment of Coping Response, by identifying the developed community's coping measures at pre-, in- and post-disaster phases.
   - Phase C: Assessment of Adjustment and Adaptation Response, through a description of the origin and development of the community's coping measures through time.

2. Assessment of community flood resilience potential:

   Identify and analyze strengths and weaknesses at resilience development so far, based on analysis of resilience key properties implicit in community's flood-related measures. It comprises:

   - Phase D: Analyze the community's main strengths and weaknesses regarding key resilience properties, for the own development of flood resilience capacity.

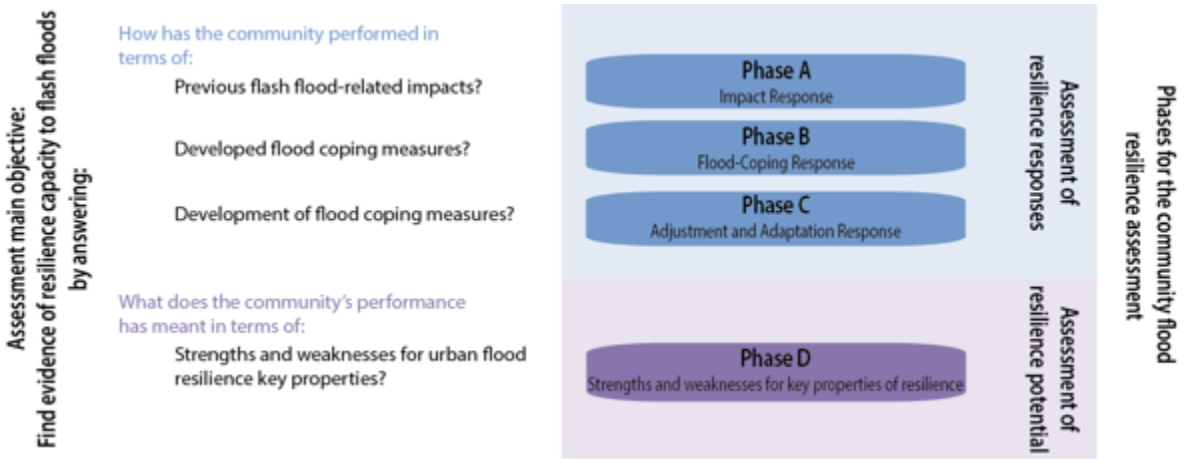


Image 12 Overall community flood resilience assessment comprises two main sub-assessments that are consequent with main objective of assessment and related-research questions. Source: own

Methodological considerations for application to case study

The methods in the overall assessment research are divided into two methodological steps: (1) recollection and process of data and (2) analysis of information (Image 13).

This research follows a qualitative design of an interpretative case study. A qualitative design considers qualitative data and does not imply a hard statistic treatment because it focuses on the process and seeks to find out how people act (Monje, 2011). An interpretative case study provides descriptions that allow interpretation and theorization about the case (Monje, 2011). A case study is focused on the intensive assessment of a specific phenomena, process, or unit, in order achieve specific comprehension of it (Monje, 2011). The case study research modality also allows quantitative data to support qualitative views, and it is more focus on empiric work but needs a theoretical reference framework to analyze and interpret the data recollected from the study case (Monje, 2011).

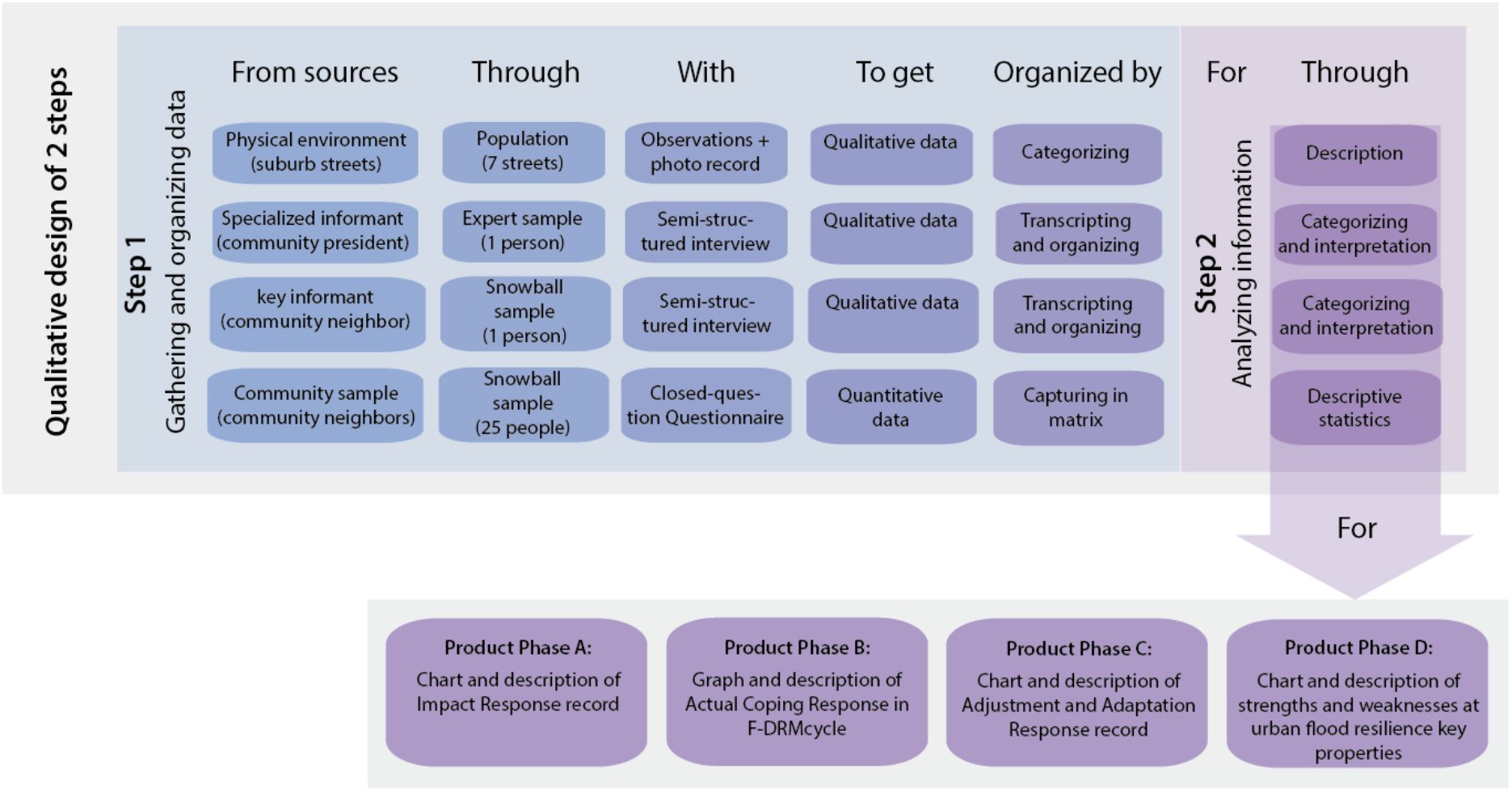


Image 13 Methods for each step of the research design and the products within each phase of community flood resilience assessment. The research design consists of a group of successive and organized activities that indicate the steps and the techniques involved in recollecting and analyzing the data (Monje, 2011). Source: own

Step 1: Gathering and organizing data from field

This first step consists of the process of familiarizing, selecting, registering and organizing the data obtained from the samples or the whole population of the sources at field.

To familiarize with the suburb a visit was made previous to fieldwork. There was the opportunity to present the project to some members of community's local committee and to familiarize with the physical environment as well as with some neighbors.

Sources of data and samples

The collection of data was made through specific sources from the community of interest (image 13). Consistent with the community concept previously stated at theoretical framework, the main criterion for the delimitation of the community of interest was the closeness with community committee, followed by the antique and the high-flood exposure condition of their households. Community's local authority (community committee) was detected as the main institution leading suburb's flood-related initiatives inside Magisterial suburb, and it was made the assumption that any neighbor presenting this characteristics would take part of the concerned and active people regarding flood management in the suburb.

The sampling in every case was a nonprobability purposive sampling. The researcher decided the purpose that the informants will have within the research and by own judgment informants are chosen, expecting of them to reflect the things relevant to the research (Russell, 2006). In this type of sampling, the size is defined on the ability to get informants or respondents and not pre-established by equations; this kind of sampling can be used in case studies (Russell, 2006).

Four sources of the suburb were consulted: the physical environment, the community committee's president (specialized informant), am outstanding neighbor (key informant) and related community (neighbors involved with the committee).

- The physical environment consisted of all the streets of the Magisterial suburb were surveyed in order to gather data.

- The specialized informant was selected following an expert sampling under a *phenomenon nature criterion* for selection*;* which is based on the feasibility of founding frequent and accessible important cases (Hernández-Sampieri *et al.,* 2010). At the suburb, there could not be identified many experts who have broad panorama about community's flood performance, the community committee's president was considered the most accessible important case that could be interviewed. Besides, since he is also a neighbor, he was considered an extreme case of deeply involved neighbor on community committee's flood-related initiatives.

- The key informant was selected by snowball technique. In this selection modality informants and/or documents are used to locate one or two people in a population; it is an effective method to build a complete sampling when dealing with a small and well connected-neighbors population (Russell, 2006), but can also present only the people willing to cooperate (Monje, 2011).
  Due to limited capacity of *recollection and analysis criteria* (term by Hernández-Sampieri et al., 2010) only one key informant was selected. It is an extreme case (according to Monje, 2011) of a pioneer neighbor (20 years living at the suburb) living inside the highest flash-flood exposure zone and close to the community committee.

- Community sample of respondent neighbors was also defined by a snowball method. The specialized informant pointed out the candidates to become respondents of the questionnaire, since he knows neighbors that are: antique residents, close to the committee and highly exposed to flash floods (traits that were thought to be characteristics of the most informed and involved neighbors in community organization related to flood-issues). This sampling method was used because of the lack of time and support (in terms of human resources) to cover all

community population of involved neighbors. The size chosen (25 people) was pertinent because the results could evidence that the saturation principle was more less reached[30].

The community of neighbors was consulted in order to eco the information of the community president, but also to have a cleared sight of the community level degree of organization, besides exploring the individual level of coping response to floods.

Characterization of the samples

The present research assesses community flood resilience based on a fraction of 27% (25) of inhabited households from community of Magisterial suburb, plus two extreme cases of neighbors[31]. The non-probabilistic purposive sample sought to gather the perspective from the most informed members of the community regarding community committee's initiatives against floods. Most informed neighbors are allegedly to be the closest to committee's president and the most antique neighbors that live in or near the areas with highest flash-flood exposition. In order to cover more possible perspectives of suburb-community members, other neighbors from different exposition zones and years of arrival were included in the sample in a smaller proportion.

Related to the flash flood exposition in the Magisterial, specialized informant, the community president, recognizes that the suburb can be divided in three main flash-flood exposition zones where samples are located (Image 14).

[30] This principle says that during the recompilation and interpretation of the data, research reach certain point where any new data can appear, anything else can be known about a category, due to the saturation of the source (Monje, 2011)

[31] As stated in methods chapter, the qualitative sampling is not probabilistic but purposive and theoretical. This means that it does not look for statistical representativeness of the population, but cultural representativeness in order to have a reconstruction of the experiences and related senses associated to communities. It seeks to gather all posible subjective perspectives of members towards a subject. And the size of the sampling is not fixed, but depends on the needs of information and data saturation. (Monje, 2011)

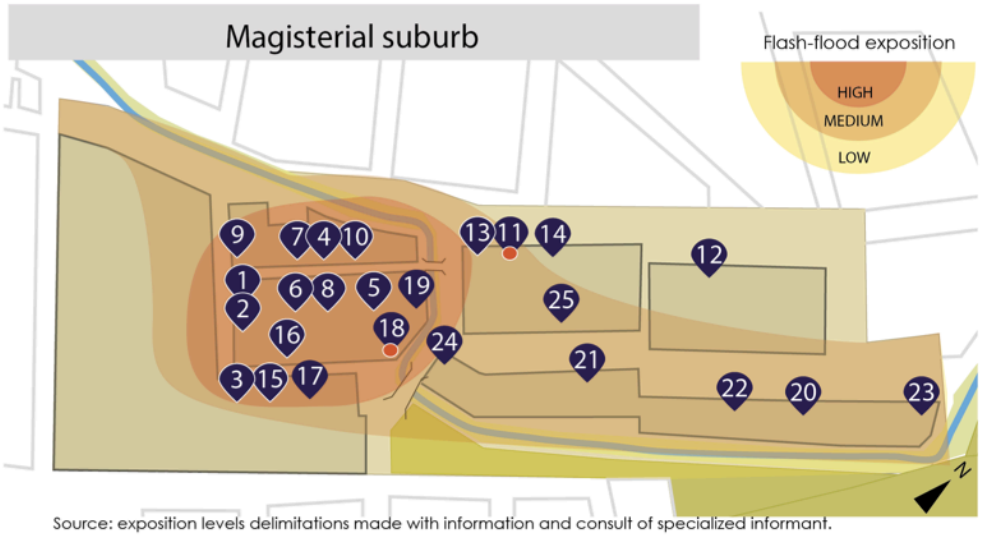


Image 14 Flash-flood exposition zones recognized by the specialized informant, and location of household of respondents (25) and informants –in red dots- (2). Source: own

The community scheme of flood exposed areas was produced in more less a participative way. The first draft of the flood-exposition scheme was build based on information provided by the specialized informant and the scheme of the suburb streets (Image 1. from Annex Documents provided by Specialized informant). This draft was reviewed and perfected by him also. The final version gathers his perspective about critical flash flood areas inside the suburb.

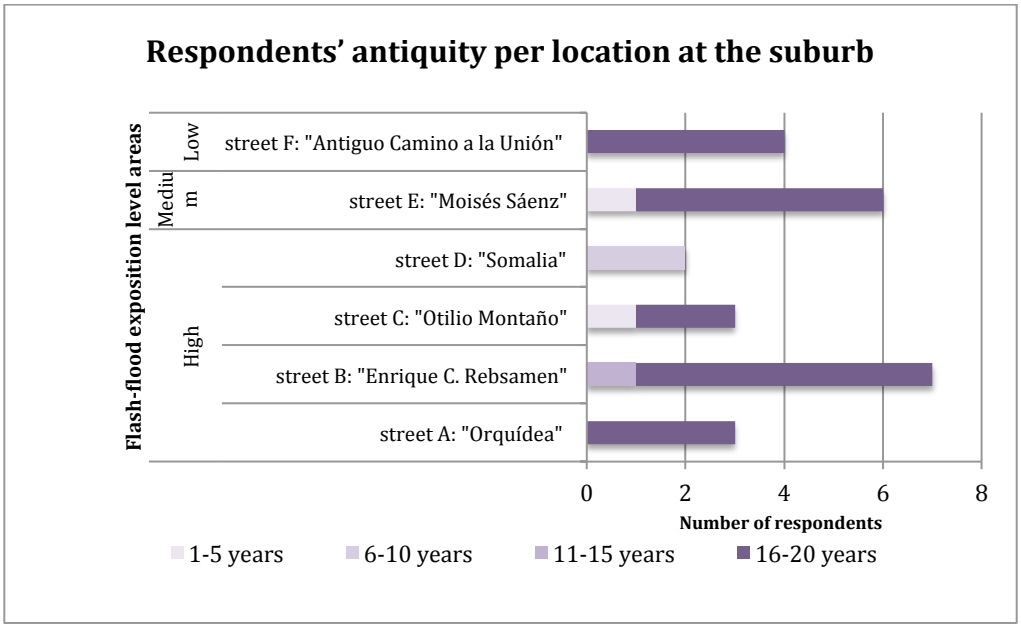
Informants' main characteristics

Specialized informant is a 48 years-old man that owns and inhabits a house at the suburb for over 20 years (pioneer neighbor) together with his family. He has the professional degree of professor and is an active member of the National Union of Education Workers (SNTE). His actual main occupation is English professor at secondary level, and his secondary occupation is at the community local committee under the charge of community's president of the committee (since 2013, second year of first period of the committee). He might be the most informed person about the efforts made at community level, and for that he is considered an extreme case of the community.

Key informant, Key informant, is a 51 years-old women that owns and inhabits a house at the suburb for over 17 years (pioneer neighbor) together with her family consisting on her partner (an active professor) and two grown-up children. She has the High school degree, and she is the chief accountant for the National Union of Education Workers (SNTE). Her secondary occupation is house care. She lives at the second house floor and rents to one student the lowest level. She is a pioneer neighbor that lives at the highest flood risk zone and that has experienced the two biggest flood events of the suburb; such characteristics allowed to consider her an extreme case. Her case is worth to analyze under the supposition that she would be among the most involved members of the community in flood-relates issues.

Respondents' main characteristics

25 neighbors conform the respondents group for this research. The average of the community sample antiquity in the suburb was 16 years, 21 respondents (of 25) have lived at the suburb for at least 16 years, and 13 of them are pioneer neighbors whom have resided since the beginning of the suburb (Graph 1).



Graph 1 Magisterial suburb community sample: respondents' antiquity per location at the suburb. Street locations are shown in Image 15. Source: own

Related to their personal and family general information:

- The respondents are adults from both genders. Consisted on 11 men and 14 women of an average age of 49 years.
- Most of them are owners of their residence. 80% (20) of them are owners of their household, and 16% (4) are renting the houses, and one is living at his parents' house (not by inheritance).
- Most reside with their nuclear family, which is often small in numbers. Most of them (80%) are family head of an average family size of 1 partner of 51 years of age-average, and 2 children of age-average of 23 years[32].
- It is a group with high level of studies. 76% (19) reached University level of studies, and 12% (3) have High school degree[33].
- Almost share a common organization group. Almost half of them (56% - 14 respondents) belong to the National Union of Education Workers (SNTE) under the "normal teacher-member" and "retired-teacher member" modalities.
- Most of them are teachers, with apparently secondary occupations without revenue. More than half (15 respondents) are teachers, whether retired (24%) of active teachers (36%), and 12% (3) are current employees from different enterprises[34]. Regarding their secondary occupation, only 9 respondents (36%) provide information, where housewife was the most common occupation (4 women), but 2 respondents stated to belong to the community committee as the secretary and the head of surveillance subcommittee[35].
- Even though they reside in different exposition areas apparently, all of them have stated experienced a flood event at the suburb. And 70% (18) identify that floods does not happen every year, but floods do happen only during rain season (84%).

[32] The family profile of the respondents does not have additional members such as grandparents or other kind of family members, they consists on nuclear families.

[33] Only one person indicated to have Elementary school level and the rest 2 people did not answer.

[34] Regarding the principal occupation of the rest of the people, only two (8%) are university students, the rest of them are retired employee (1), housewife (1) and independent lawyer (1).

[35] One people stated to have a farm and another to exercise as sales agent.

Based on the previous information, the general profile of the community sample can be described as follows: Adults of both genders living in own houses together with their small families of adult members, for a period of time of 16 years approximately; that have achieved an university degree and that are teachers (active or retired) and belonged to the national union of teachers (SNTE); that have experienced a flood event in the suburb (always during rain season); and that also identified affectation to out and indoors items, as well as health problems and partial interruption of daily activities caused by floods' impacts.

Magisterial suburb's main physical characteristics

Finally, the physical environment of the suburb presents the following main characteristics (image 15). Streets can be described as partially or deficiently paved, two streets are only for walkers (streets B and C) and the rest have an average width of 7 meters, not all streets have sidewalks, but in general sidewalks are narrow (1.5 meters approx.). Each property is conformed by a terrain of dimensions around 16x8 meters (image. 2 from Annex Documents provided by Specialized informant). Houses are all made from cement-coated standard-bricks and present diverse designs and sizes. But most of them consist on one floor (mainly) with no garage and small gardens.

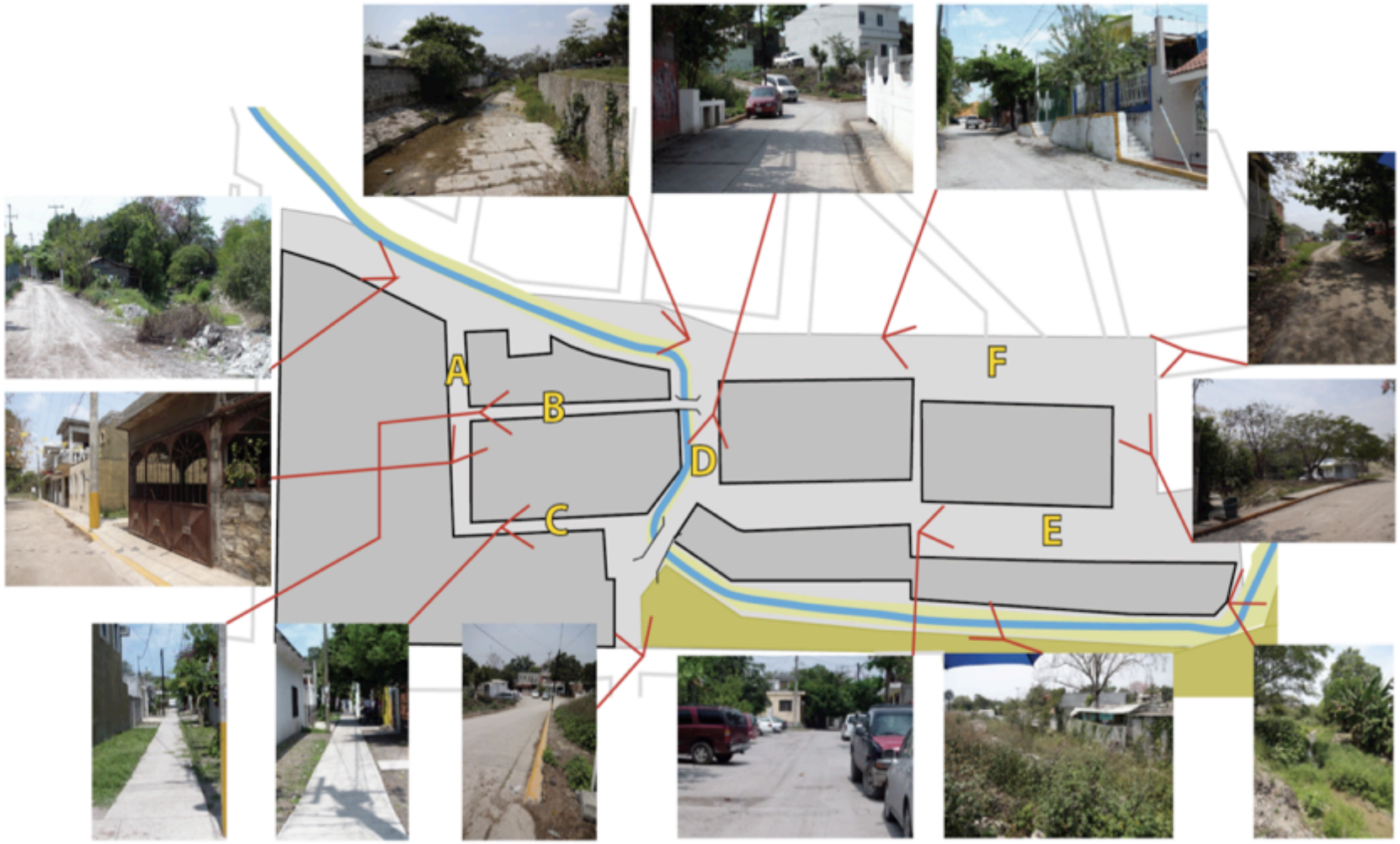


Image 15 Views from Magisterial suburb's main streets and from its limits' environment. Source: own

Instruments for data gathering

The instruments for the collection of data differed from each type of source. For the physical environment of the suburb, observation through a photographic record was made. For the community's president and the community member, data was collected from a semi-structured interview. And for the community itself, a closed-question questionnaire was elaborated and applied to the community sample of neighbors.

Observation and photographic record

The observation consisted of a survey. The 7 streets that comprise the suburb were walked by foot, and photographs were taken to register outstanding features of the infrastructure, exposition and other community behaviors related to flood coping response, such as garbage disposal. The president of the community guided the walk and indicated most of the important features.

The photographs were organized by categories and their descriptions were used as support for analysis through the whole research report.

Semi-structured interview

A semi-structured interview was selected to obtain detailed information from 2 informants related to flood coping response of community[36].

The interview format in this project consists of a 5 sheet document containing 25 main themes arranged in 7 categories: City context, Suburb context, Flood context at Magisterial suburb, Magisterial neighbors' reaction to flood-problem, Measures previous to flood, Measures during a flood, Measures after a flood. The final part of the questionnaire is for general information about the respondent, and it consists of 12 fields. The original language of the format is in Spanish, a translation to English was

[36] Semi-structured requires a general script containing several topics following a particular order; the intention is to softly guide the interview so that relevant issues for the research can be explored and talked (Monje, 2011; Russell, 2006). This type of instrument is best for situations when informants are not easy reachable or tend to use efficiently their time (Russell, 2006), which was the case for this research.

made with help of a native speaker (Annex Interview format for Magisterial Informants).

The qualitative data gathered with the interview was processed through transcriptions from each interview (Annex Transcription of first interview to Specialized informant, Annex Transcription of second interview to Specialized informant, Annex Transcription of interview to Key informant).

Closed-Question Questionnaire

A closed-question questionnaire was chosen to gather general data from the community neighbors' sample of respondents[37]. The idea was to obtain a general idea about community-neighbors' perception of community's flood coping response.

The questionnaire was elaborated following the steps established by Monje, 2011): decide to whom will be applied, consider their characteristics (type of vocabulary, days off, etc.), determine information needed, determine structure (sections, general format), design questions, proof instrument, correct instrument.

The final format consisted of three parts (Annex Questionnaire format for Magisterial Informants). First part of 8 individual questions arranged by categories: Flood impacts in Magisterial suburb (with 5 questions), Individual flood strategies at Magisterial suburb: Previous a flood (4 questions), During the flood (2 questions) and after the flood (2 questions). Questions ranged between multiple selection, fixed alternative (yes/no), classification (consecutive-related questions), and estimation-gradient questions (According to definitions of Monje, (2011)). The second part consisted of 4 matrix of questions related to Group flood strategies at Magisterial suburb (with closed check-box answers), Flood measures in Magisterial suburb (with estimation-gradient questions), Collaboration between neighbors and Civil Protection in flood-related measures (with closed check-box answers), Measures against floods (with closed check-box answers). Third part gathered general information of the respondent and it consisted of 12 fields (same as in interview script).

[37] This instrument was chosen because it makes easier the analysis of data and reduces the costs of application in terms of money and time (Monje, 2011).

The questionnaire was distributed to 26 members of the Magisterial suburb community living at 6 different streets; where 25 of then turned out fully answered. The questionnaire was individually filled to avoid the influence of an interviewer. The data collected by the questionnaire follows a quantitative nature and was processed through a capture of answers on a matrix of frequencies at Excel program.

Interview script and questionnaire format where assessed by a scientific researcher of Anthropology science adscript to Autonomous University of San Luis Potosí. Format and questions were discussed and improved during a session.

Step 2: Analyzing information from field

The photographic record was analyzed through a simple description of what was captured by the image, and often to serve as proof of past experiences that were documented by the informants.

The interviews' transcriptions were analyzed method for analysis of content consisting of conceptual-based reduction[38]. First a categorization was made, where extracts of interviews' transcriptions were fitted into conceptual categories (defined previously to fieldwork). Later, a matrix of synthesis was made in order to compare and synthetize information from both interviews (Annex Matrix of synthesis of interviews' data).

Additional audio-interview information consisted of several documents provided by the specialized informant. Documents were enlisted by date and a short description of each one was added (Annex. Documents provided by Specialized informant).

[38] This method consists of reducing the data in a conceptual, numerical or graphic way; for qualitative research the reduction of data is made through a conceptual way based on categorization of data (Monje, 2011).

The data from the questionnaire was analyzed through codification and descriptive statistic. Codification is like categorization but for quantitative data, and it consists of assign numbering units to collected data (Monje, 2011) to obtain frequency values per category. Descriptive statistic was used to obtain position statistics such as mode and mean to better conclude the knowledge from the sample. The frequencies were presented as graphic when indicating coping measures, as text (percentages or phrases) in order to support or contrast informants' information.

Expected products of Community Flood Resilience Assessment

For each phase a general product is obtained:

- Phase A makes a description of the flood impacts record based on a chart for general profile of the impacts caused by floods.
- Phase B presents a general description of community measures within the Flood Disaster Risk Management cycle (FDRM cycle) also on a concentration chart.
- Phase C presents a concentration chart and makes a description of community's resilience development process through time, based on the application of the conceptual model of flood-resilience process.
- Phase D makes a general description of strengths and weaknesses of community's performance related to urban flood resilience key properties of Liao (2012) [39], based on a concentration chart.

[39] Despite some conceptual differences between this research, Liao's (2012) approach is pertinent because it is focused on urban flood resilience at small scale. Some differences are that Liao (2012) sees resilience as a capacity that prevents disaster, and this research considers resilience as that but also as the capacity to recover and overcome from disaster. Liao also states that adaptive capacity increase resilience through time; this research follows the idea that resilience capacity acts in short term to provide adaptive capacity in long term.

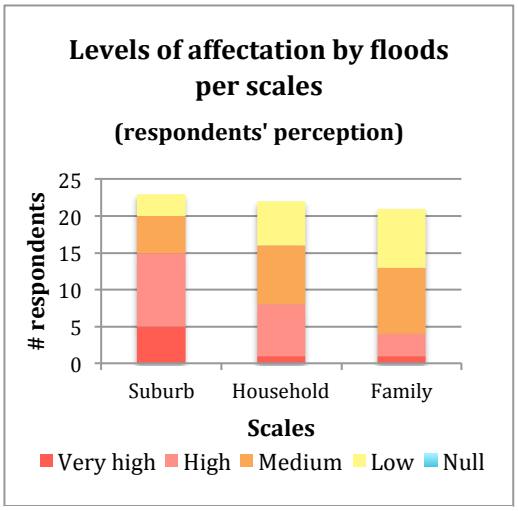
RESULTS

1. Assessment of community flood resilience responses

Phase A: Identification of Impact Response

All respondents and informants recognized that floods have somehow affected the suburb, households and families.

The level of affectation due to floods that the respondents perceived is more like in a gradient. Respondents tended to perceive a higher affectation at suburb scale than at family or household scale. Affectation at suburb's level is considered to present more high to very high level (40%, 20% respectively), household affectation level is more fairly perceived among high-medium to low levels (28%, 32%, 24% respectively), and family affectation level is more perceived between medium and low levels (36% and 32% respectively) (Graph 2).



Graph 2 Community sample perception of levels of affectation by floods at their suburb, household (infrastructure) and family (persons) levels. Source: Own

The respondents' perception of affectation by floods was described in terms of partial, total or nonspecific level of damage for out and indoor belongings, human health and interruption of daily activities (Chart 1). Partial damages' perception was higher than total, but unspecified damage was more often perceived at all previous categories. More specific levels of damage was perceived among indoor items, health and daily activities than for outdoor items. Moreover, total damage was more perceived for indoor items.

The informants and almost half of the respondents perceive that daily activities were interrupted because of flood events. Any total loss of health (assuming death)

was perceived but partial damage was mention as gastrointestinal affection and dengue, and nervous breakdown.

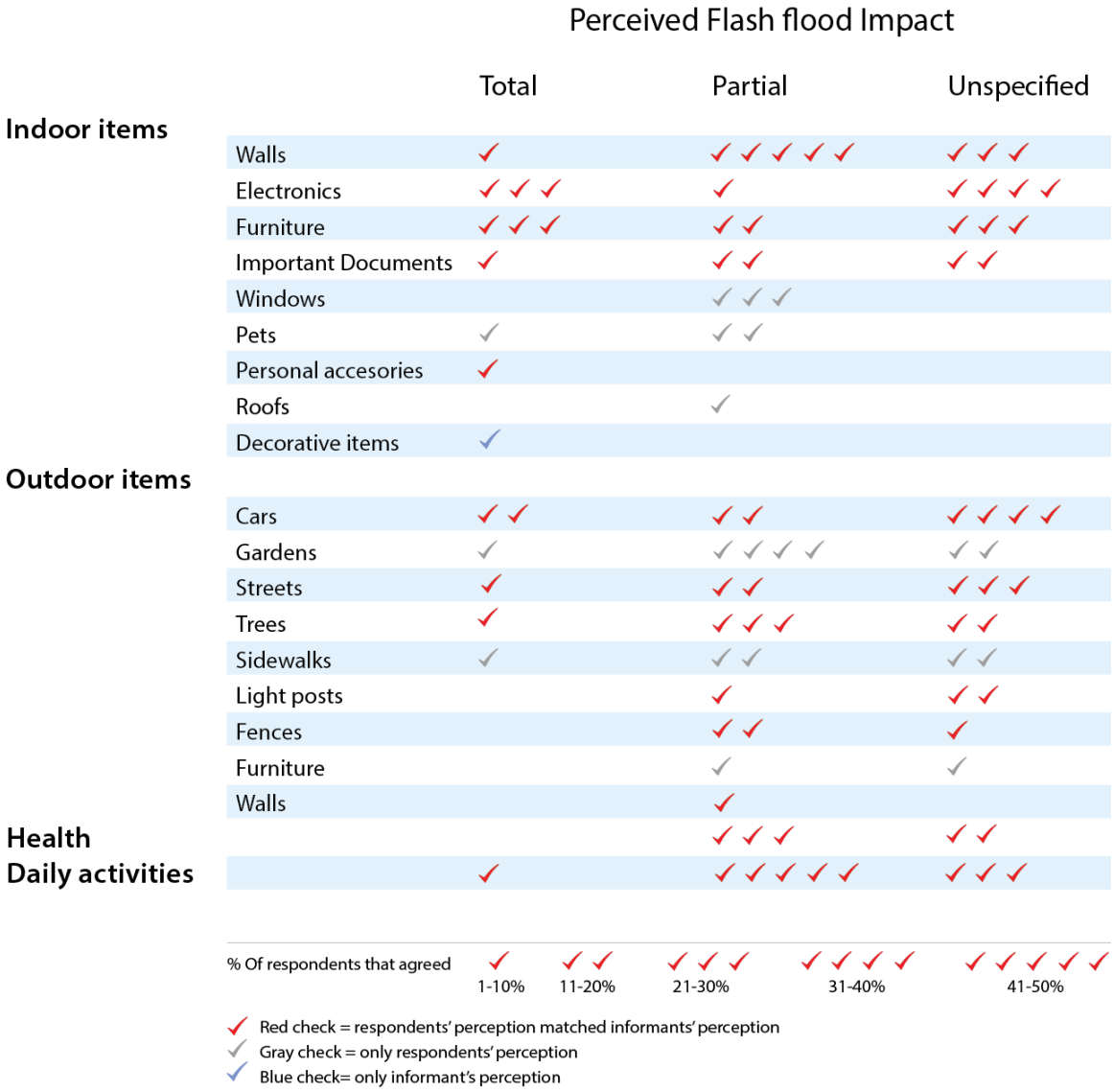
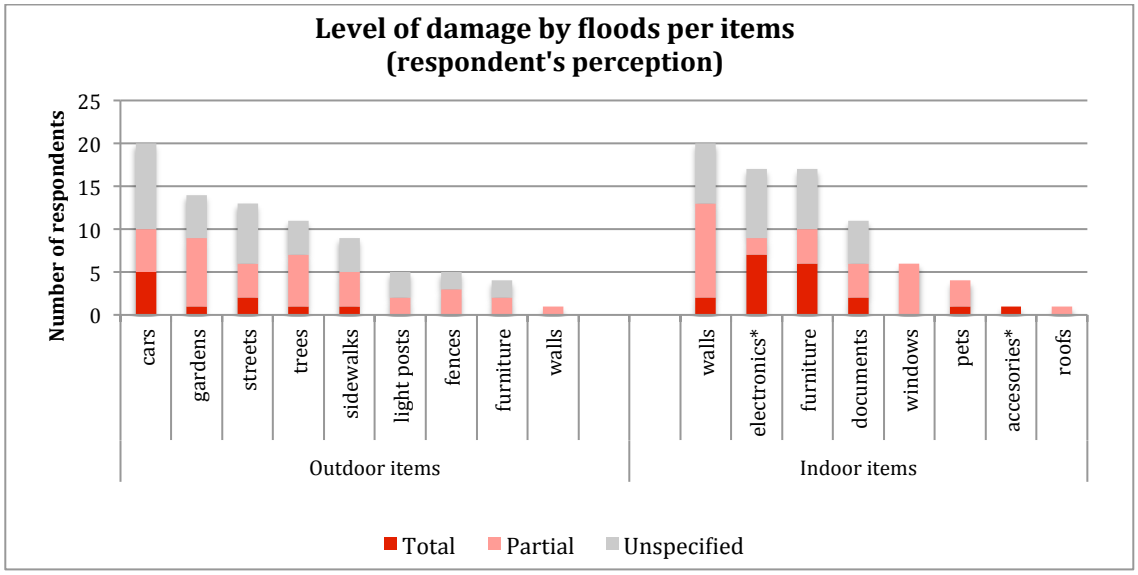


Chart 1 Concentration chart of perceived flash flood impact per material items (as physical damage), health (as diseases or other health problem) and daily activity (as interruption of activities).

Related to outdoors items, cars were the most reported item (by 80% respondents) that have suffered any level of damage by floods (Graph 3). Cars also are seen as the item that has suffered most of total damage (20% of the respondents), and streets item follows (8%). Gardens, trees and cars are considered items that have suffered most partial damage during a flood (32%, 24% and 20% respectively). And

fences and light posts are considered to have not suffered from any total damage, and low degree of partial damage during a flood (12% and 8% respectively) (Graph 3)(for photographs of impacts go to Annex Photographic register of extreme flood event in 2008 at Magisterial and Ciudad Valles city).

Related to indoor items, walls were the most reported item (by 80% respondents) that have suffered any level of damage by floods. Electronics and furniture are seen as the items that have suffered most of total damage (28%, 24% respectively). Walls, windows, important documents and furniture are considered items that have suffered most partial damage (44%, 24%, 16% and 16% respectively). Even pets were reported to have suffered damage. (Graph 3).



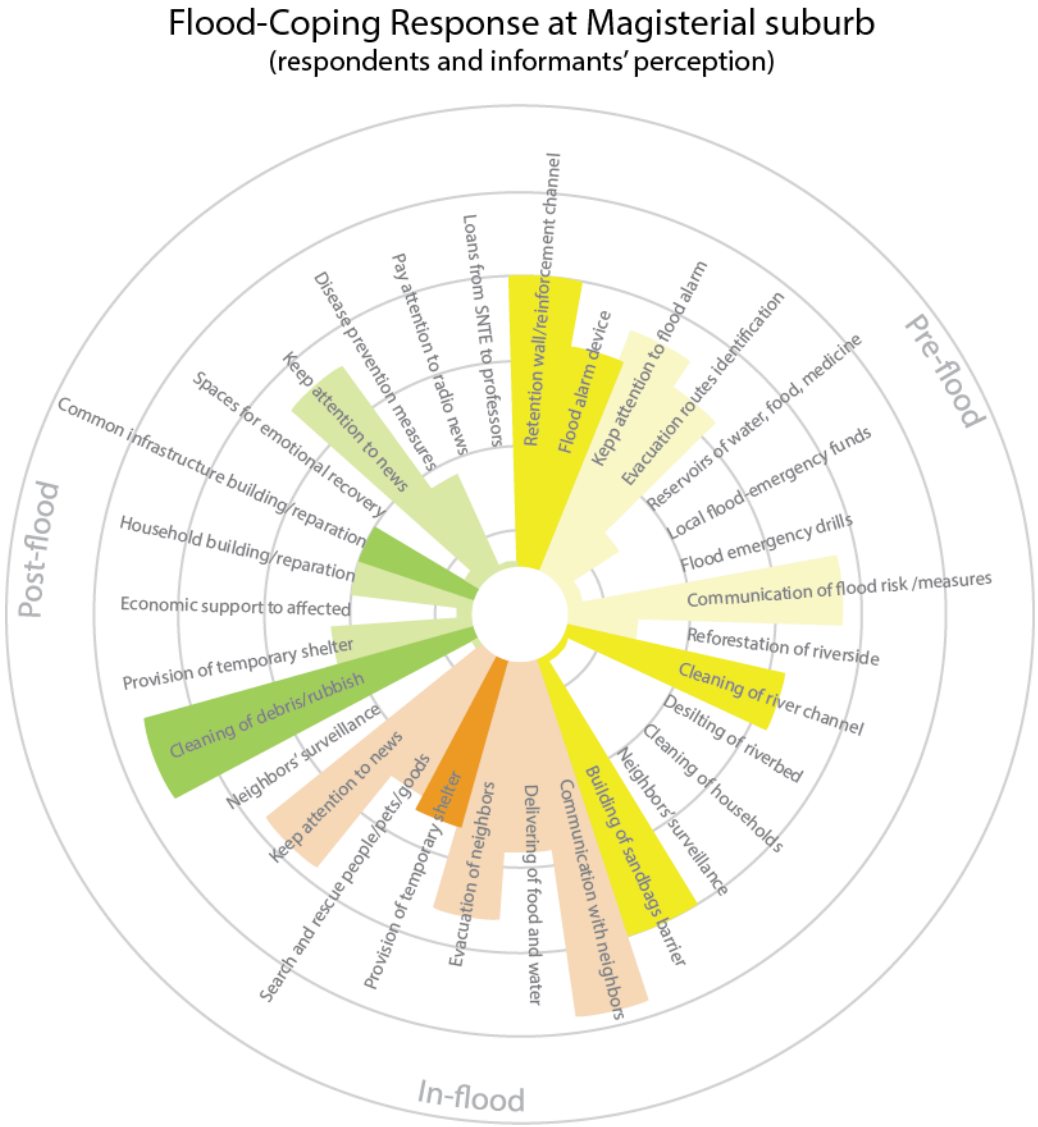
Graph 3 Total, partial or unspecified damage made to outdoor and indoor belongings by floods, according to respondents' perception. Accessories: clothes, school materials, personal items. Electronics: refrigerator, stoves, etc. Source: Own

"horrible! We lost everything! <during 2004 flood> mattresses, beds, refrigerators, dining rooms all we had! …we had a car…the water entered in it…we sold it"
[Key informant, 2014 – translation]

Perceptions of level of damage may be partly influenced by level of belonging respondents have over the items, for example: own belongings (like cars and gardens) may got higher level of damage due to this, but not so furniture and walls.

Phase B: Identification of Coping Response

The Magisterial has conducted community flood coping measures. Community measures identified by both, informants and respondents, are shown in next graph under brighter colors under the frame of pre-, -in and -post phases of disaster cycle (Graph 4).



Graph 4 Actual Flood-Coping Response of Magisterial suburb based on respondents and informants' perception. Each circumference indicates the number of respondents who identified the measure (5, 10, 15, 20, 25 and 30 people); each bar represent a measure and its height indicates the number of respondents that recognize the existence of the measure at the suburb. Only brighter colored bars represent community measures that have been corroborated also by informants. The bars' color represents the flood stage. Source: own.

A description of each measure is provided in short, and extra details regarding the actors that implement each measure is also provided at extra charts from Annex Details of performance of Coping-Response at Magisterial suburb.

Pre-flood measures

Pre-flood phase, according to Djalante *et al.*'s Disaster Risk Reduction stages (2013), consists of stages of communication of risk knowledge, mitigation and preparedness. In Magisterial suburb, pre-flood measures have not been formally arranged under a disaster risk reduction plan.

Communication of risk measures

Any community measure related to communication of risk knowledge was identified at the suburb; instead there is informal communication among neighbors. According to informants, neighbors talk to each other about flood risk and share advises based on their own previous experiences[40]. An example can be seen at the entrance design of the houses, most of them share a common feature: concrete fences, as a barrier (image 16). Another example was that some houses started to build a second floor so they could have a shelter[41]. But these measures are not considered community measures.

Image 16 Shared design on houses' entrance with a stone fences to protect house from flood impact. Source: own

[40] It seems that any scientific information related to risk research on the area has not been communicated to the whole suburb's community, but only to its authorities. The specialized informant (community committee president) talked about a risk research at city level that apparently was communicated to the committee, in which Magisterial suburb was identified among the 5 places under higher flood-risk at the city.

[41] Even though these measures may not necessarily implicate a previous risk communication with neighbors.

Mitigation measures

Mitigation measures at community level were identified among others; all consisted of infrastructural measures, cleaning and desilting efforts to maintain the volume capacity of the river's channel.

Image 17 Reinforcement of the channel, made by neighbors with help of City Hall. Source: own

Only one infrastructural measure was identified by respondents and informants and consisted of the reinforcement of the river channel. It consists of a pavement channel that also broadens the riverbed right where it crosses the suburb; the channel has high walls among each side that protect from flood when river level rises (Image 17). Neighbors built it by their own means since there was no support from the authorities. It has provided the population with more time to react when a flood is coming.

A community infrastructural measure that was identified only by informants was the backwater. It consists of a broaden on the river channel right where it changes its direction; its objective is to generate sort of a retention area in order to reduce the speed of the water flow (image 18). This project was planned with help of an engineer and implemented by the community together with unspecified external help.

Image 18 Backwater work at the river channel, the rocks barrier –behind the truck- delineates the limits of the cannel. Source: own

Nonstructural measures at community level regarding cleaning and desilting efforts were also found. The neighbors clean the river from objects that could block the water

flow, such as tires or trash (according to informants and one respondent). Also, since 2011 the community asks twice a year authorities for desilting the riverbed through a formal petition to the City Hall (Annex Documents provided by Specialized informant).

Moreover, specialized informant and one respondent also mentioned that cleaning of households helps to reduce the amount of debris that flood-avenue can carry; debris is responsible for much of its destructive force. The community committee has locally conducted "Permanent cleaning sessions" along with the community.

Preparedness measures

Respondents and informants identified two flood-preparedness measures at community level.

A flood alarm device was installed at river channel inside the suburb's area (image 19). Civil Protection authorities installed it by petition of the neighbors, apparently after the 2008 flood. But this alarm has not been accurate; according to both informants, it sometimes goes on when river has not even rose. Due to this inefficiency, neighbors do not fully trust on it and keep constant attention to it but they also survey the river level during rainy season. No further details regarding the surveillance were given.

Image 19 Flood alert device (left) in Magisterial suburb (red) installed by Civil Protection. Flood alert speakers located at Key informant's house (right). Source: own

The sandbag barrier measure is totally based on community initiative. It has been considered as a preparedness effort once the study realize that suburb faces only flash floods, and thus sandbags are placed with anticipation when rainy season starts. The whole community performs this measure annually since the 2004 flood. According to specialized informant, the committee asks City Hall for sand and bags, and all neighbors fill and place the sandbags as a barrier (Image 20).

"…after 2004, each year…starts the rain week and we start to put sandbags and we make them…the women to fill them with shovels and the men to carry them and start to make the barrier to protect ourselves…"
[Key informant, 2014 - translation]

Image 20 Sand deposit where sand is delivered by authorities and were sandbags are filled by all neighbors. Place is at front key informant's household.

Aside these measures, some respondents identified efforts like reforestation of the riverside, local emergency funds, emergency drills, reservoirs of food and water and evacuation routes identification. Contradiction was found between sources at least for evacuation routes identification. Specialized informant identified a community measure consisting of creation of parking lot for flood emergencies. Each sector has the duty to search for a safe place where they can park their cars before a flood event.

In-flood measures

Emergency measures

In-flood phase of DRMcycle consists of the emergency management stage, which means relief and support measures during or right after a flood event (Queensland Government, 2011). In the Magisterial there have been relief and support measures, but all of them seem to respond to instinctive individual actions of neighbors, and not to planned strategies or protocols the community develops and implements.

Regarding the implementation, informants and most of the respondents identify that only neighbors are implementing them, but some respondents have also identified external participation from Civil Protection; this aspect could not be verified due to the lack of official reports an specific site-news.

Provision of temporal shelter might be the closest community flood-emergency measure that has been identified by respondents and informants. People climb to the roof of their houses or other neighbors' houses, to stay safe from the flood. Most of the time it is a household-measure but it sometimes involves more neighbors; houses with two levels tend to serve as shelter for several neighbors when higher floods come.

"…all hopped up, every neighbor was up<at the roof>, all of them! and it was a shouting scene, it was horrible!"
[Key informant, 2014 – key informant - translation]

Among the household emergency measures provided by informants, some of them are outstanding. There has been an informal neighbor-alarm during the first moments of the flood (first 10 minutes, approximately) that consists on door knocking and yelling plus providing help for evacuation.

"…and once he <her husband> sees that the stream is rising and starts to run to knock on doors…house by house"
[Key informant, 2014 - translation]

Neighbors have also saved other neighbors that were being pulled away by the water flow.

"…Mrs. Gloria would have died if I don't grab her!"
[Friend of specialized informant, 2014 - translation]

Post-flood measures

Recovery and reconstruction measures

Post-flood phase comprises of recovery and reconstruction stages where basic functions of social and physical elements of a suburb are restored (Queensland Government, 2011). In Magisterial suburb main recovery efforts are related to

cleaning and restoration of infrastructure.

Image 21 Cleaning rubbish joined efforts between neighbors and authorities (man with yellow pants). Source: Professor Carvajal and Professor Garay personal archive

Respondents and informants identified a community recovery effort consisting on cleaning of debris. It is a measure that all neighbors instinctively started to do after the 2004 flood, and continued at the 2008 flood. The measure does not seem to follow a formal protocol; it is only based on neighbors' solidarity and disposition. External help comes from authorities by sending help for cleaning debris (image 21), or by providing machinery. For example, after the 2008 flood the municipal Direction of Potable Water and Sewerage provided a machine to pull out the jammed cars at the river channel. Authority has also sent trucks to pick up the rubbish.

"…what we do is that we put ourselves to clean…"
[Friend of specialized informant, 2014 - translation]

Regarding to reconstruction measures, both sources identified that building and reparation of common infrastructure has been implemented at the suburb. According to informants, mainly streets' holes have been repaired and a part of the wall of the reinforced channel was rebuilt. The community itself through donatives has made both efforts.

"…to repair…lets all put money to it…< referring to the wall reparation that a cow broke during the 2008 flood>"
[Specialized informant, 2014 - translation]

Measures post-flood that where identified by respondents but not by informants were: provide temporal shelter, deliver economic support to affected, spaces for emotional recovery, build and repair houses, keep attention to news and radio-news, and loans from SNTE to professors. Emotional recovery and economic support are community measures that were reported missing by informants.

Phase C: Identification of Adjustment and Adaptation Response

The assessment of the adjustment and adaptation response of Magisterial community of neighbors is based on the conceptual model proposal provided in Conceptual Framework Chapter and consists of a revision of indirect indicators of resilience development process, which are emergence and development of flood-coping responses at pre, in and post-flood stages of DRR management cycle. Due to the detail needed, this assessment was fully based on informants' provided information.

First round of big-disaster risk reduction management cycle

In-flood stage

Within 10 years of living without extreme flooding, the 2004 flash-flood event caught Magisterial neighbors unaware and without any flood-related measure, thus damages were considerable. Prior to this event, the retention wall structure was the only flood-related measure, but it has not been made by the community but by the builders of the suburb. It was built in order to deviate the river channel (Image 22). Alarm and evacuation of neighbors and temporal shelter were emergency measures that few neighbors instinctively applied during the 2004 emergency, and by that, those measures are not considered as part of the Community Coping Response stock.

Image 22 Retention wall at upper part of Magisterial suburb. Source: own

Post-flood stage

Community Flood Coping Response was likely to have started during Post-flood phase of 2004. After the flood, the neighbors organized for the first time to attend basic recovery needs. They joined together to help cleaning the streets from fallen trees and for

cleaning out the mud from households. It took them around 1 month for recovery normal activities. This cleaning measure apparently involved the participation of authorities that provided trucks for taking out the debris and mud. There were other emergent measures that involved the participation of external people (friends from work and religious group) and consisted of providing food, blankets and clothes to affected people.

"Coworkers gave us blankets for the kids, clothes, because we ran out of clothes..."
[Key informant, 2014 – translation]

They were some measures that were created right after this flood. Sandbags barrier measure was conducted for the next rainy season. It has become an every year activity where all neighbors participate.

"…after 2004, each year…starts the rain week and we start to put sandbags…"
[Key informant, 2014 – translation]

Another measure was the building of the reinforcement of the river channel, which also incorporated a protection wall measure for protecting from river-level risings.

"We did the walls…the wall at the stream"
[Specialized informant, 2014 – translation]

Second big disaster risk reduction management cycle

In-flood stage

It seems that the emerged Coping Response from previous cycle (which was totally focused on Pre-flood phase) was not able to reduce the disaster risk. The 2008 flood at the suburb could not get avoided or diminished by the preventive measures of sandbags barrier and the protection wall around the river channel; the massive amount of water that came downstream overwhelmed these barriers.

Flash-flood event again surprised the neighbors because it was more intense than the 2004 flood. Impact Response was even stronger, the water ran faster with such strength that the avenue could lift heavier things like cars and even farm animals; it also broke entire walls (image 23).

Image 23 2008 flash flood torrent was able to destroy a wall from a Magisterial suburb property (according to specialized informant) located between the two walkways from the suburb. Source: own

In-flood phase measures started again as improvised individual actions, like alerting and evacuation of the neighbors. But there was also improvised provision of temporal shelter. The 2004 flood reached the 1.20 meters approximately and people found shelter at the roof of their one-floor household; but because the 2008 flood reached the 1.80 meters approximately, people had to find shelter at the highest households of the suburb, this need caused an improvised joined-effort among neighbors. Adjustment and Adaptation Response was made to convert an individual measure into a more group-coordinated measure, but still instinctive. Community Coping Response for emergency stage was still not organized.

Post-flood stage

During Post-flood stage, the Coping Response seemed to be the same. The neighbors got organized again in order to clean the facilities, and authorities helped them to dispose the debris. This time it took them around 15 days to clean streets and households, apparently they did it faster this time, even though the work seemed to be more exhausting.

2008 flash-flood event caused formal community organization from the first time. The Impact Response in terms of damage was such that Magisterial residents of around 200 households jointly demanded the authorities for their relocation (Martínez-Castro,

2008)[42]. But instead of that, *Civil Protection* (a state government institution advocated to emergency procedures) installed a flood-emergency alarm under the bridge of the stream channel (according to informants; Rodríguez-Coronado, 2011; Julio-Miranda, 2012). Parallel to this, a community committee inside the suburb was formed (for more details see Phase D chapter).

"…they did not get together to make the committee because no, there were no problems! …but the day we got flooded we saw the whole magnitude, and an emergent committee was made…"
[Specialized informant, 2014 – translation]

This committee promoted Adjustment and Adaptation Response in Pre-flood stage. Since 2011 desilting of the riverbed was periodically asked to and made by the City Hall. Cleaning of households and river channel has been done since 2012. Parallel to this, there were two adaptations to infrastructure of the river channel. A backwater on the river channel was made in order to lessen the force of the stream. Moreover, the committee and neighbors also made reconstruction and improvement of the protection wall of the river-channel. This time the wall was extended and a segment was modified in order to discharge overflow that formed a dangerous swirl during 2008 flood (image 24). Parking lots for flood emergencies is probably the most relatively new preparedness measure and it involves community sector-coordination.

Summarized community's Adjustment and Adaptation Response record is shown at Chart 2. Based on informant's perception, it suggests that Adjustment and Adaptation Response has been performed through past Flood-DRM cycles. This has lead to an increase on the pre-flood measures' stock of Actual Coping Response at 3rd cycle, but also

Image 24 Adjustment of protection wall in order to discharge overflow from streets back to the river channel. Source: own

[42] Unfortunately there is no available register of any relocation carried out by the government.

provide potential implementation or even improvement of past in-flood and post-flood measures.

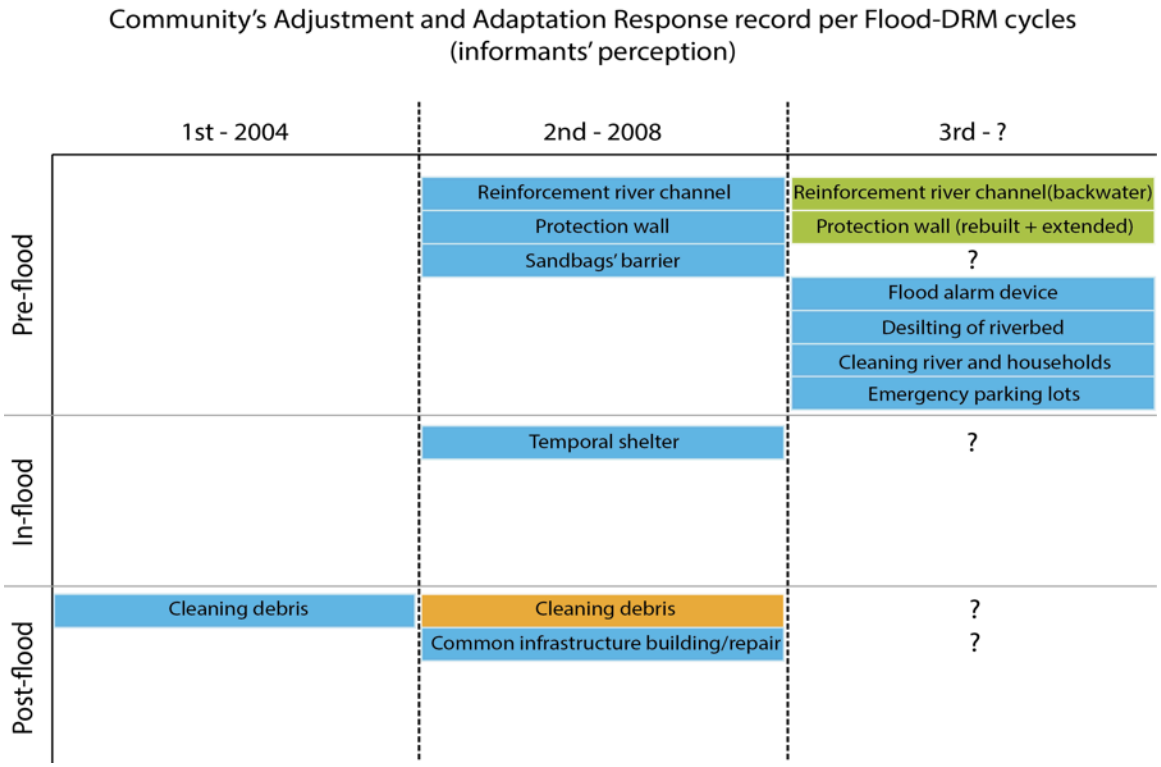


Chart 2 Community's Adjustment and Adaptation record in terms of new (blue), repeated (orange) and improved (green) flood-related measures. Record is presented per rounds of DRRM cycle at Magisterial suburb (each round is triggered by a massive flash-flood event) each with pre-, in- and post-flood stages. Question marks indicate uncertainty regarding the future implementation of past measures. Based on informants' perception. Source: own

2. Assessment of community flood resilience potential

Phase D: Strengths and weaknesses at key properties of resilience

To know details about availability or lack of community resources can set an idea about the potential for community resilience capacity (Rademacher, 2013). This chapter analyzes what community measures have meant in terms of key properties of urban flood resilience according to Liao (2012): (1) localized-flood response in terms

of having decentralized measures, (2) timely adjustments at physical, behavior and institutional aspects and (3) redundancy at different capacity scales. The assessment is based on informants and respondents' information.

Localized flood-response capacity

Localized flood-response capacity has to do the ability to self-organize for creating decentralized coping measures (Liao, 2012). Even though Liao's (2012) work focuses at urban resilience to floods at city level, and refers to decentralized[43] measures and not depending on national level, localized flood-response can be also be applicable to lower scales. At suburb-community level, localized flood-response can be expressing the local community measures performed without dependency of the local authorities and other external organizations.

According to informants, the Flood Coping-Response of community from Magisterial suburb has centralized community measures (table 1). These measures strongly rely on authorities' performance and seem to have more organized implementation than decentralized measures. Pre-flood centralized community measures are done under neighbors' formal request, while post-flood measures seem to follow independent recovery-protocols of municipal authority.

Decentralized measures at the Magisterial seem to have developed mostly in terms of structural measures[44] for mitigation and prevention of floods, and basic recovery measures. Non-structural decentralized community measures are only in terms of cleaning efforts.

[43] Decentralized measures developed within the local governments frame of authority (Oxford Dictionaries, 2014).

[44] Structural measures are defined as "Any physical construction to reduce or avoid posible impacts of hazards, or application of engineering techniques to achieve hazard-resistance and resilience in structures or systems" (UNISDR, 2009 p. 28). While Non-structural measures are "Any measure not involving physical construction that uses knowledge, practice or agreement to reduce risks and impacts, in particular through policies and laws, publica awareness raising, training and education (UNISDR, 2009 p. 28).

Flood phase	Decentralized community measures	Centralized community measures
Pre-flood	***Cleaning of river***	***Flood alarm device***
	Cleaning of households	***Desilting of riverbed***
	Emergency parking lots	***Sandbags' barrier***
	***Reinforcement of channel**, bridges and protection wall*	
	Backwater	
In-flood	**Provide temporal shelter**	
Post-flood	**Common infrastructure building/reparation**	
	Cleaning debris from streets and households	***Cleaning streets and disposing debris****

Chart 3 Decentralized vs Centralized measures implemented inside Magisterial suburb. Measures marked with an asterisk are done without neighbors' previous petition to authorities, are not community measures. Table shows in bold, measures that could be equally identified by respondents and informants, and measures identified only among informants are not in bold. Measures written in italics seem to have organized implementation (according to informants). (For details of each measure see Phase B chapter). Source: own

Timely adjustments after every flood

Liao (2012) states that this key property of resilience has to do with the ability to learn from each flood and adjust in terms of behavior, physical or institutional aspects. Information provided by informants allows tracing adjustments since 2004 flash flood event in urban infrastructure, local organization and even among neighbors' behavior.

Behavioral adjustments

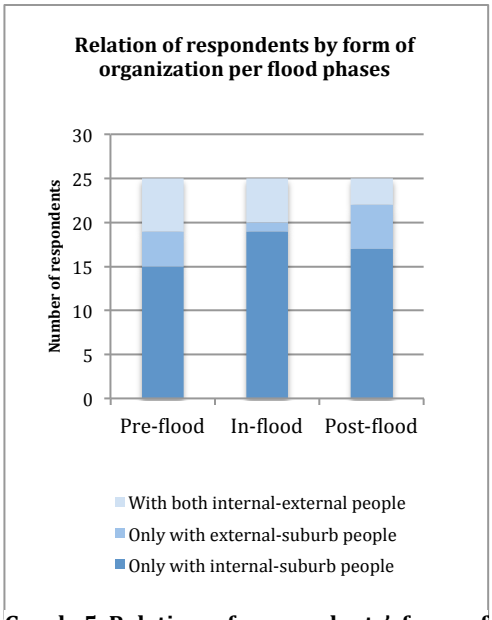
Behavioral adjustments have been towards a positive and a negative performance. Since flood events of 2004 and 2008, neighbors seemed to become more solidary; at least 92% of the respondents assured that flood events have made neighbors become more solidary between them and internal cooperation among them is strong (Graph 5).

"…here the solidarity of neighbors is enough…the company, the support…"
[Key informant, 2014 – translation]

More than 50% of the respondents stated to join only with people that belong to the suburb at pre-, in- and post-flood phases (60%, 76% y 68% respectively) (Graph 5). Respondents also considered neighbors to be participating on pre-, in- and post-flood measures, with a medium-to-high level of effort on their performance. Most respondents also stated that the neighbors and whole community were responsible for most part of the Magisterial success on flood-coping performance (Annex Details of

performance of Coping-Response at Magisterial suburb provide graphs that show higher frequencies for categories related to Magisterial neighbors' performance in flood-response measures).

People have apparently become more experienced with flash floods and more solidary. The increasing of flash flood-related knowledge is perceived at diverse adjustments at household and suburb infrastructure. Informants could identify main characteristics of past flash flood events such as temporality, duration, intensity, magnitude and even possible causes related to urbanization and land erosion.



Graph 5 Relation of respondents' form of organize before, during and after flood events.

But also some people seemed to have developed negative response during emergencies. Even though only one respondent highlighted to have experienced nervous breakdown during floods, both informants recognized that people get really stressed or even paralyzed, and this may lead to inefficient response during a flood.

"…there was people that stood paralyzed <during 2008 flood>…we have to pull them up <to the higher part of certain households> like bags because…they couldn't do it"
[Specialized informant, 2004 – translation]

Another negative behavior towards community resilience is the temporal and even permanent move out from the suburb. Even though only 3 respondents stated to move temporarily during rainy seasons, informants could also agree that people has left the suburb after the 2008 flood (image 25).

"…and many families have gone from here…there was a time when it looked like a cemetery…" [Friend of specialized informant, 2014 – translation]

Image 25 Two behaviors of neighbors at Magisterial suburb can be identified, the ones that desert and sell its property (left), and the ones that stay and adjust to the situation (right). Car has been called "Moises" by its owner (look sticker at windshield), this name makes allusion to the fact that it was one of the cars that was dragged during 2008-flood event. Moises is a religious character that while being a baby her mother put him on a basket on Nile River in order to save him from death.

Physical/infrastructural adjustments

Related to the development of a more positive behavior among some neighbors, infrastructural adjustments within Magisterial suburb facilities were also developed. According to informants, all infrastructural projects of building and adjustment have surged from neighbors' initiative (with exception of the retention wall). Among the infrastructural adjustments there is the improvement of the protection wall in order to avoid swirls at flooded streets, and the modification of the river channel in order to provide a backwater that could reduce the force of the river flow.

Moreover, at household-infrastructural level, independent from flood events, there have been considerable physical adjustments. All the houses that were built at the Magisterial suburb at the beginning shared the same design and size, but within time neighbors have made adjustments in order to fulfill their various needs (image 26). Some adjustments have to do with floods' previous experience; for example, most households are provided with concrete low fences and some doors even have reinforcements of metal (image 27).

"…the majority has concrete fences…preventing…following the first flood…"
[Key informant, 2014 - translation]

Another feature that seems like a tendency among the neighbors (according to informants) consists of building a second floor in order to have shelter if flash flood does not give time to get out of the house.

"…but yet people…keep on building, now upwards, they keep searching …"
[Specialized informant, 2014 - translation]

Image 26 Physical adjustments at household-level infrastructure at Magisterial suburb. Top left photo shows original design of households (according to specialized informant), top right photo contruction of second floor of house. Photos from the bottom example of diverse adjustments. Source: own

Institutional adjustments

The biggest institutional adjustment traced is the community committee of the suburb. As it was previously said, 2008 flash-flood event caused community organization for the first time. But it was not until 2011 (according to table in Annex Documents provided by specialized informant) that community committee was officially recognized by the City Hall administration from 2009-2012[45]. The committee is conformed by 4 directive members, 1 community president (specialized informant), 1 secretary and 3 coordinators of the 3 subcommittees. The committee comprises two scale organization hierarchies; at community level it is organized by

Image 27 Household-level infrastructure adjustment at Magisterial suburb: Metal protection for doors. Source: own

[45] At the beginning, right after 2008-flood event, it was an emergent committee not officially registered the City Hall. When City Hall administration changed (in 2009), the register requirements of size (at least 20% of suburb's population had to form part of the committee) could not be fulfilled and committee waited until next administration (2012-2015) when requirements changed and allowed smaller community committees. Community committee was then recognized with only 5 members. Even though it consisted on only 5 members, they seem to convoke the rest of the neighbors to do community work with success (according to informants).

3 community subcommittees in charge of security, religious and general-concerns respectively, and at the block level through 9 sectors (each one consisting of approximately 6 houses). These two scales allow attend from general to more particular projects with diverse orientation towards solving needs at different scales.

"…but it is not the same here that in the next sector…each millimeter there is a different interest…"
[Specialized informant –, 2014 – translation]

Several projects have been developed through the subcommittees and targeted diverse issues from organization for chapel service, hiring of night watcher and even making environmental awareness sign campaign (Image 28). Several projects have been successfully done at least since 2012 (according to specialized informant), like the "Neighbors' watching" local security project and the Permanent Cleaning Sessions (other projects are described in table of Annex Documents provided by Specialized informant).

Image 28. Example of signs made by the community committee. Left- environmental campaign, right- Traffic signs to avoid accidents. Source: own

Redundancy in subsystems

This property relates to flood-response diversity of alternatives across capacity's scales (Liao, 2012) of the community. Community's resilience level is influenced mainly from internal capacities, but also external capacities (Twigg, 2007); thus subsystems regarding resilience capacity, are both internal and external. The

Magisterial can be understood as an open community-system comprising essential internal and external components across household, suburb's community and municipality capacity scales. Inside each level of capacity, flood-response measures are being implemented at their respective spatial scale by household-members, joined suburb's neighbors (often with external aid) and municipal authorities respectively. It is worth notice that national capacity scale was not considered because municipal authorities represent it; national capacity determines the amount of human and financial resources that will be supporting state and municipal authorities at a time of crisis (Edwards, 2009).

According to information gathered in Chart 5, there is functional diversity of flood-response measures at the Magisterial system. Per capacity scale, community-scale diversity of measures seems to be less (11 measures) compared to household (22) and municipal (18) organizational scales. Per flood stage, diversity seems to be higher at pre-flood measures, within 19 different measures identified, versus 6 measures for in-flood and 9 measures for post-flood stage. Combining capacity scale with flood stage, main diverse actions are being taken at pre-flood and in-flood stage at household level (mostly by preparedness and rescue and shelter provision, respectively) and at post-flood stage at municipality level (by more diverse measures ranging from cleaning of debris to health recovery).

In terms of redundancy of flood response at the Magisterial system, per flood-stage redundant measures per capacity scale were identified. Pre-flood stage presents more common measures (7) among organizational scales than in-flood and post-flood stages (2 and 3 redundant measures respectively).

Redundant measures at all capacity levels were also identified; one overall redundancy was identified per each flood-phase (orange color at Chart 5), but such redundancy is not strict at least at community level. At pre-flood phase, alert of flood modalities seen to be present at three scales, even though both informants have report that community level flood alarm device often fails. At in-flood phase matched efforts at three scales are regarding the provision of shelter; but temporal shelter

	Capacity scales of Magisterial suburb system components		
	Household[46] (Household-members)	**Community**[47] (Joined suburb's neighbors) * =Suburb's neighbors with external help	**Municipal**[48] (CPA coordinating with other City Hall authorities)
Pre-flood	Reserves of water, food and medicines		Collection centers for food, blankets, etc. - DIF
	Sandbag's barrier	Sandbags' barrier *	
		Reinforcement of channel, bridges and Protective Wall	
		Backwater	
		Desilting of riverbed*	Desilting of riverbed – Public Works Agency
		Cleaning of river and households	
	Protections for windows, doors, etc.		
	Car insured		
	House insured		
	Special saving		Fund for disaster contingencies – Municipal president
	Luggage ready		
	Attention to news		
	Communicate risk to neighbors		Foster risk prevention workshops - CPA
	Neighbors surveillance		Monitoring of river rises and rain-forecasting –DAPA
			Emergency drills (schools, buildings) - CPA
	Protect furniture/documents		
	Move cars to a safer place	Emergency parking lots	
	Alert by door knocking-yelling	Flood alert device*	Send alert – DAPA through CPA
	Temporal relocation		Preventive evacuations from critical zones- CPA, Bombers, Mexican Army, State and municipal public security,
			Enable shelters –DIF
In-flood	Protect furniture/electronics		
	Protections on entrances/windows		
	Rescue efforts		Search and rescue efforts – Red Cross
	Attention to radio		
	Provide temporal shelter	Provide temporal shelter	Provide temporal shelters with food– DIF
			Medical service at shelters – Health Secretary
			First psychological aid – DIF
Post-flood	Clean debris	Cleaning streets and disposing debris*	Cleaning streets, households and rivers – Public Works Agency
	Repair (indoors/outdoors) items	Common infrastructure rebuilding/repair	
			Extraction of residuary flood-water - Bombers
			Restricts entrance and survey flooded zones – State and municipal public security
			Provision of day-off for affected workers – City Hall
	Help others	Cleaning debris from streets and inside households	
			Provision of day-off for affected – City Hall
			Prevention of diseases (dengue)-Health Secretary
			Facilitate the reprinting of important documents - DIF

Chart 4 Flood-response measures per flood stages per capacity scales of internal and external components of Magisterial suburb system. Redundant measures are located at same row. Measures marked with an asterisk are done with help from authorities. Table visualization allows rough assessment of functional diversity and redundancy in flood-response measures per components. DAPA- Municipal Agency of Potable Water and Sewage. DIF- Integral Family Development Agency.

[46] Individual flood-response measures are fully based on informants' information enriched with respondents information, all anwsers were considered since it is household-member level.

[47] Community flood-response measures are based on respondents' information collated with informants information.

[48] Municipal flood-response measures were taken from Valadez (2011) field information from 2009 and 2010, and some supported by several sources (Valles City Hall, 2012; regionvalles.com, 2008; difvalles.com, 2014; González, 2013).

seems to switch from household to community measure depending on the actual depth the flood is gaining (if it's very deep, people seek for the highest household). And at post-flood phase, cleaning debris efforts at community scale get abilitated only when household level cleaning measure is not done, since it is based on neighbors' good will to help others. Other measure-redundancies between two scales were found. At pre-flood stage, 4 main redundancies were between household and municipal scales, and community level shares only 2 common measures with the household scale. At in-flood only one common measure was identified and has to do with rescue efforts between household and municipal level. At post-flood two redundancies were found that involved household and community scales.

Next table summarizes main aspects of Resilience potential assessment based on the three key properties of resilience capacity.

Resilience's key property	Strengths	Weakness
Localized-flood response	Centralized community-level measures have organized implementation	Centralized community-level measures are absent at flood-emergency stage
	There are more decentralized than centralized measures at all flood-stages	Decentralized measures are limited to structural measures and non-structural seems few and disorganized
Timely adjustments after every flood	Behavior adjustment: Some neighbors have became more pro-active and organize actions before floods	Behavior adjustment: some neighbors get really stressed or even paralyzed during floods, and this lead to inefficient response
	Behavior adjustment: Neighbors became more solidary between them.	Behavior adjustment: Temporal and even permanent move out of the suburb.
	Physical adjustment: All infrastructural projects of building and improvement have surged from neighbors' initiative	Physical adjustment: Infrastructural adjustments have been apparently greater at household level than at community level.
	Institutional adjustments: Flood event from 2008 has lead to the creation of the community committee	
Redundancy in subsystems	There is functional diversity and redundancy of flood-response measures at the Magisterial system	Most diversity and redundancy of measures is presented at pre-flood stage, mainly due to household and municipal scales.
	One overall redundancy was identified at each flood-phase	Community level performance is poor or not constant

Discussion of results

The assessment method allows analyzing the community flood resilience capacity through the evaluation of the flood-coping measures (understood as outcomes of resilience ability) and not by assessing the complex set of vulnerability-related enablers of resilience like most assessment proposals do (Mitchel & Harris, 2012). Also it was not found a coping capacity assessment method that could make direct relation with resilience capacity. This is why a comparison of the case study results is difficult to perform (and even improper) with other case studies that have been analyzed through different theoretical approach.

However, McAslan (2011 in Price- Robertson & Knight, 2012; McAslan, 2010) proposal of enablers of resilience presents similarities with this assessment method. He proposes that resilience enablers are physical characteristics of the community like local infrastructure and services, procedural characteristics like local plans for facing and recovering from disasters, and social characteristics like presenting community cohesion and leaderships. The proposed assessment method might be comparable only among measures that direct reflect the existence of any of these characteristics of the community. For example, local flood-control infrastructure or elevated parking lot can be considered as physical enablers of resilience, knowledge about improvised temporal sheltering among neighbors can be a procedural characteristic since it is local knowledge to face floods, and community committee organization can be representing a social characteristic of the community. Main disadvantage of considering McAslan's approach must be that it is sort of a check-list and does not take into account the dynamism implicit in resilience capacity as Alexander (2009) has identified after an extensive review of the concept.

Moreover, Longstaff *et al.* (2010) consider components related to resilience like diversity and redundancy of resources and innovative learning that are close to some aspects that the present resilience assessment method considers. Cutter *et al.* (2008) also explore indicators of resilience (like infrastructural and institutional) that present similar nature as some aspects involved in present assessment method.

Related to its application, the assessment method allows identify at case study the existence of resilience properties, which are selforganizing, learning and adapting, and having redundancy of resources (Carpenter et al. 2001, Low et al. 2003, Tompkins and Adger 2004 in Liao, 2012). The first sub-assessment provides the knowledge about the stock of flood-coping measures, its development and effectiveness in terms of damage record, and second sub-assessment of the assessment method provides a sort of "translation" of such stock of flood-coping measures into urban flood resilience key properties (taken from Liao, 2012).

The Magisterial has developed self-organization in two ways: organized and improvised. Community measures can be conducted by community committee or by joined neighbors, but all seem to be decentralized from the municipal government, so community posees localized flood response because it self-organizes its own performance to cope with floods. At suburb-level, only improvised measures are ultimate decentralized because do not depend on a central agent in order to develop like the organized measures that are fully coordinated by the community committee. Committee has organized and conducted the flood-coping measures' stock at community-level in terms of mitigation and preparedness, and spontaneous groups of neighbors have performed emergency (temporal provision of shelter) and recovery measures (cleaning of debris). It seems that this division on self-organization has favoured the strong dependency of the centralized flood-control infrastructure as pre-flood measures since there are no other alternatives of community measures for mitigation and preparedness like a decentralized early warning system[49]. A system like this may be possible to develop within the community since neighbors already perform surveys of the river and have stated that they communicate during rainy season as a preparedness measure.

[49] The early warning system is "The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropiately and in sufficient time to reduce the possibility of harm or loss." (UNISDR, 2009 p. 12)

Both ways of self-organization have been key to the manteinance of the community resilience capacity. But it seems that improvised community measures are reflecting more this dynamic resilient capacity of survival and maintenance of functionality over time under an uncertain environment. Cutter *et al.* (2008) states that when coping responses are insufficient and community capacity is overwhelmed by a hazard event, the community will improvise and if such improvisations turn out to be beneficial, those will be added to formalized institutional measures resulting on a social learning; and also states that when social learning is driven by improvisation, then both are directly having implications to the developed community resilience. Expressed in terms of adaptive capacity process, on acquisition of new or improved coping measures to the cultural repertoire (O'Brien and Holland, 1992 in Smith & Wandel, 2006), if this process is driven by improvisation, then improvisation is altering community resilience. This situation is partially identified at case study. The suburb's stock of organized pre-flood coping measures does not produce a significative reduction of extreme flash flood vulnerability condition (oblied condition to develop resilience), even more, such measures get completely overwhelmed when an extreme flash flood strikes, measures instead provide neighbors with time to develop improvised temporal sheltering efforts where instinctive communication and individual actions have been key for survival. Community recovery measure of cleaning debris has been also effective to provide the full recovery of basic functions when family measures get overwhelmed by the amount of work that cleaning debris implies. Such improvised measures have not become formal as a community planned and organized measure, despite that the neighbors know and count on them if needed. The Magisterial might strength its recent flood resilience capacity by simply acting when there is the need to overcome a change at the environment. But because of the limitations of the assessment it could not identify signs that suggest the existence of an intrinsic development of resilience like the one Edwards (2009) refers to be based on the everyday activity that "manifests itself in meetings and conversations, dialogue and training, skills and information and – when disaster occurs – action" (Edwards, 2009 p. 79).

The Magisterial has been learning from disasters and has made adjustments. The community committee itself has been the most outstanding institutional adjustment at the Magisterial, despite that any sub-committee has specialized in flood-related affairs. Neighbors that have also adjusted their behavior towards a more flood-concerned have supported the initiatives. And physical adjustments at the suburb have reconfigured the stream channel and improved the overall physical environment of the suburb.

Moreover, at the Magisterial community flood-coping measures have been disaster-driven. Liao's (2012) statement regarding the roll of disasters as development-agents of resilience capacity development inside a community is met for this case study. Neighbors got organized by the first time just after the first massive flood event, they conducted recovery measures and generated first flood-coping measures at the suburb without a formal organization. Second massive flood event caused formal organization for the first time. A community committee was created in order to demand authorities for support. Second flood served to prove initial measures, to improve some and to generate others. First adjustments to measures have just surged from previous flash flood experience. This dynamism at the measures' stock indicates an ability to learn from disturbances (adaptive capacity according to Gunderson & Holling, 2002 in Turner *et al.*, 2003); and as Turner *et al.* (2003) suggests this process can lead to adaptation in long term. This community performance in terms of flood coping response development fits to what Liao (2012) suggests that flood events are periodic and each event brings new knowledge and experience that can lead to an improvement or even creation of diverse coping strategies over time.

The community stock of flood-coping measures produced by self-organization based on learning from disasters allows partial redundancy with household (family) and municipal measures. Community measures tend to present inter-dependency mainly with household measures. For example, the measure of moving cars is initially a household measure that is now becoming a community measure; committee sectors' organization is now promoting the establishments of emergency parking lots per sector. Also provision of temporal shelter and cleaning-recovery effort is strongly

dependent from household measures. As Rademacher (2013) highlights communities made important contributions because neighbors are the first respondents that perform initial response actions like search and rescue and provision of shelter to others. Moreover, most community measures at pre- and post-flood involve local authorities measures. At pre-flood phase they help to desilt the stream channel periodically (there is a municipal campaign), allow infrastructure projects inside the suburb, provide a flood alarm device, sand and bags. During post-flood phase, authorities help by providing machinery and human resources to the cleaning efforts. Previous finding is supported by Valadez (2011) findings at Ciudad Valles, where author found that family and municipal authorities (specially CPA) are the institutions that lead the flood-coping responses at this municipality. The Magisterial flood-coping measures are not certain to never present total failure, as Liao (2012) suggests the disadvantage of not having redundancy on flood-response.

Aside from previous considerations, community from the Magisterial sets an example of what Valadez (2011) refers to in sense that all societies that are aware of its exposition to any risk, even more when a disaster has happened to them, have developed inside their social organization strategies that help them at some point, to prevent, diminished and even recover from the damages that can cause the impacts of a materialized hazard. Within a flood disaster record consisting on two main flood events, some people have stayed and dealt with floods. Even though assessment did not include analysis of causes of the flood coping performance, place attachment might be explaining why some people have chosen to stay and cope with floods. Similar to case study of Orissa town, India, from Mishra *et al* (2010) where place attachment (to a flood prone area) influenced flood preparedness measures among strongly-bonded people, people from the Magisterial have shown an increase in their solidary attitude that may have promoted bonds strong enough to cause place attachment and having implications on their ability as a community, to use resources to cope with floods. Moreover, most family heads of the Magisterial community are teachers and belong to the Teacher's Union of the region, such condition may also strength closeness between them and even facilitate community organization.

Another plus might be that suburb's size is relatively small and most neighbors seem to know each other, besides they already organize per sectors of 6 households for perform basic functions like garbage disposal. Rademacher (2013) in its analysis of farmers' community resources to face disasters at Delaware considers that having access to community and professional netoworks is a community resource of social capital.

Also, perhaps solidary attitude is ultimately driven improvised measures for survival and recovery. Solidarity may promote survival during a flood emergency, testimonies from informants prove that solidary efforts have saved people's life by providing temporal shelter or performing evacuation and rescue effors during floods. Solidarity may also promote recovery after a flood. Recovery measure of cleaning of debris is the only communitary effort at the Magisterial and it is conducted when neighbors are solidary and provides help to rehabilitate public spaces and even other neighbors' houses. As Valadez (2011) highlights, solidarity and cooperation emerges among the affected and non-affected people. Rademacher (2013) also identifies that recent research has reported solidarity among the community networks that have made significant contributions to initial disaster-response activities. A case study in Semaran, Indonesia, by Dewi (2007) also supports this idea of solidary communities because it is reported solidarity as been one of the most outstanding values among the community; the study also suggested that the high levels of solidarity allowed social coping mechanism that was useful especially during flood events.

And at the end any assessment can tell for sure if a community has reached a resilient state, because resilience is not about reaching a final condition of reduced vulnerability, but it is more related to the capacity to constantly adapt, learn and improve over time (Price-Robertson & Knight, 2012).

Limitations of the assessment application at case study

- Assessment was almost completely based on perceptions of a sample of Magisterial neighbors.
  - Community was defined as a small group of suburb's neighbors joined by shared-flood concern and joined initiatives towards this, and community committee was identified as the main institution carrying out this joined efforts inside Magisterial suburb.
  - The main criterion for the sampling was the closeness to community's local authority, followed by the antique and the high-flood exposure condition of their households.
    - Snowball sampling based on the judgment of the community committee's president, the specialized informant. Thus, representativeness level of the sample is apparently high.
    - Population size was not known, since all people involved in community committee was not listed or registered by committee's president.
    - Inferences regarding the population cannot be established under a specific degree of confidence because it is not a probabilistic sample but a non-probabilistic purposive sample. Moreover, inferences could not be statistically backed up since the analysis used descriptive statistics.
  - Nevertheless, results seemed to achieve certain data saturation, but also shown inconsistencies.
    - Among informants, key informant seemed very limited regarding detailed information about the community's flood-measures. And key informant seemed sensitive regarding to the flood subject at the suburb. Data can also get blurred or distorted by emotions that the informant prints on his/her ideas and memories (Monje, 2011).
    - Among respondents, they did not seem to share the information about community efforts that would be expected at an organized social net.
- Questionnaire format could have leaded to contradictions and lack of information.
  - Questionnaire lacked of exhibit questions that could give an idea of the degree

of subject understanding, or to identify possible underestimation or overestimation of (1) community measures, (2) amount of effort per organization and (3) level of success of Flood Coping Response at Magisterial suburb. Like showed in research conducted by Rademacher (2013) where a farm community reflected underestimation of used community resources at DRM, similar situation can be happening at Magisterial community.

  - Between respondents and informants there were strong differences in terms of community measures per flood stage and level of participation of external entities such as government (e.g. CPA and City Hall). Questionnaire format included a checklist of community measures that could have influenced respondents' answers, while open questions at interviews could offer more honest and complete answers.

- External authorities like CPA were not consulted even though it's performance and flood-measures were analyzed.
  - Mainly due to lack of time, secondary sources of information, mainly Valadez (2011), were consulted instead of interviewing local authorities involved in flood-measures.
- Further research related to assessment of Magisterial community flood resilience would be likely to target:
  - Perception assessment of Magisterial committee-related community
  - Organization and implementation of flood-coping measures at sectors' organizational level of community. And in order to identify most consensed community driven efforts, an assessment of flood resilience capacity at sector scale and comparison with community-scale findings.
  - Consideration of non-extreme flood events at flood resilience developing process.
  - Relation of resilience capacity per flood-exposure level of inhabited area at suburb.

Analysis of assessment method performance

The community flood resilience assessment method proposed here allows the understanding of resiliences capacity "…to resist, absorb, accommodate to, and recover from the effects of a hazard in a timely and efficient manner" (UNISDR, 2009, p. 24) in terms of community's flood-coping performance. Strengths and weaknesses can be found at this assessment method.

Regarding the weaknesses, the community flood assessment proposal provides a rapid but limited evaluation. By focusing on outcomes (flood coping measures), details get not evaluated. Internal vulnerability context and the diverse external factors that contribute to the community measures' appearance, maintenance and improvement over time are not directly addressed and analyzed. For example, at the case study, resilience development could be partially explained by the increasing of solidarity sense among neighbors plus the shared condition of primary occupation as teacher, and even the small size of the community can allow more organization, while other apparently negative factors, like migration, could be setting a threat or even facilitating future resilience capacity building; but all this suggestions can not be assured with confidence until further studies are done around these aspects that were found during this initial rapid assessment.

In order to try to compensate previous lack of detail to causes, the assessment considers the resilience potentiality sub-assessment, which identifies critical strengths and weaknesses in terms of resilience key properties; but this evaluation will only point out critical aspects that can later be studied at detail. This sub-assessment is a first step to bigger contributions to the community, because "The importance of simply identifying where a community's strengths and fault lines lie should not be underestimated. This identification can form the foundation for the construction of truly effective services, practices and policies—effective precisely because they are tailored to the unique circumstances of individual communities"

(Price-Robertson & Knight, 2012 p. 10). Moreover, assessment method can enrich other resilience assessment frameworks more focused at causal factors.

Also design-related weaknesses were identified in terms of integration of results and categorization of flood-related measures. Products per phases A, B and C could not be merged into a final product of assessment, like as an index, instead visual subproducts and detailed descriptions were obtained. The nature of the contents did not allowed this possibility; A and B express a final condition of the community while C analyzes a process. Also, there was a lack of integration of both assessments (resilience response and resilience potentiality) results into one final outcome, like indexes provide; instead it provides separate analysis and charts of responses and potentiality assessments. This weakness can be a strength because indexes omit detailed information regarding processes.

Furthermore, the application of the assessment method proposed had practical complications. Categorization of flood-related measures was not always easy and often require of arbitraty organization. Some measures had to be put under community-driven category even when there were not in strict sense developed by the whole community but only by the community committee. Also, the categories of disaster phases (pre-, in- and post-) few times complicated the arrangement of flood-related measures. Some measures overlapped at pre- and post-flood stages, like flood alarm device and prevention of diseases, and an arbitraty selection had to be made by the researcher. This can mean a weakness in terms of easy application, but also a strength because cathegorization is more specific to the site and the potential hazard-traits. For example, at case study, sandbags' barrier was considerated a preparedness measure and not an emergency measure since the hazard is flash flood and people put the bags once rainy season starts.

Nevertheless this community flood resilience assessment method presents strengths. It is general, concrete and inclusive. It follows a community resilience approach; this means it focuses on the things that can be done by the community itself (Twigg, 2007). Assessment is general because it allows a broad scope on ultimate

determinants of community flood-resilience capacity: community flood-coping performance in terms of flood-coping measures at pre-, in- and post-flood stages.

And by this assessment is also concrete. Flood-related measures are understood as outcomes of a whole resilience capacity development process, so they are ultimately representing the developed resilience capacity of a group of people.

Moreover, assessment proposal is inclusive in terms of applicability, coverage and complementariety with other assessments. The assessment has high applicability. It can be applied at other scales of resilience capacity, live individual or even city scale. It allows any kind of information, in this case it was mostly based on perceptions form informants and respondents, but it accepts information coming from other sources like data basis. It is applicable to any kind of hazard-related resilience capacity, and it also easily allows any kind of coping measure, whether is structural or non-structural. Moreover, the assessment proposal allows a general understanding of the process of resilience capacity building at community scale, but also considers an inter-scale scope for analyze flood-coping measure stocks. Finally the assessment can also complement other resilience assessments focused on evaluations of vulnerability traits, because it provides the inverse appreciation of resilience capacity building through the outcomes of the modulation of such vulnerability aspects.

CONCLUSIONS

A proposal of a method for rapid assessment of community flood-resilience was developed. Such method was built upon a basis consisting of a theoretical framework about community flood resilience capacity building process. The theoretical review leaded to the generation of a basic model for community flood resilience development process at FDRM cycle. First part of assessment was based in this theoretical model in order to identify community's flood-coping performance. Second part of assessment analyzed community's flood-coping performance potential in terms of urban flood resilience key properties.

Application of the proposed assessment method was performed at case study of Magisterial suburb community and despite some methodological limitations, perception-based results allowed to identify community's flood-coping performance and its potential in terms of resilience key properties.

In relation to flash flood events, community has a recent performance driven by flood disaster events. More organized measures inside the community are related to mitigation and preparedness efforts, while emergency and recovery measures are improvised. Despite community flood coping measures have became more, they have not been improved (with the exception of two structural mitigation measures) and had provide little positive impact in aminorate or avoid flood-related damage.
Despite that inefficiency of pre-flood measures, the suburb has survived and recovered from previous massive flash floods. Research suggests that improvised measures at emergency and recovery flood-stages are key to the recent suburb's flood resilience capacity at the suburb. A solidary behavior among neighbors is likely to be promoting group-improvised measures.

This community performance regarding floods has meant development of urban flood resilience key properties. Timely adjustments after every flood have guided community performance; the first massive flood event caused institutional adjustment with the creation of a community committee which has been in charge of planning and promoting community performance; behavior changed among neighbors towards a more solidary and active response to floods; and physical adjustments are evident at suburb's infrastructure. Also, community's flood coping performance has meant the development of localized flood response because it consists of city-decentralized local flood-coping measures that have become more diverse within time. Unfortunately, these measures have not present high redundancy with measures performed at household and municipal subsystems, they also do not provide alternatives at all flood stages.

Comparison of the case study results is difficult to perform (and even improper) with other case studies that have been analyzed through different theoretical approach.

Overall analysis of community flood resilience assessment method performance was also developed. It is a rapid assessment that allows identification of concrete aspects regarding flood-coping measures that can be implying an exercise of the resilience capacity. It is inclusive in terms of type of hazard of interest and type of input-data sources; it also involves assessment of inter-capacities scales, e.g. individual and municipal scale-measures. It can complement resilience assessment tools based on evaluations of vulnerability traits, because it provides the opposite appreciation not from the causal factors but from the consequential outcomes of resilience capacity exercise in a community. Moreover, it can be compatible with monitoring efforts in terms of flood-coping measures development through time. This sets a strength because community resilience "…is not static—communities are complex and dynamic social structures—and so an "assessment of resilience is never complete"" (Resilience Alliance, 2007, p. 6).

Outlook

The present research contributed to the understanding and practical measure of the urban community flood resilience capacity by providing a proposal of a technique for rapid assessment of community flood-resilience.

It is worth to highlight that the proposed method is a first attempt made by the researcher in order to translate resilience complex concept into a simpler frame that could allow its application. Assessment's theoretical framework and method presented here can improve at least in terms of establishing a clearer connection among resilience capacity involved in coping response that can even be concrete and measurable in reality. The products per phases can be also improved in order to allow better integration of the sub-assessments.

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ANNEXES

ANNEX INTERVIEW FORMAT FOR MAGISTERIAL INFORMANTS **99**

ANNEX QUESTIONNAIRE FORMAT FOR MAGISTERIAL RESPONDENTS **107**

ANNEX DOCUMENTS PROVIDED BY SPECIALIZED INFORMANT **117**

ANNEX TRANSCRIPTION OF FIRST INTERVIEW TO SPECIALIZED INFORMANT **120**

ANNEX TRANSCRIPTION OF SECOND INTERVIEW TO SPECIALIZED INFORMANT **132**

ANNEX TRANSCRIPTION OF INTERVIEW TO KEY INFORMANT **136**

ANNEX MATRIX OF SYNTHESIS OF INTERVIEWS' DATA **140**

ANNEX DETAILS OF PERFORMANCE OF COPING-RESPONSE AT MAGISTERIAL SUBURB **157**

ANNEX SUBURBS OF CIUDAD VALLES MUNICIPALITY UNDER FLOOD RISK **160**

ANNEX PHOTOGRAPHIC REGISTER OF 2008 FLOOD EVENT AT CIUDAD VALLES CITY **161**

CIUDAD VALLES 161

MAGISTERIAL SUBURB 162

Annex Interview format for Magisterial Informants

Interview no.	Date and place of application:

Note: Audio recording during the interview is intended to enhance information provided by interviewer

City Context

1. Interviewer: suspect background, Place of origin and length of residency in Ciudad Valles
2. General description of problems affecting the city.
3. Flood frequency in Ciudad Valles.
   When floods tend to occur?
   Which has been the worst flood of the city? Mention some of the characteristics of last flood occurred.

Suburb Context

4. History of the suburb
   -When, who and how did the suburb start?
   -How has the suburb grown?
   Have more streets and/or houses been built lately?
   Have more people arrived to the suburb?

   -Why did you choose to live in this suburb, considering that is close to a river?
5. General problems in the suburb
   -Which are some problems that the neighbors and the suburb face?
6. General positive traits of the suburb
   -Which are some positive traits found at the suburb?

Flood Context at Magisterial's suburb

7. History and causes of floods at the suburb
   -Do you remember when floods started to happen?
   -Do you have any idea of what causes the floods?
8. The worst flood occurred in this suburb
   -From all floods that have occurred, which one has been the worst? Was it the flood from 2008?
   - Why do you think this happened?
   -How many days did it last?
   -How intense it was?
   Number of blocks flooded, neighbors affected, consequential damages
9. 2008 flood event
   - Why do you think this happened?
   -How was it?
   -How many days did it last?
   -How intense it was?
   Number of blocks flooded, neighbors affected, type of main damages
   -What happened after the flood?

Magisterial neighbor's reaction to flood-issue

10. Neighborhood organizing effort

-When and how do the Magisterial's neighbors start to organize to confront flood issues?
-Currently, how many neighbors get involve and participate in initiatives to confront floods (prepare, face them and recover from them)?
- Do you think now a days neighbors participe and show more interest in regards to flood issues?
-What are some of the main characteristics of the neighbors association?
-What kinds of activities neighbors perform and how often?
- Do they do community service? Do they comunicate neighbors demands to authorities? Reconstruction plan? Create re-construction plans? Have administrate funds for flood emergency plan?
- Are there any new activities planned to be done in the near future?
-How often does neighbors association gather to discuss flood related issues?
-Are they becoming more and more organized?
Why?

Preventive measures for flood events

11. What preventive measures are taken for flood events? (Mitigation, risk knowledge and preventive management measures)
12. *Implementation of pre-flood measures*
-Who is performing these measures?
The neighbors? Civil Protection? Other organizations?
Do they collaborate between them?
13. *Origin of preventive flood measures*
-Since when these preventive measures have been performed? (Before or after 2008 flood event?)
-Who created them?
The neighbors? Civil Protection? Other organizations?
-Did the measures come from learning from mistakes, imitating other neighbors, Civil Protection suggestions, local ingenuity?
14. *Improvement of pre-flood measures*
-Have there been any improvements to these measures?
What kinds of improvements have been done?
Who proposed such improvements? (Neighbors, Civil Protection, others)
Since when have these improvements been applied? (Before or after 2008)
These improvements where originated from lessons learned, following other neighbor's preventive actions, expert suggestions, or local ingenuity?
-Are there any new prevention and preparation actions to be implemented in the future?
Who proposed these measures? (Neighbors, Civil Protection, others)
Who will be performing these measures? (Neighbors, Civil Protection, others)
15. *Pre-flood Magisterial suburb performance*
-Do you consider that the Magisterial neighbors are prepared to overcome the next flood event?
Why?

Measures during a flood

16. Do you follow any plan during a flood? What do you often do when a flood is coming?
17. *Implementation of flood measures*
-Who is performing these measures?
The neighbors? Civil Protection? Other organizations?
Do they collaborate between them?
18. *Origin of in-flood measures*

-Since when this flood-emergency measures are been performed? (before or after 2008 flood event?)

-Who created them?

The neighbors? Civil Protection? Other organizations?

-Did those measures surge from learning from mistakes, imitating other neighbors, Civil Protection suggestions, local ingenuity?

19. *Improvement of in-flood measures*

-Have there been improvements to these measures?

What types of improvements have been done?

Who proposed such improvements? (neighbors, Civil Protection, others)

Since when have these improvements been applied? (before or after 2008)

This improvements where originated from lessons learned, imitating other neighbors, expert suggestions, or local ingenuity?

-Are there any new emergency measures plan to be implemented in the future?

Who is planning these measures? (neighbors, Civil Protection, others)

Who will perform these measures? (neighbors, Civil Protection, others)

20. *In-flood Magisterial suburb performance*

-Do you consider that the Magisterial neighbors know how to act quickly and efficiently during a flood?

Why?

Flood relief Measures

21. What relief measures are conducted after a flood event?

22. *Implementation of post-flood measures*

-Who is performing these measures?

The neighbors? Civil Protection? Other organizations?

Do they collaborate between them?

23. *Origin of post-flood measures*

-Since when these flood-recovery measures are been performed? (before or after 2008 flood event?)

-Who created them?

The neighbors? Civil Protection? Other organizations?

-Did those measures surge from learning from mistakes, imitating other neighbors, Civil Protection suggestions, local ingenuity?

24. *Improvement of post-flood measures*

-Have there been improvements to these measures?

What types of improvements have been done?

Who proposed such improvements? (neighbors, Civil Protection, others)

Since when have these improvements been applied? (before or after 2008)

This improvements where originated from lessons learned, imitating other neighbors, expert suggestions, or local ingenuity?

-Are they new recovery and reconstruction measures plan to be implemented in the future?

Who is planning these measures? (neighbors, Civil Protection, others)

Who will perform these measures? (neighbors, Civil Protection, others)

25. *Post-flood Magisterial suburb performance*

-Do you consider that the Magisterial neighbors together know how to efficiently recover from a flood?

Why?

Finally,

Would you like to add any additional comments to this interview?

Informant general information

Important: All the information provided in this section will remain confidential. Serve as reference only.

1	Full name	
2	Gender	__ Masculine / __ Feminine
3	Address	Street: House number: Suburb:
4	Family relation info	__ Family leader __ Son/daughter __ Other: _____
5	Age	_____ years
6	Highest level of education attained	___ None ___ Elementary ___ Secondary ___ High school ___ University
7	Main occupation	
8	Secondary occupation	
9	Member of teachers union:	__ Yes, under the charge of: _____ __ No
10	Household members info	**Number** / **Age** / **Occupation** _____ Partner _____Sons/daughters _____ Grandparents _____ Others
11	Length of residency	Number of years: _____ Or year of arrival: _____
12	Homeownership status/ Residence type	___ I own it ___ I rent it ___ I inherited it ___ Other:_____

Thank you so much for your time and attention!

SPANISH VERSION

Entrevista número:	Fecha y lugar de aplicación:

Nota: Requerimos grabar la entrevista para no perder detalle de la información que usted nos proporcionará.

Contexto de la ciudad

Historia del entrevistado, lugar de origen y llegada a Ciudad Valles
Problemas generales de la ciudad
Frequencia de inundaciones en la ciudad
¿Cuándo tienden a ocurrir las inundaciones?
¿Cuál ha sido la peor inundación en la ciudad? ¿cuáles fueron algunas de sus características?

Contexto de la colonia Magisterial

Historia de la colonia
-¿Cuándo, quién y cómo comenzó la colonia?
-¿Cómo ha crecido la colonia?
¿Se han construido más calles o casas ultimamente?
¿Ha llegado más gente a la colonia?
-¿Por qué usted eligió vivir en esta colonia, tan cercana a un río?
Problemas generals en la colonia
-¿Cuáles son algunos de los problemas que enfrentan los vecinos y la colonia?
Cualidades generals de la colonia
-¿Cuáles son algunas cualidades encontradas en la colonia?

Contexto de las inundaciones en la colonia Magisterial

Historia y causas de las inundaciones en la colonia
-¿Recuerda en qué año comenzaron a tener inundaciones?
-¿Tiene alguna idea de porqué ocurrieron las inundaciones?
La peor inundación de la colonia
-De las inundaciones ocurridas, ¿cuál ha sido la peor? ¿fue la inundación del 2008?
-¿Por qué cree que pasó?
-¿Cómo fue?
¿Cuántos días duró?
¿Qué tan intensa fue?
Número de cuadras inundadas, colonos afectados, daños ocasionados
La inundación del 2008
-¿Por qué cree que pasó?
-¿Cómo fue?
¿Cuántos días duró?
¿Qué tan intensa fue?
Número de cuadras inundadas, colonos afectados, daños ocasionados
-¿Qué pasó después de la inundación?

Reacción de colonos de Magisterial al problema de inundaciones

Esfuerzo de organización entre vecinos

-¿Cuándo y por qué empezaron a organizarse entre vecinos de la Magisterial en torno al problema de inundaciones?

-Actualmente, ¿cuántos vecinos se involucran con el propósito de estar mejor organizados para las inundaciones (prepararse, enfrentarlas y recuperarse)?

-¿Han aumentado la participación y el interés de los colonos en torno al problema de las inundaciones?

-¿Cuáles son algunas de las principales características de la organización entre vecinos?

-¿Qué tipos de actividades realizan entre vecinos y cuándo?

-¿Trabajo comunitario? ¿Presentar demandas a las Autoridades? ¿Crear planes para construcción? ¿Organizar fondos para preparación, emergencias o recuperación de inundaciones?

-¿Cuáles son algunas actividades planeadas realizar a futuro?

-¿Cada cuándo se reúnen para discutir cuestiones relacionadas con las inundaciones?

-¿Están cada vez más organizados?

¿Por qué lo cree?

Medidas previas a una inundación

-¿Qué medidas toman para prepararse para una inundación? (Mitigación, conocimiento del riesgo, preparación)

Implementación de medidas pre-inundación

-¿Quién está haciendo estas medidas?

¿Los vecinos? ¿Protección Civil? u ¿otras organizaciones?

¿Hay colaboraciones entre estos?

Origen de las medidas pre-inundación

-¿Desde cuándo se hacen estas medidas de preparación a inundaciones? (antes o después del 2008)

-¿Quién las creó?

¿Los vecinos? ¿Protección Civil? u ¿otras organizaciones?

-¿Surgieron a raíz de aprender de errores, de imitar a vecinos, de sugerencias de Protección Civil, de ingenio local?

Mejoras de las medidas pre-inundación

-¿Han hecho mejoras a estas medidas?

¿Qué tipo de mejoras se les han hecho?

¿Quién propuso las mejoras? (vecinos, Protección Civil, otras)

¿Hace cuánto tiempo se hicieron las mejoras? (antes o después del 2008)

¿Estas mejoras provienen de lecciones aprendidas, de imitar a vecinos, de sugerencias de expertos, de ingenio local?

-¿Se tienen nuevas medidas de prevención y preparación a futuro?

¿Quién planea estas medidas a futuro? (vecinos, Protección Civil, otras)

¿Quién pretende realizar estas medidas? (vecinos, Protección Civil, otras)

Actuación de la colonia Magisterial previo a inundaciones

-¿Considera que los colonos en conjunto están listos para enfrentar la siguiente inundación?

¿Por qué?

Medidas durante la inundación

-¿Siguen algún plan durante una emergencia por inundación?

Implementación de medidas durante-inundación

-¿Quién está haciendo estas medidas?

¿Los vecinos? ¿Protección Civil? u ¿otras organizaciones?

¿Hay colaboraciones entre estos?

Origen de las medidas durante-inundación

-¿Desde cuándo se hacen estas medidas de emergencia ante inundaciones? (antes o después del 2008)
-¿Quién las creó?
¿Los vecinos? ¿Protección Civil? u ¿otras organizaciones?
-¿Surgieron a raíz de aprender de errores, de imitar a vecinos, de sugerencias de Protección Civil, de ingenio local?

Mejoras de las medidas durante-inundación

-¿Han hecho mejoras a estas medidas?
¿Qué tipo de mejoras se les han hecho?
¿Quién propuso las mejoras? (vecinos, Protección Civil, otras)
¿Hace cuánto tiempo se hicieron las mejoras? (antes o después del 2008)
¿Estas mejoras provienen de lecciones aprendidas, de imitar a vecinos, de sugerencias de expertos, de ingenio local?
-¿Se tienen nuevas medidas de emergencia a futuro?
¿Quién planea estas medidas a futuro? (vecinos, Protección Civil, otras)
¿Quién pretende realizar estas medidas? (vecinos, Protección Civil, otras)

Actuación de la colonia Magisterial durante inundaciones

-¿Considera que los colonos en conjunto saben cómo actuar efectivamente durante una inundación?
¿Por qué?

Medidas después de inundaciones

-¿Qué medidas toman para recuperarse de una inundación?

Implementación de medidas post-inundación

-¿Quién está haciendo estas medidas?
¿Los vecinos? ¿Protección Civil? u ¿otras organizaciones?
¿Hay colaboraciones entre estos?

Origen de las medidas post-inundación

-¿Desde cuándo se hacen estas medidas de recuperación ante inundaciones? (antes o después del 2008)
-¿Quién las creó?
¿Los vecinos? ¿Protección Civil? u ¿otras organizaciones?
-¿Surgieron a raíz de aprender de errores, de imitar a vecinos, de sugerencias de Protección Civil, de ingenio local?

Mejoras de las medidas post-inundación

-¿Han hecho mejoras a estas medidas?
¿Qué tipo de mejoras se les han hecho?
¿Quién propuso las mejoras? (vecinos, Protección Civil, otras)
¿Hace cuánto tiempo se hicieron las mejoras? (antes o después del 2008)
¿Estas mejoras provienen de lecciones aprendidas, de imitar a vecinos, de sugerencias de expertos, de ingenio local?
-¿Se tienen nuevas medidas de recuperación a futuro?
¿Quién planea estas medidas a futuro? (vecinos, Protección Civil, otras)
¿Quién pretende realizar estas medidas? (vecinos, Protección Civil, otras)

Actuación de la colonia Magisterial después de inundaciones

-¿Considera que los colonos en conjunto saben cómo recuperarse efectivamente de una inundación?
¿Por qué?

Finalmente,
¿Quisiera añadir algo a esta entrevista?

Información general del encuestado

Importante: Todos los datos proporcionados en este apartado se mantendrán bajo confidencialidad de manera que jamás serán publicados. Únicamente sirven de referencia.

1	Nombre completo	
2	Género	__ Masculino / __ Femenino
3	Dirección	Calle: Número: Colonia:
4	Posición ocupa en su vivienda	__ Cabeza de familia __ Hijo __ Otro: _____
5	Edad	_____ Años
6	Máximo grado de estudio que tiene:	___ Sin nivel ___ Primaria ___ Secundaria ___ Preparatoria ___ Universidad
7	Ocupación principal:	
8	Ocupación secundaria:	
9	Pertenencia al sindicato de maestros:	__ Sí, con el puesto de: _____ __ No
10	Número de integrantes de la familia con edades y ocupaciones	**Número** / **Edad** / **Ocupación** ____ Pareja ____ Hijos ____ Abuelos ____ Otros
11	Tiempo viviendo en la colonia	Número de años: _____ o Año de llegada a la colonia: _____
12	Sobre su residencia:	___ Soy propietario ___ Rento ___ La heredé ___ Otro:_____

¡Agradecemos por su tiempo y disposición!

Annex Questionnaire format for Magisterial respondents

Questionnaire no.	Date and place of survey:

This questionnaire is a fundamental part of the thesis that the student Cynthia Peñaloza is developing for the Master in Environment and Natural Resources Management (ENREM) by the Autonomous University of San Luis Potosi.

The objective of the questionnaire is to know the actual estate of the Magisterial suburb in terms of impacts and related flood-measures.

Instructions: The estimated time for filling this questionnaire is about 10 minutes. The questions require you to mark with an "x" the answer of your choice and/or write in the space provided as the case may be. Add Comments/remarks in the designated space. Take note of the additional indications in some questions.

1. Flood impacts in Magisterial suburb

1	How many flood events have happened in this suburb?	__ I have never faced a single flood in this suburb __ It does not get flooded every year __ One flood event per year __ More than one flood event per year
	Would you say that the suburb only gets flooded during rainy season?	__ Yes, floods only occur during rainy season __ No, they also occur during the months of _____
3	what kind of damage do floods have caused?? (Indicate with a **T** if the damage has been **Total** and with a **P** if the damage has been **Partial**) *More than one option is valid	__ External household damages __ cars __ streets __ light posts __ gardens __ sidewalks __ fences __ trees __ others: _____ __ Internal household damages __ furniture __ electronic devices __ walls __ important papers __ windows __ pets __ others: _____ __ Health damage _____ __Interruption of daily activities (Work assistance, school, shopping, etc.)
4	Level of flood impact cause in:	My family is: □ null □ low □ medium □ high □ very high My household is: □ null □ low □ medium □ high □ very high My suburb is: □ null □ low □ medium □ high □ very high
5	What have flood events have generated among the neighbors: *More than one option is valid	___ solidarity ___ conflicts ___ have not generated anything ___ other: _____

2. Individual flood strategies at Magisterial suburb

	Previous a flood	
1	Do you take precautions against floods?	___Never ___ Almost never ___Sometimes ___ Most of the times ___Always
	If you never take precautions against floods, it is because… *More than one option is valid	__ I do not know how to prepare myself __ I do not have time to prepare myself __ I consider that does not corresponds to me, that is an Authority's labor __ I am not interested on preparing myself __Other: _____
3	If you do take precautions against floods, you do it… *More than one option is valid	___Only with household members ___Together with friends__, family__, or neighbors __ from the same suburb ___Together with friends/family that do not live at the suburb ___Together with a local organization (religious association, etc.) ___ With support of an authority (as Civil Protection) ___ Other: _____
4	Inside your house, how do you get prepared to floods? *More than one option is valid	___I have reserves of water, food and medicines ___I have sand bags to avoid the water enters my house ___I have protections for windows, doors, cars or any other item ___I have my car __ house __ insured ___I have a special saving for these occasions ___I have luggage ready in case of having to leave immediately ___I stay tuned for news from authorities ___I constantly communicate with neighbors of the suburb ___I temporarily move outside the suburb ___I do not do anything special ___Other:_____
	During the flood	
1	You face floods… *More than one option is valid	___Only with household members ___Together with friends__, family__, or neighbors __ from the same suburb ___Together with friends/family that do not live at the suburb ___Together with a local organization (religious association, etc.) ___ With support of an authority (as Civil Protection) ___ Other: _____
2	Inside your house, how do you face a flood? *More than one option is valid	___I put furniture, electronic devices and other items away from the floor ___I put protections on doors, windows, cars, or other items ___I turn the radio on stay tuned for last minute news ___I have luggage ready in case of having to leave immediately ___I do not do anything special ___Other:_____
	After a flood	
1	You recover from a flood… *More than one option is valid	___Only with household members ___Together with friends__, family__, or neighbors __ from the same suburb ___Together with friends/family that do not live at the suburb ___Together with a local organization (religious association, etc.) ___ With support of an authority (as Civil Protection) ___ Other: _____
2	Inside your household, how do you recover from a flood? *More than one option is valid	___I clean debris ___I repair walls, windows, doors and other parts of the household ___I repair the car, garage, garden and other external parts of the household ___I do not do anything special ___ Other: _____

3. Group flood strategies at Magisterial suburb

* Mark with an X
More than one option is valid

		Performed by:			
		Magisterial neighbors	**Civil Protection**	**Together: Neighbors and Civil Protection**	**Other organization** (write down the name)
	Before flood				
1.	Build retention walls or reinforce stream channel				
2.	Set a device that alerts the suburb				
3.	Stay tuned to flood alarm				
4.	Identify and communicate evacuation routes in case of emergency				
5.	Create local reservoirs of water, food and medicine				
6.	Create local funds for emergency situations				
7.	Practice flood emergency drills				
8.	Communicate other neighbors about the risk and give advises about measures				
9.	Plant trees along the stream channel				
10.	Keep clean the river				
11.	Other:				
	During flood				
1.	Keep constant communication with neighbors				
2.	Put sand bags to avoid the water flow				
3.	Deliver food and water to the affected				
4.	Evacuate neighbors from their households				
5.	Provide temporary shelter to neighbors				
6.	Search and rescue people/goods/pets				
7.	Stay in tuned for news about the emergency				
8.	Other:				
	After flood				
1.	Clean the rubbish/debris				
2.	Provide temporary shelter				
3.	Deliver economic support to affected				
4.	Build and repair households				
5.	Build and repair common infrastructure				
6.	Have self-help groups (spaces for emotional recovery)				
7.	Stay tuned for related news				
8.	Carry out measures for preventing diseases				
9.	Others:				

4. About the flood measures in Magisterial suburb

	You consider that the effort made is:		
	Before flood	**During flood**	**After flood**
Magisterial neighbors	___ null ___ low ___ medium ___ high ___ very high	___ null ___ low ___ medium ___ high ___ very high	___ null ___ low ___ medium ___ high ___ very high
Civil Protection	___ null ___ low ___ medium ___ high ___ very high	___ null ___ low ___ medium ___ high ___ very high	___ null ___ low ___ medium ___ high ___ very high
Together: Magisterial neighbors and Civil Protection	___ null ___ low ___ medium ___ high ___ very high	___ null ___ low ___ medium ___ high ___ very high	___ null ___ low ___ medium ___ high ___ very high
Other organizations	___ null ___ low ___ medium ___ high ___ very high	___ null ___ low ___ medium ___ high ___ very high	___ null ___ low ___ medium ___ high ___ very high

5. Collaboration between neighbors and Civil Protection in flood-related measures

	Collaboration does not exist	Collaboration exists *** More than one option is valid**	
		Civil Protection propose and neighbors help to implement	Neighbors propose and Civil Protection implements
Measures before flood			
Measures during flood			
Measures after flood			

6. Measures against floods

My suburb is successful in measures of: * More than one option is valid		Before **Prevention and preparation** before the flood	During **Emergency** during the flood	After **Recovery** after the flood
It is successful, due to the measures that:	Each neighbor does per household			
	Neighbors do together			
	Authorities do			
	Other:			
It is not successful, due the lack of measures:	Per neighbor inside its household			
	Shared by neighbors			
	From the authorities			
	Other:			

Respondent general information

Important: All the information provided in this section will remain confidential. Serve as reference only.

1	Full name			
2	Gender	__ Masculine / __ Feminine		
3	Address	Street: House number: Suburb:		
4	Family relation info	__ Family leader __ Son/daughter __ Other: _____		
5	Age	_____ years		
6	Highest level of education attained	___ None ___ Elementary ___ Secondary ___ High school ___ University		
7	Main occupation			
8	Secondary occupation			
9	Member of teachers union:	__ Yes, under the charge of: _____ __ No		
10	Household members info	**Number**	**Age**	**Occupation**
		_____ Partner		
		_____Sons/daughters		
		_____ Grandparents		
		_____ Others		
11	Length of residency	Number of years: _____ Or year of arrival: _____		
12	Homeownership status/ Residence type	___ I own it ___ I rent it ___ I inherited it ___ Other:_____		

Thank you so much for your time and disposition!

SPANISH VERSION

Cuestionario no.	Fecha y lugar de aplicación:

Esta encuesta es parte fundamental de la tesis de maestría en Ambiente y Manejo de Recursos Naturales (ENREM) que la estudiante Cynthia Peñaloza realiza en la Universidad Autónoma de San Luis Potosí bajo la supervisión de la Dra. Patricia Julio Miranda.

El objetivo del cuestionario es conocer el estado actual de la Colonia Magisterial en términos de impactos y medidas relacionadas con las inundaciones.

Indicaciones: El tiempo estimado de llenado de este cuestionario es de alrededor de 10 minutos. Las preguntas requieren que usted indique con una "X" la opción u opciones que crea más conveniente, así mismo puede añadir opciones en casos donde se presente un renglón en blanco. Observe las indicaciones adicionales en algunas preguntas.

1. Impactos de las inundaciones en la Colonia Magisterial

1	Al año, ¿Cuántas inundaciones ocurren en esta colonia?	____ Nunca he experimentado una sola inundación en esta colonia ____ No se inunda todos los años ____ Una inundación al año ____ Más de una inundación al año
2	¿Diría usted que la colonia se inunda sólo en temporada de lluvias?	__ Sí, sólo ocurren inundaciones durante la temporada de lluvias __ No, también ocurren en los meses de _____
3	¿Qué tipo de daños o pérdidas ha ocasionado las inundaciones? (indique con una **T** si el daño ha sido **Total** y con una **P** si el daño ha sido **Parcial**) * Más de una opción es válida	__ Daños externos a la vivienda ___ coches ___calles ___postes de luz ___jardines ___banquetas ___rejas ___árboles ___otros: _____ __ Daños internos a la vivienda ___ amueblado ___ aparatos electrodomésticos ___ paredes ___ documentos importantes ___ ventanas ___ mascotas ___ otros: _____ __ Daños a la salud _____ __ Interrupción de las actividades diarias (asistencia al trabajo, escuela, ir de compras, etc.)
4	El nivel de afectación por inundaciones de…	Mi familia es: □ □ □ □ □ nulo bajo medio alto muy alto Mi vivienda es: □ □ □ □ □ nulo bajo medio alto muy alto Mi colonia es: □ □ □ □ □ nulo bajo medio alto muy alto
5	Los eventos de inundación han generado entre los vecinos: * Más de una opción es válida	__ solidaridad __ conflictos __ no han generado nada __ otro: _____

2. Estrategias individuales ante las inundaciones en la Colonia Magisterial

Antes de una inundación		
1	¿Toma precauciones ante las inundaciones?	___ Nunca ___ Casi nunca ___ Algunas veces ___ Casi siempre ___ Siempre
2	Si usted **nunca** toma precauciones ante las inundaciones, es porque… * Más de una opción es válida	___ No sé cómo prepararme ___ No tengo tiempo para prepararme ___ Considero que no me corresponde, eso es labor de las autoridades ___ No estoy interesado en prepararme ___ Otro: _____
3	Si usted toma precauciones ante las inundaciones, lo hace… * Más de una opción es válida	___ Sólo con los que viven en su casa ___ Juntándose con amigos____familia___ o vecinos ___ de la misma colonia ___ Juntándose con amigos/familia que no viven en la colonia ___ Uniéndose a alguna organización local (grupo religioso, etc.) ___ Con apoyo de una autoridad (como Protección Civil) ___ Otro: _____
4	Al interior de su casa, ¿qué precauciones toma ante las inundaciones? * Más de una opción es válida	___ Tengo reservas de agua, comida y medicinas ___ Tengo sacos de arena para impedir el paso del agua a mi vivienda ___ Tengo protecciones para asegurar mis ventanas, coches, u otro bien ___ Tengo asegurado: coche ___ casa ___ ___ Tengo un ahorro especial para estos casos ___ Tengo maletas listas en caso de tener que salir de inmediato ___ Me mantengo al pendiente de noticias de autoridades ___ Me comunico constantemente con vecinos de la colonia ___ Me mudo temporalmente fuera de la colonia ___ No realizo nada en especial ___ Otro: _____
Durante una Inundación		
1	Usted enfrenta las inundaciones… * Más de una opción es válida	___ Sólo con los que viven en su casa ___Juntándose con amigos___familia___ o vecinos____ de la misma colonia ___Juntándose con amigos/familia que no viven en la colonia ___Uniéndose a alguna organización local (grupo religioso, etc.) ___ Con apoyo de una autoridad (como Protección Civil) ___ Otro: _____
2	Al interior de su casa, ¿cómo se enfrenta usted a una inundación? * Más de una opción es válida	__ Coloco muebles, electrodomésticos y otros artículos en lugares elevados del suelo __ Coloco protecciones para asegurar puertas, ventanas, coches, u otro bien __ Enciendo la radio o permanezco atento a noticias de última hora __ Tengo maletas listas en caso de tener que salir de inmediato __ No realizo nada en especial __ Otro: _____
Después de una inundación		
1	Se recupera de una inundación… * Más de una opción es válida	___ Sólo con los que viven en su casa___familia___ o vecinos____ de la misma colonia ___Juntándose con amigos ___Juntándose con amigos/familia que no viven en la colonia ___Uniéndose a alguna organización local (grupo religioso, etc.) ___ Con apoyo de una autoridad (como Protección Civil) ___ Otro: _____
2	Al interior de su casa, ¿cómo se recupera usted de una inundación? * Más de una opción es válida	__ Hago limpieza de escombros __ Hago reparaciones de paredes, ventanas, puertas, y otras partes de la casa __ Reparo el auto, cochera, jardín u otras partes externas a la casa __ No realizo nada en especial __ Otro: _____

3. Medidas en conjunto en torno a las inundaciones * Marque con una X Más de una opción es válida	**Realizadas por:**			
	Vecinos Magisterial	**Protección Civil**	**En conjunto: Vecinos y Protección Civil**	**Otro** (anote el nombre)
Antes de la inundación				
12. Construyen bordos o refuerzan el arroyo				
13. Existe algún dispositivo que alerte a la colonia				
14. Están atentos a la alarma que indica que puede haber inundación				
15. Identifican y comunican vías de evacuación en caso de emergencia				
16. Hacen reservas locales de agua, comida y medicinas				
17. Crean fondos locales o tandas para situaciones de emergencia				
18. Hacen simulacros de emergencia ante inundaciones				
19. Comunican a vecinos el riesgo y aconsejan sobre medidas				
20. Plantan árboles a lo largo del canal del arroyo				
21. Mantienen limpio el río				
22. Otros:				
Durante la inundación				
9. Mantienen una comunicación constante con vecinos				
10. Coloca sacos de arena u otra medida para impedir el paso del agua				
11. Se entrega comida y agua a los afectados				
12. Evacuan vecinos de sus casas				
13. Proveen refugio temporal a vecinos				
14. Buscan y rescatan a personas/bienes/mascotas				
15. Se mantiene al pendiente de los comunicados sobre la emergencia				
16. Otros				
Después de la Inundación				
10. Realizan limpieza de escombros				
11. Proveen refugio temporal para los afectados				
12. Se entregan apoyos económicos a los afectados				
13. Construyen y reparan casas				
14. Construyen y reparan infraestructura común				
15. Tienen grupos de auto-ayuda (espacios para recuperación emocional)				
16. Se mantiene al pendiente de los comunicados				
17. Se realizan medidas para prevenir enfermedades				
18. Otros:				

4. Sobre las medidas en relación a las inundaciones en la Colonia Magisterial

	Usted considera que el esfuerzo realizado es		
	Antes de la inundación	**Durante la inundación**	**Después de la Inundación**
Vecinos Magisterial	___ nulo ___ bajo ___ medio ___ alto ___ muy alto	___ nulo ___ bajo ___ medio ___ alto ___ muy alto	___ nulo ___ bajo ___ medio ___ alto ___ muy alto
Protección Civil	___ nulo ___ bajo ___ medio ___ alto ___ muy alto	___ nulo ___ bajo ___ medio ___ alto ___ muy alto	___ nulo ___ bajo ___ medio ___ alto ___ muy alto
En conjunto: Vecinos con Protección Civil	___ nulo ___ bajo ___ medio ___ alto ___ muy alto	___ nulo ___ bajo ___ medio ___ alto ___ muy alto	___ nulo ___ bajo ___ medio ___ alto ___ muy alto
Otras organizaciones	___ nulo ___ bajo ___ medio ___ alto ___ muy alto	___ nulo ___ bajo ___ medio ___ alto ___ muy alto	___ nulo ___ bajo ___ medio ___ alto ___ muy alto

5. Colaboración entre vecinos y Protección Civil en torno a medidas ante inundaciones

	No existe colaboración	**Existe Colaboración** * Más de una opción es válida	
		Protección Civil propone y vecinos ayudan a la implementación	Vecinos proponen y Protección Civil implementa
Medidas antes de la inundación			
Medidas durante la inundación			
Medidas después de inundación			

6. Medidas ante las inundaciones

Mi Colonia es exitosa en medidas de: * Más de una opción es válida		Antes **Prevención y preparación** antes de la inundación	Durante **Emergencia** durante la inundación	Después **Recuperación** después de la inundación
Sí es exitosa, debido a las medidas que:	Cada vecino realiza en su casa			
	Los vecinos realizan en coordinación			
	Las autoridades realizan			
	Otro:			
No es exitosa, debido a que faltan medidas:	Por vecino al interior de su casa			
	Compartidas entre los Vecinos			
	Provenientes de las autoridades			
	Otro:			

Información general del encuestado

Importante: Todos los datos proporcionados en este apartado se mantendrán bajo confidencialidad de manera que jamás serán publicados. Únicamente sirven de referencia.

1	Nombre completo			
2	Género	__ Masculino / __ Femenino		
3	Dirección	Calle: Número: Colonia:		
4	Posición ocupa en su vivienda	__ Cabeza de familia __ Hijo __ Otro: _____		
5	Edad	_____ Años		
6	Máximo grado de estudio que tiene:	___ Sin nivel ___ Primaria ___ Secundaria ___ Preparatoria ___ Universidad		
7	Ocupación principal:			
8	Ocupación secundaria:			
9	Pertenencia al sindicato de maestros:	__ Sí, con el puesto de: _____ __ No		
10	Número de integrantes de la familia con edades y ocupaciones	**Número**	**Edad**	**Ocupación**
		____ Pareja		
		____ Hijos		
		____ Abuelos		
		____ Otros		
11	Tiempo viviendo en la colonia	Número de años: _____ o Año de llegada a la colonia: _____		
12	Sobre su residencia:	___ Soy propietario ___ Rento ___ La heredé ___ Otro:_____		

¡LE AGRADECEMOS MUCHO POR SU TIEMPO Y DISPOSICIÓN!

Annex Documents provided by Specialized informant

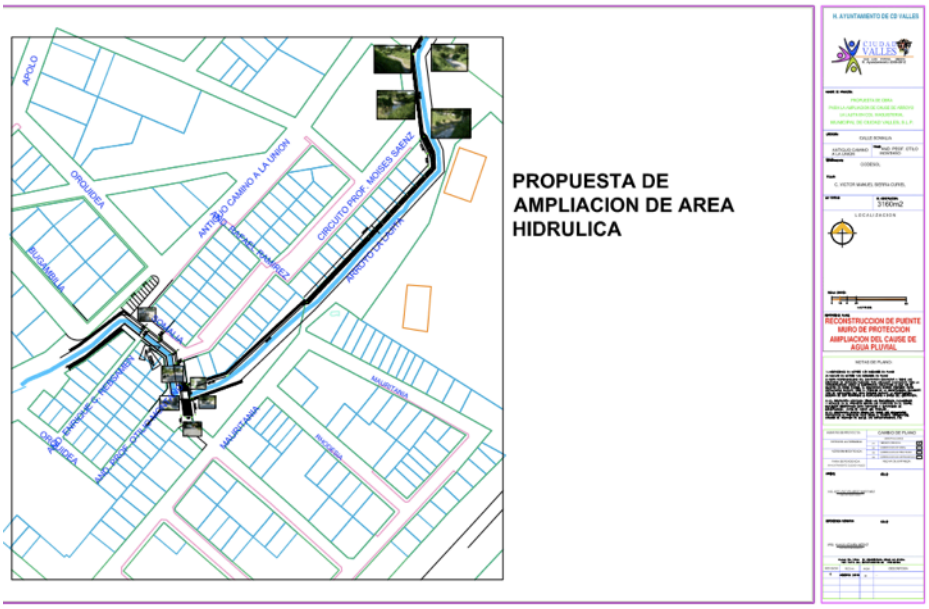
List of documents expedited by the Community Committee of Magisterial Suburb (presented in chronological order)

Year of publication	Date of publication	Title of document	Delivered to	General description
2011	May 19th	Solicitude for desilting activities	City Hall	Solicitude of help for desilting La Lajita riverbed to prevent floods in Magisterial suburb
	December 23rd	Solicitude for diffusion activities	Media	Solicitude of publication and recognition of Magisterial suburb's community activities in several aspects (flood-prevention, security, religious, environmental, and pending solicitudes to City Hall) presented on their 2nd annual report that delivered to their local representatives.
2012	May 5th	Solicitude for diffusion activities: Public recognition to neighbors	Media	Recognition to all Magisterial suburb neighbors for their work during the 100 hours of social labor for improving their urban environment. This suburb sets an example of organization, security, culture, compromise, support and willingness.
	November 26th	Solicitude for economic support for installation of local chapel	City Hall	Solicitude of 500,000.00 mxn for buying a house inside the suburb that will be conditioned to become the local chapel
	December 23rd	Solicitude for diffusion activities	Media	Solicitude for diffusion of community's current activities: integral project advances in technical studies of terrain, and 48 hrs for cleaning the suburb through collective effort.
	December 10th	Solicitude for desilting activities	City Hall	Solicitude of help for desilting La Lajita riverbed to prevent floods in Magisterial suburb
	December 15th	Christmas festivities' calendar	Magisterial neighbors	Handout about Christmas festivities' details: general dates and responsible neighbors per sectors.
2013	October 1st	Donation for chapel chairs	Magisterial neighbors	Call for neighbors to support the chapel by donating 200 mxn per family to buy chairs for the informal local chapel. Also informs about the catechism that is been done at the facilities of the SNTE
	October 1st	Information about the night watcher of suburb	Magisterial neighbors	Handout with general information about the hired night watcher of the suburb. It communicates that he is register at the Public Security Authority of San Luis Potosí State.
	October 1st	Call for cleaning the suburb	Magisterial neighbors	Handout where participation of each neighbor is asked to clean the streets in order to give a good impression to visitants.
	November 28th & December 2nd	Notice of permanent cleaning session of Magisterial suburb	Other suburbs' neighbors and Magisterial neighbors	Handout where neighbors are noticed about the permanent cleaning session until 2014. Plus, it gives three more news: suggestion of get organize with other neighbors for better cleaning efforts, installation of 3 signs to improve ecological awareness among neighbors, and giving the option to neighbors that can not participate in cleaning efforts to instead donate with materials to improve the suburb's facilities.
	November 29th	Solicitude for chair donation	City Hall	Solicitude of a donation to the suburb of 50 chairs
	December 2nd	Solicitude for material for constructing a "mini-sport's field" at the suburb	City Hall	Solicitude of 30 trucks of specific materials for the construction of a recreational space at suburb
	December 2nd	Solicitude of implementation of project	Municipal president of Ciudad Valles	Solicitude of implementation of the federal executive project of Magisterial suburb consisting of enlargement and modification of a bridge and the construction of a second bridge that connects suburb with a highway. They add the agreements done in 2012 under another government period, the petition in 2011 and the economical evaluation for the project's implementation that a local authority submitted on 2010. This last document states that project was going to be implemented in march of 2011.
	Dece	Christmas	Magisterial	Handout about Christmas festivities' details: general

	mber	festivities' calendar	neighbors	dates and responsible neighbors per sectors.
	December 2nd	Solicitude for chair donation	City Hall	Solicitude of a donation to the suburb of 50 chairs. It adds that chapel has not been installed because the house can not be bought yet due to the unsolved agreement that priest will pay 50% of the house price and City Hall the remaining part.
	December 15th	Announcement of continuity of the "Neighbors' Watching" local project	Magisterial neighbors	The continuity of the project from 2013 until 2015. And handout also informs about the government authorities in charge of local security and provides local phone numbers in case any neighbor detects an anomalous behavior.
	December 16th	Solicitude for diffusion	Media	Solicitude of reporting to local suburbs about the current project 2013-2015 that Magisterial suburb is carrying out, called "Neighbors' Watching". The project is realize under mandate of local security related authorities.
	December 24th	"Neighbors' Watching" 2013-2015 project	Media	Handout about current implementation of "Neighbors' Watching" 2013-2015 project
	December 24th	Solicitude for Diffusion	Media	Informs about the report of Magisterial suburb's community committee activities in several aspects (flood-prevention project is not yet implemented, citizen's participation is high at the suburb, success of Permanent Cleaning session project and extension of it until 2016, security project "Neighbors' Watching" is being implemented, religious activities, signage at streets to avoid accidents, petition to City Hall for making am assessment of suburbs' needs and unfinished projects). The report is the 1st annual report and has been delivered to their local representatives.
	December	Handout of miscellaneous advertisements	Magisterial neighbors	Informs about: the garbage recollection schedule and neighbor survey of illegal littering, schedule of the night watcher, and the extension of the chair donation project until January 2014.
	Extra	Daily motivating phrases	Magisterial neighbors	List of motivating phrases that the community president uses at every local handout as farewell message.

Other documents also provided but not made by the Magisterial community committee:

1. 2012- City Hall questionnaire to gather priority needs for municipal development. This questionnaire was directed to the community committee president.
2. Manual for training of community committees from the municipality made and delivered by the City Hall and titled as "Training 2012-2015 welcome Urban area community committees". Manual consists of the regulation, obligations and rights of community committees under the frame of the local authorities regulations. It highlights the responsibilities of committees regarding the construction of local works: they have to contribute with the 20% of the total cost of any project, provide the materials needed, and enable the zones designated for works.



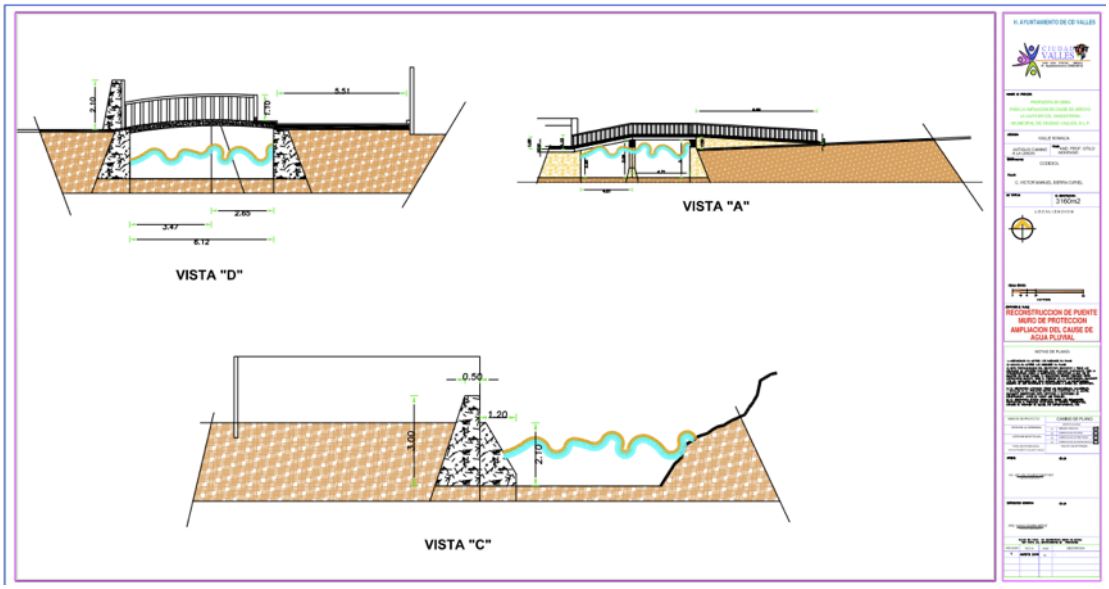
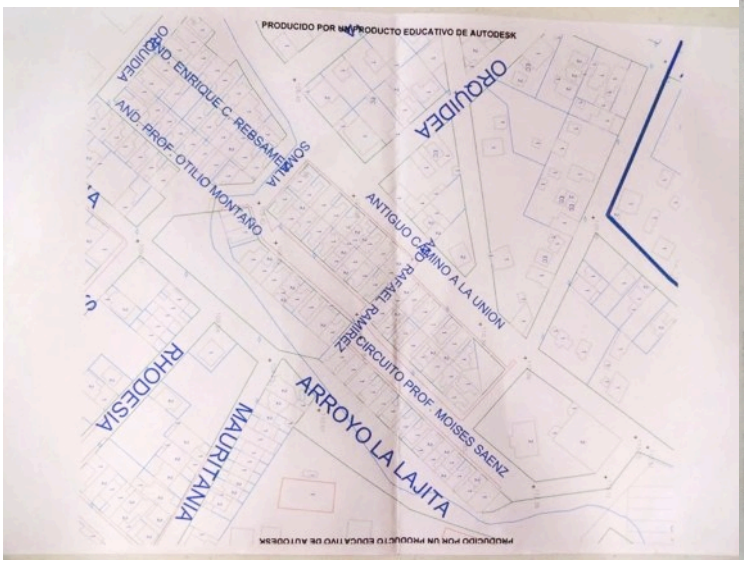


Image 29 Sketchs of the infrastructure project for the river channel presented to the City Hall 2009-2012 administration. Sketches were made with support from the Social Development Coordination municipal agency (Codesol)[50]. Plan for reconstruction and extention of the retention wall along the river is presented in black lines (upper sketch). Plan for extention and reinforcement of the river channel ans bridges also provided (lower sketch).



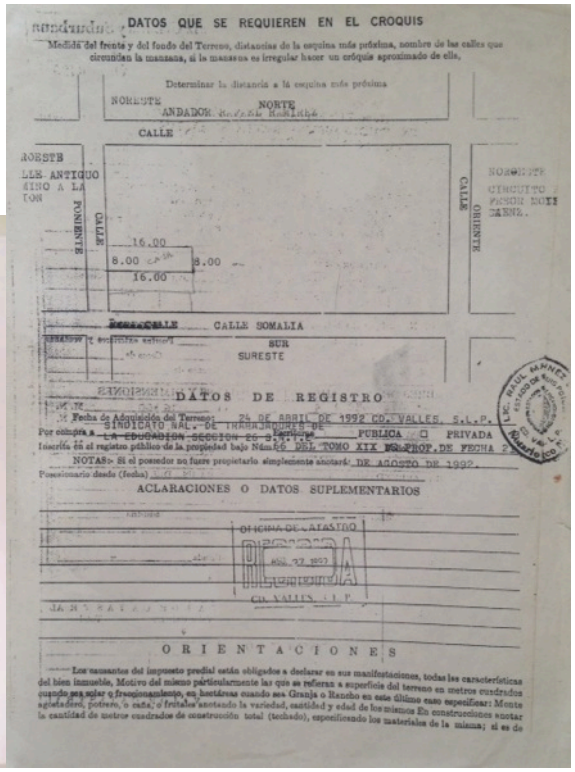


Image 30 (left) Sketch from Magisterial suburb installations (taken from the municipal government data base)
Image 31 (right)Terrain specifications in document of property delivery from teacher Garay's own propert

[50] Social Development Coordination municipal agency (Codesol) is in charge of the management of the fund for municipal social infrastructure, so it validates
infrastructure work done at the municipality. It is also in charge of productive projects execution. (inafed.gob.mx, 2014)

Annex Transcription of first interview to Specialized informant

Specialized informant. 2014. Floods in Magisterial Suburb. Cynthia Marisol Peñaloza Guerrero and Patricia Julio Miranda. [audio/mp3]. House of informant in Marz 29th.
(Original version in Spanish)

Amigo de Informante: …Todo se llevó…todo! Colchones todo! Muebles! Todo! Todo todo!...()…los vecinos venían a…a darnos café en la noche verdad?
Amigo 2 de Informante: sí….
Amigo de Informante: La gente nos ayudaba…sí…
Dra. Julio: Y esa vez ocurría la inundación en todos lados verdad? (me acuerdo que…)
Amigo de Informante: pues mire a diferencia de los que viven (a orillas del río)..ya saben…
Dra. Julio: ajá….
Amigo de Informante: la magnitud, sin embargo ahí están…y ya les dieron… terrenos y no
Dra. Julio: no se quieren ir para allá…
Amigo de Informante: no!…
Dra. Julio: …Y también es otra de las cosas que nosotros, eh, bueno, bueno, el porqué unas personas afectadas no se quieren ir
Amigo de Informante: Nosotros (dije) vamos a dejar las casas, porque nos dieron la…acá arriba unos terrenos
Dra. Julio: ajá
Amigo de Informante: y sí…y ya ya no sí arriba acá arriba…
Dra. Julio: ajá
Amigo de Informante: oye yo no quiero vivir esto…por los niños…o sea…el trauma que les causa a los niños….porque llueve tantito y suena la alarma y ¡órale! …ya, ya, ya traen la carga en el subconsciente que ¡órale! ¡hay peligro! …y cuando en otros lados no lo ha…no lo hay…
Dra. Julio : claro…
Amigo de Informante: y muchos familias ya salieron de aquí…
Dra. Julio: sí?
(….)
Cynthia: ¿fueron casi todos?
Amigo de Informante: Sí…sí…hubo un tiempo en donde parecía cementerio…
Cynthia: aaah…
Amigo de Informante: muchas casas este…en mal estado…tiradas…y obviamente nada ()…
Cynthia: ¿de que las abandonaron?
Amigo de Informante: sí….y es que mira cómo…ahora sí…¡cómo bufa el…no! No! No no no! Pum! Pum! Se oye pero…¡van rebotando piedras! ¡rebota todo! ….
Cynthia: aja…
Amigo de Informante: Y ¡la vaca que no nos rompió todo ahí!...no, no, pasó….¡hombre! ¡tanques de gas! Pasan un montón de cosas…PA! Bum! …¡suena pero feo!....y luego el ruidero de la gente "¡Que no puedo salir! ()"
Cynthia: ay….
Amigo de Informante: Desafortunadamente en estos momentos uno no…no…uno quisiera estar en todos lados…pero…está descuidando también los suyos….
Dra. Julio: aja…
Amigo de Informante: Si nos pasó con que una señora también este…que vivía ahí sola, con sus dos niños…eh…fue como si le es, si se le estuviera acabando el mundo y lo único fuerte que la detuvo, pues es el amor por sus hijos
Cynthia: ah…
Amigo de Informante: porque…eh, todo lo (construimos) por nosotros mismos…pero cuando platicábamos "oye aquella señora que estuvo apunto de llevarse…llevarse el agua a…a un niño…y este…y aunado a eso las cosas que viene arrastrando el agua…
Dra. Julio: es una trampa…
Amigo de Informante: sí…o sea nada más abre una puerta y ¡Fum! ¡hasta adentro!...el agua…sí…() abrió la puerta y ….
Dra. Julio: por la fuerza…
Amigo de Informante: ¡pum! La aventó hasta la cocina…()
Cynthia: porque va subiendo (cada vez más)…
Amigo de Informante: sí …pues como se mete el agua y va subiendo así, va subiendo, va subiendo, va subiendo y tienes una planta ¿pa' dónde? …¡ahí te ahogas!
Dra. Julio: claro…()…en la azotea ()….
Amigo de Informante: Y luego de…deja de eso…y ya…eso, eso es así…¿y los que estamos en medio? ¿cómo? ¡¿cómo salimos?!...y la gente acá todos viendo "eh!" pues ¿Qué? ¿pues por dónde? Pues…() allá ¿por dónde? ¡Mas que en mi casa!....hasta siempre tengo la idea…de siempre…también por eso levanté ahí…poner una carrucha hasta, hasta acá…
Dra. Julio: ajá
Amigo de Informante: Y ahora...¡yum! ¡vámonos a mover a la gente!
Cynthia: ándale
Amigo de Informante: En eso sí, esa, esa idea y, y la hemos platicado…
Cynthia: que dé para acá arriba…ahí

Amigo de Informante: sí, de ahí aquí o bien hacia allá arriba o hacia acá.
Dra. Julio: sería…la cosa es que como están abajo…
Amigo de Informante: Sí
Dra. Julio: () de arriba
Amigo de Informante: Sí
Dra. Julio: Sería más cómodo () por simplemente la pendiente bajaría ()
Amigo de Informante: Sí, yo por eso levanté…
Dra. Julio: Sí sí…
(hablan Amigo de Informante y Dra. Julio al mismo tiempo, no se distingue)
Amigo de Informante: Entonces ya queda elevado un poquito
Cynthia: Ey
Amigo de Informante: …y es la única que le veo…porque (al parecer) el gobierno esta ()
Dra. Julio: y porque es la cosa también aprovechando la…la…colaboración de () con todos los que (, de que algunos colaboran y otros no,) es tal vez hacer () un plan de evacuación o sea, que todo mundo supiera qué hacer cuando ocurre…como …perdón su nombre
Amigo 2 de Informante: Mario
Dra. Julio: Le puedo hablar de…
Amigo 2 de Informante: Sí
Dra. Julio: Y como dice Mario, o sea finalmente unos () ya tienen una idea de qué (hacer cada quién) pero () es lo peor… tal vez sería un poco más fácil ¿no? Evitar que, bueno, digamos en este momento no tienen una solución técnica que los pueda ayudar, pero a lo mejor decir bueno…hagamos un plan…algo que sería muy interesante para () saber qué hacer, qué tendría qué hacer cada quién y eso les ayudaría ()…
Amigo de Informante: fíjate…lo que hacemos es que nos ponemos a limpiar nosotros mismos….
Dra. Julio: ajá
Amigo de Informante: o sea, sabemos que ya en Mayo o en Mayo o Junio, en septiembre ya tenemos las aguas…y es cuando ya andamos todos
Amigo 2 de Informante: preocupados
Amigo de Informante: ¡Hijo! ¡Ya! …()ni dormimos agusto…pero ya de, tiene que empieza la nublazón que vemos ¡Ay Diosito Santo! ()…a mover carros ya ya sale uno, ya ve andamos limpiando arroyos para sacar…y pues a trabajar…a prepararnos con los sacos, con arena…¡todos a, a llenamos y ponemos! …no ya (viera)…ya no dormimos …¡todos como tecolotes!
Dra. Julio: risa ligera
Amigo de Informante: …¡todos! ¡todos! Los niños…todos, todos, todos…
Dra. Julio: ajá
Amigo de Informante: Ya luego vemos que esta el sol ¡ay bueno ya!....pero luego que se está poniendo negrito ¡ay diosito santo!" …muchos ya no se , no se quedan, se van para otro lado….
Dra. Julio: con familiares…
Amigo de Informante: Sí…de hecho que cuando () ya llovía yo me llevaba mis hijos a, a la otra casa…o bien…"¡hay papá! ¿y tú?" –"No, yo me voy a venir a quedar acá" – "¡No hay papito que y…!"- "Y ya ahí te quedas ahí"
Cynthia: ajá
Amigo de Informante: mjum….y eso porque teníamos, pero por ejemplo eh Mario bueno, ya también tiene una (casita) para allá pero, la mamá ()…¿verdad? …ya bueno que ya también hicieron un cuarto, arriba
Amigo 2 de Informante: Ajá
Amigo de Informante: sí, otro cuarto arriba allá…pero Goyito y los demás…
Dra. Julio: no
Amigo de Informante: no, han le, han levantado la barda…de atrás…porque… ¡nombre! ¡si vieras!
Cynthia: …su opción es irle a tocar en caso de que….
Amigo de Informante: si funcione la alarma? Pero ya ves que es que ya, eh, la descompusieron, se la robaron no sé qué cosas hicieron…¡malditos chamacos hombre! Que no saben ni qué cosa dañan…
Cynthia: eh
Amigo de Informante: y a veces suena "peeeeee" y "¡órale!" y luego esta el velador
Dra. Julio: ah tienen velador
Amigo de Informante: sí, sí, pasa el velador y "peeee"- ¿y qué? - Y "¡órale y órale!" –toque y toque- "ámonos ¡arriba!" …sí….y eso es de nosotros…lo pagamos, ¡es de nosotros!...no que () el ayuntamiento, no….nosotros los….
Dra. Julio: ah ustedes lo pagaron
Amigo de Informante: sí
Dra. Julio con Cynthia: ()
-ruido-
Explicando el mapa….
Informante: …pero aún así la gente vive de sueños…porque sigue construyendo, ya para arriba (le está buscando). Entonces cada quién tiene…su propio…su propio proyecto de vida, su propio sueño y…()…verdad…
Cynthia; aja ja
Informante: entonces lo, lo curioso ahí esto () otra vez
Cynthia: sí, rebota ahí ¿no?
Dra Pati: mjm
Cynthia: como que
Dra. Julio: mjm
Informante: no sí rebota…de quienes les hablaba ahorita viven aquí
()
Dra. Julio: ¿y ustedes dónde viven?
Amigo de Informante: yo acá
(siguen platicando sobre el mapa)
Informante: y esta es la situación…verdad
Amigo de Informante: y es que este, este fue desviado…
Dra. Julio: el arroyo
Amigo de Informante: sí, sí sí…
Dra. Julio: yo creo que se pueden ver las imágenes y tener una idea ()

Cynthia: ¡ah! Si es cierto sí …
Informante: bueno y este bulto…este es el burocratismo que les digo…
Dra. Julio: ah
Informante: Cuatro años y medio y no se hace nada
Dra. Julio: ¿4 años y medio?
Amigo de Informante: ajá
Informante: Y y pues no se ve que…() eh la experiencia que (hemos)()se politizan ()()se hace burocrático…entonces todo eso limita mucho la… nuestro proyecto…
Cynthia: ah eso sí
Informante: Y ()…entonces este…esta situación hace que nosotros…pues ya (al momento de) desesperanzas porque…() …porque este…yo cuando voy allá a la…presidencia () les digo…yo, yo no vengo por lámina, no vengo por despensas…() …"oye que tenemos esto"… –"no, no, no yo no vengo…el objetivo es este y no hay otro"…
Dra. Julio: ajá
Informante: o sea "vengo por las vidas de mis compañeros"….entonces este, esa () suficiente es esto que limita a uno, te vas por, por lo más sustantivo y te olvidas de, del objetivo real.
Cynthia: medias de lo más…pronto así "a ver ¿qué necesitan ahorita?" jeje…y estas de acá ¿no se desbordó el arroyo?
Informante: No mire, lo que pasa es que no se desborda, () yo le voy a hacer otra aclaración,
Cynthia: ajá
Informante: cuando, cuando yo vine a ver…
Cynthia: ajá
Informante: cuando yo vine a ver, estos terrenos estaban limpios, que andaba apenas poniendo que…la primera piedra
Dra. Julio: ¿eso cuándo fue?
Informante: y deberíamos ir a…a tomar una foto ahí dónde esta el…el día de la inauguración
Amigo de Informante: ahí esta
Cynthia: ah…ahí tiene una plaquita
Informante: sí, ¿si la vieron?
Cynthia y Dra. Julio: no, no, no la ubicamos
Informante: bueno, entonces estábamos acá por este espacio…hice un recorrido y el agua…el agua no corría
Amigo de Informante: no, el agua venía aquí, exactamente, fue desviada por ()
Dra. Julio: ah
Amigo de Informante: () el cauce original
Dra. Julio: (habla al mismo tiempo) el cauce…el cauce original, digamos, o el río mmm…
Amigo de Informante: (habla al mismo tiempo) el cauce original…ya ve que muchos ()….
Dra. Julio: mmm…eso lo podemos ver en una imagen de…una fotografía aérea…
Informante: entonces…la realidad, la realidad aquí de que esto aunque supuestamente trabajen, "no pasa nada al cabo se va por acá"…no…si se rompe…
Dra. Julio: ajá
Informante: si no hay muro de contención, todo, ¡todo se acaba!
Cynthia: ¡ah! Ok va por acá
Amigo de Informante: sí, () ese viene de acá…aquí es…rompiéndose ese de aquí…de aquí….
Dra. Julio: ajá
Amigo de Informante: estos de aquí, esto exactamente aquí, porque esto viene así, y luego hace así, y luego así
Dra. Julio: y luego la curva…
Amigo de Informante: rompiéndose esto….
Dra. Julio y Cynthia: ya
Amigo de Informante: todo esto…se acaba
Dra. Julio: porque hay esta pendiente va hacia…
Amigo de Informante: ajá, porque este es el cauce ()…yo me acuerdo que cuando llegué aquí al lugar, un ratito a bañarnos
Dra. Julio: ¿ah sí?
Amigo de Informante: sí, así ()…yo venía () así…no tenía nada de…
Dra. Julio: de curvas
Amigo de Informante: no tenía así…() por eso le quedó la lajita porque ahí nos bañábamos todos …entonces esto lo hicieron así para poder construir todas estas casas…
Cynthia: mmm
Amigo de Informante: es más fácil, si ven porque acá hay valle alto
Dra. Julio: ()
Cynthia: ah sí, llegamos por acá verdad
Amigo de Informante: sí, por acá…()
Cynthia: esa de allá es la bajadita…
Amigo de Informante: () después de la inundación de allá arriba ¿verdad?
Amigo 2 de Informante: sí ()
Cynthia: entonces cuando….cuando ustedes llegan, todavía no existían estas casas
Informante: no eh la verdad, cuando pusieron la primera piedra pusieron ahí eh…un murito
Amigo de Informante: un murito nada más
Cynthia: ah ok
Informante: entonces este….
Amigo de Informante: empiezan a construir
Informante: ya empiezan a construir…y en eso, todo los árboles que están este aquí estaban acostados….
Cynthia: ah
Informante: por eso me di cuenta de que el agua corría por aquí
Amigo de Informante: en todas estas casas, por abajo se, se…y por ahí se les mete el agua …por la de Elsa, todas esas…este…y ¡nombre!
Informante: ah sí, cuando llueve el agua se sale por la coladera
Cynthia: ah
Amigo de Informante: sí
Cynthia: se desborda la…
Amigo de Informante: sí
Cynthia: se satura la cloaca…
Informante: y entonces ()era un plan que era el muro de contención, el acorazamiento del arroyo y la ampliación del proyecto…pero ()
Cynthia: mmm
Informante: () que no se puede acorazar()…que pongan un parque para una caminata…qué sé yo

Dra. Julio: ()
Informante: verdad, este…no pues yo le decía algo para caminar…
Dra. Julio: ¡un andador!
Informante: un andador… y este…pues…el muro este esta muy caro…()
Dra. Julio: () y bueno todos esos puntos van a ir saliendo
Informante: () bueno esto, solicitó ()…pero en una ocasión ya casi tocábamos la luna
(risas)
Informante: vinieron personas de México y ya le hicieron el estudio de suelo…y () pero luego se metieron en más problemas porque…() al último lograron la ampliación del puente pero de 40 metros (siendo que ellos) ()….o sea…si () yo quiero un perro ¿por qué me están dando gato?...¿sí? entonces…no, no puede ser….pero aún así firmamos y pues bien y todo, ¡pero!...ahí va el pero, ahí va el cambio de sexenio…
Cynthia: ah
Informante: el cambio de políticos…
Amigo de Informante: y para abajo
Informante: y empezar otra vez…()…pero yo…están todos los gastos () ahorita pues ya () no está actualizado
Dra. Julio: ¿cuánto necesitan o de cuánto era ()?
Informante: No en aquel tiempo eran…este…ahora sí que nada más era el proyecto 1, digamos no era el proyecto integral, pero digamos eran 10 millones de pesos
Cynthia: mmm
Informante: y ahorita ¡no! ()
Dra. Julio: claro
Informante: ahí esta el punto…
Cynthia: ah para el…
Amigo de Informante: ajá
Informante: y qué no podía ()
(plática irrelevante)
Informante: y a raíz de eso pues ya mejor nos metimos a…(saben qué no nos van a dar nada)…ahora vamos a hacerlo nosotros…y empezamos a construir hasta la bajada esa del…
Amigo de Informante: sí, ahí empezamos a construir…y yo lo inauguré jaja ¿te acuerdas?
Informante: (lo modificamos) a modificarlo ()…este desafortunadamente tuve un contratiempo de salud y ya…()…pero vamos a reactivarnos
Cynthia: ajá
Amigo de Informante: los letreros () él, él los hizo
Dra. Julio: sí era lo que le decía a Cynthia que esos letreros blancos ustedes los hicieron
Amigo de Informante: e hizo las letras y todo….
()
Informante: el señalamiento vial fue porque…era incongruente, los que van de subida que disque para que ()pero no hay ni un señalamiento () que…
Amigo de Informante: Hacemos () pintamos ahí todos ayudamos ¿Verdad?
Amigo 2 de Informante: mm
Dra. Julio: no y () porque () en las mejores condiciones posibles ¿no?
Cynthia: mjm
Dra. Julio: no sino también con la cámara () podemos sacar algunas fotografías y ya con eso
(plática irrelevante)
Informante: pero cuando las casas nos las entregaron…nos ()…para un préstamo bancario ()
Amigo de Informante: Bancario, nuestro dinero, no es fovisste…()
Informante: Y este () y este llegó un momento en que la inflación () este multiplicó todas las deudas que teníamos juntando de para acá…la mayoría siguen…y este hicimos un proyecto a nivel nacional, yo estuve tomando un curso y fui a México con (), teníamos buena dirección, pero a la hora que hicimos todos los acuerdos…no pues (vámonos)…a Valles ()…y…era de esperarte porque no convino con los intereses de los jefes…luego cuando este…fuimos a reclamar () también la empresa dijo ya no se llama así… () ni a quién demandar…ni a quién demandar…
Entonces esta situación hace que, que veamos a un país muy diferente al que uno aspira. Y luego y no es relativo que esto es de ahorita () es de siempre (). Tendremos que irnos directamente a otro (). Este…()…ahora qué bueno que ()

(plática sobre Alemania)

Amigo de Informante: en mi escuela, alrededor no esta pavimentado…() y no,
Dra. Julio: y no está pavimentado pero aparece como pavimentado
Informante: puro bandido, puro bandido
Dra. Julio: ese es nuestro grave problema
Informante: ()cada año manejamos informes anuales, (bueno ahí con los vecinos pues es más seguido pero ya a nivel año entonces tengo algunos apuntes que les pueden servir…(se los pueden llevar), de ahí sacan algunos elementos. () Pero pues mire aquí nos hemos ido…la orientación que se ha ido dando también, () la combinamos, en lo religioso y en lo, este, () cultura. ¿por qué? Porque de alguna manera este esas dos formas hacen que haya una un bien común. () nosotros apoyamos en todos. Este, eso ha sido parte de. Que algunos no trabajan en alguna cosa pues trabajan en otra. El último proyecto que hicimos fue Sesión permanente de limpieza. ¿Por qué? Porque decíamos vamos a hacer un proyecto un sábado, y luego cada quince días nos reunimos. Mira sabes qué? Tú lo puedes hacer en la mañana, en la tarde, en la noche…mira a veces yo veo gente barriendo a la media noche. ¡Sí! Nada más adáptate al tiempo, no hay problema. Entonces, este, pero tienes que ir busc, conociendo su gente para poder …in incidir en, en lo que queremos ya, como, como comunidad ¿verdad? Entonces, la planeación empieza ahí o sea no, no, no, se puede venir() y este (pueden andar) trabajando todos ahí este…(pero en la tarde acá no)…no importa si es sábado o ()eso equivale a la organización de cómo, cómo trabajan…yo tampoco puedo disponer de ti todo el sábado, ni de él, bueno

pero tú sí puedes adaptarte (). Y el otro punto era la limpieza den, y fuera y dentro de tu casa. Eso es otro, otro punto, o sea no, no () pero adentro tú tienes un desorden (). Pero entonces ha sido parte de ir conociendo a la gente, cómo, cómo actúan …

Dra. Julio: Y esta comunicación que ustedes la empiezan a, bueno la preocupación es a partir del 2008…¿cuándo? o ¿ya tenían antes previa, previamente una organización…?

Informante: no, no…no, este, es que cuando pusieron esta colonia, a la hora que te la entregan toda…()

Dra. Julio: ¿en qué año es eso? ¿cuándo se las entregan?

Informante: hace 20 años…fue en el …2014

Amigo de Informante: fue en marzo…

Informante:1994

Dra. Julio: 1994 es cuando…

Informante: y no había ni un problema, es más, ni se juntaba la gente, ni se juntaban para armar el comité porque no ¡no había problemas! Entonces no, eh este, pero el día que nos inundamos vimos toda la magnitud, y se hizo un comité emergente…entonces, y ese comité no fue reconocido porque se….() nosotros porque no…(). Y cuando hay algo así hay una inconsistencia total…que no había. Si aquí teníamos todavía cerro. Los árboles copaban aquí arriba (aquí en casi en en la) aquí en la casa (tocaban) y todos (estaban bien animosos) y ya cuando entramos…¿sabes qué? Si quieren trabajar yo le entro pero vamos a () y llegó un día, bueno ese día () ya estábamos en el 2011, 2010. Bueno, a ver 2000…sí porque el comité ese emergente no, no () y entonces empezamos a hacer cada quién en su espacio, () este, porque (ocupamos los árboles a) y le hacíamos así para pasar. Y ya este, cuando llegó

Amigo de Informante: era imposible vivir así

Informante: imposible vivir así. Y ya este, cuando lleg, una señora "¿oye qué pasó aquí?" y "¿qué pasó?" –"Pues estamos trabajando" –"no es que mira algo pasó" –"no pues sí es que, estamos este…". Entonces, () llega un momento en que se acostumbra uno a eso…() "Quioubole…este ábrele ahí a la cortina y pásate"… No o sea, sí tiene que uno qué hacer mucho por su…

Amigo de Informante: por su comunidad

Informante: Entonces, y lo otro que puedo decirles es que este es el único arroyo que está limpio, a pesar de que es poquita agua. Todos los demás…

Cynthia: era lo que nos llamaba la atención de que…

Dra. Julio: no huele

Cynthia: con el calor no huele nada

Amigo de Informante: huele sólo cuando limpian los…

Informante: el DAPA

Amigo de Informante: los filtros

Informante: pero pasa y ya

Amigo de Informante: pero pasa y ya…se van los olores.

Informante: Entonces, () cuidar el agua…o sea…el agua sucia…

Cynthia: genera todavía más problemas

Dra. Julio: Pero y entre () que ustedes realizan es la limpieza del arroyo, la poda de los árboles, la instalación de letreros…

Informante: Aquí hay de todo, es la seguridad…

Amigo de Informante: sí, eso es lo primero

Informante Es la seguridad también de…mire aquí llevamos, atrapamos a los, a los rateros…en serio, nos metimos en un proyecto de…a ver vamos…¿cómo van a empezar a…? No, y los atrapábamos. Y le decíamos () a la policía…()y no venían…

Nada más que…() mire () casi lo querían matar y les digo no, no espérense ().

Amigo de Informante: pero era seguido…¡seguido! ¡seguido que nos pegaban! ¡seguido! …()

Informante: y hubo un momento que nos organizamos de tal manera de que …

Amigo 2 de Informante: nada más me decían "órale Mario vente" y ()…

Amigo de Informante: antes no matamos a ninguno fíjate…en serio, en serio ¡en serio! Es que da un coraje que…

Informante: si mire…aquí hablamos de seguridad…()…(habla de un documento a los medios de comunicación)…

Dra. Julio: Y este comité comunitario entonces ustedes lo…ya tienen 4 años en eso…

Informante: No, no, no, son 3 años…y este…a mi me re-elijen pero por …pero pues la verdad era por el proyecto no tanto por salirse de todas las formas…()

Amigo de Informante: para darle seguimiento….

Dra. Julio: Ustedes ya iniciaron su segundo periodo, el primer año del segundo periodo…

Amigo de Informante: el segundo, sí el segundo

Dra. Julio: 2012…sí ya….y ¿la idea es hacer elecciones cada dos años…?

Informante: si de hecho este…

Amigo de Informante: ya él va a estar vitalicio

Informante: Yo quiero…() no te sé de política…yo creo que con que alguno tenga la intensión, no , no importa…

Cynthia: Pero ustedes, antes de llegar aquí, vivían también en ciudad valles o?

Amigo 2 de Informante: Yo no, yo vengo de una comunidad ()….sí para allá para los lugares de Xilitla ()…

Dra. Julio: ¿cuántos años tienes viviendo aquí?

Amigo 2 de Informante: 18…desde que…() desde que empezaron a llegar aquí…

Informante: Ahí hay otro punto. Es que son muchas cosas. Es que vea usted, () y este…a nosotros las calles eran puros hoyos.

Amigo de Informante: sí

Informante: se reventaban todas las…todo el drenaje, ¡todo! Entonces yo fui () Es que la compañía de agua usa un diámetro de 9mm, y el tubo es de 4…No pues ya ahorita es menos, pero ahora ya quedaron todas las calles…Bueno hay un regulador general que está aquí arriba…y se aplicó un…un regulador () este…para regular el agua, ¡ya se calmó!, ahora no tenemos ()…() es lo más mejor….sí tenemos agua suficiente pero a alta presión…pero…pero también…¡era un tronadero de calles!....no y sabe qué si se da una vuelta o vamos, están todos los…los hoyos…y nadie se hace responsable de una calle….()

Amigo de Informante: somos los ricos de la colonia

Dra. Julio: Y ¿todos son informantes aquí en la colonia?

Amigo de Informante: Sí, yo creo…

Informante: y aquí esta la invitación por ejemplo al aseo permanente de…()

Cynthia: pues promovieron las casas en, mientras todavía…cómo…o sea…¿a los maestros fueron que les promovieron primero las casas?

Amigo de Informante: Sí, o sea, fue el sindicato () verdad? Las sorteó…

Informante: Lo que pasa es que las casas fueron…este terreno fue donado al sindicato…y aquí () pero entonces como no había la capacidad de sacar por medio del fondo de vivienda () fueron cuando empezaron ahí los módulos habitaciones por…por banco

Dra. Julio: ¿Y qué banco fue el que se anotó a esto?

Amigo de Informante: ¡ya desapareció!

Informante: Fue Inverlat…

Amigo de Informante: y ya luego fue somex?

Amigo 2 de Informante: no…scotia

Amigo de Informante: scotia…no, no fue…

Informante: Pero que cree….() este no pues era un problemón como le digo que ese () no estaba y, y cuando ya seguíamos todavía en proceso llegamos a Inverlat y "no es que disculpamos pero ya no es Inverlat, ya es scotia y ya en lo que pueda…este pues arreglar pues es con ellos" –"¿cómo que con ellos? ¿qué no son red?" –"no, ()", es canadiense y luego ¿tengo que ir a Canadá? (risas) pero bueno, pero qué cree, que la gente de Canadá todas sus formas son diferentes, () los que iban al corriente les…pidieron 40…no 30…40…¿50? …

Amigo de Informante y Amigo 2 de Informante: no 40

Informante: 40, los que iban a medias 45 y los que no 50…y te daban 3 tiempos y ya (). Y así salimos, o sea ¡son más prácticos! Ellos piden el dinero corriente y nosotros ya pues se olvidan…

Amigo de Informante: querían 100, querían 150…

Informante: no y acá era un…no…yo creo que todavía estuviéramos esperando….

Amigo de Informante: Nos metimos al barzón, hicimos…

Informante: () pero aquí van todas las formas…()

(plática irrelevante-entregándole la encuesta al Amigo 2 de Informante)

Dra. Julio: y esto de la…de la alerta y de la sirena, ¿cómo es que llegan a obtenerla? ¿ustedes la compran? O sea…

Amigo de Informante: ¿cuál? ah e… la alarma

Informante: Mire la alarma…este, sí es de protección Civil…

Dra. Julio: Pero es la insistencia de ustedes

Amigo de Informante: ¡ah sí claro! …pues la alarma empieza a sonar () si ni llueve ni nada…oye pues qué pasa…y ya le hablamos y que vienen y la apagan…o la apagamos y luego ya cuando vienen y la buscan…pues ya no está…() ¿quién se la lleva? Pues sino sirve más que para eso…¡son los mismos! Le digo…este "cuando fui a ver oye no esta ahí, a ver chécale" –"no pues es la Magisterial. Ahí esta…ahí esta pues" () pero este…a veces sin agua suena , pues dices ¿qué?...()

Dra. Julio: pero digamos que si ha servido… hay fallas en la alarma pero cuando ¿han habido ocasiones en donde…sí ha servido en algunos momentos? Así que digan sí ya se venía el agua y entonces nos vamos…¿no?

Amigo de Informante: sí, sí, sí….sí porque () hace poco ()

Informante: pero es que son muchas cosas mire….el ser humano piensa muy raro…en vez de protegernos, vamos a ver….a ver qué pasa…o sea entonces no, no hay una estructura que…una evacuación de emergencia es….no, no la tenemos…yo diría que… les decía a mis hijos súbanse pa' arriba –"¡no! Queremos ir a ver" …

Cynthia: bueno pero si tienen el antecedente de que suena cuando no…quieren cerciorarse que sí…

Amigo de Informante: bueno pero empieza la gritadera y ya

Cynthia: sí, ahí ya

Amigo de Informante: sí, sí, sí entonces ya este…¡en la otra vamos a tener que salir en el helicóptero! Porque pues …¡¿por dónde?! …Porque agarra por el andador aquí, y luego agarra acá y sube…y luego va para abajo para la UPN y ya levantaron la barda y es un…¡un río ahí!

(plática sobre las encuestas…)

Cynthia: nos mencionaba que hubo otra en el 2004, otra inundación, pero en general la más fuerte fue ¿en 2008? O qué ¿qué recuerda de la del 2004?

Informante: 2004…

Amigo de Informante: no fue tan fuerte como la que…

Informante: Este no fue tan fuerte…sí pasó el nivel de agua…este…en el mismo nivel…pero no la misma fuerza…

Cynthia: ¿todavía no ponían estas casas? O ya las…?

Informante: ¡ no ya estaban! Es que mire…la segunda fue una tromba….fue como un aguacero doble

Amigo de Informante: y ¡pum!

Informante: se tronó, tronó algo y….mi hijo fue el que me dijo me dice: "papá, esta cayendo…esta bajando mucho agua" y yo "¿de dónde?", y ¿sabes? () yo ese día, o sea entre el sueño dije….() lo doble pum…pero pues pasa rápido…¡pero nombre! ¡qué agua! ()

Amigo de Informante: la gritadera…

Informante: Y aquí y no se inundó rápido…o sea, aquí bueno aquí se inundó…muy…llegó muy fuerte pero toda el agua fue a caer a zona abajo…pero duró una hora para llegar allá…

Amigo de Informante: Venía así "fffshhhh" luego luego

Informante: aquí no dio chance de nada…

Amigo de Informante: Aquí no, luego luego aquí

Informante: ahora…el punto que maneja es muy básico porque antes no teníamos asentamientos de colonias arriba…y entonces ya hay, entonces el agua corre más rápido…ya no hace…

Amigo de Informante: ya no se filtra, entonces ahora nada más escurre…pero por las calles…y no imagínese ¿si hacen más para allá arriba?...entonces nosotros…por eso es que nosotros siempre estamos al pendiente de si construyen otra obra a ver "¿qué onda? ¿qué onda?"

Cynthia: pero entonces fue por las mismas fechas las dos, o sea en época de lluvias?

Dra. Julio: básicamente es cuando tienen, como dicen, ya no pueden dormir cuando llega septiembre

Amigo de Informante: no ya no, ya no…y ahora Doña Gloria nada más llueve tantito y "aaah!" ¡ya se va! ¡se va! ¡se va! "¡oiga!" - "¡ahí nos vemos!" ya se va, ella se va "Cierro todo y ya nos vamos"()…yo yo la jalé, ya ves que…¡Ah pues se nos hubiera muerto doña Gloria sino la jalo! () y "juuuun"…

Dra. Julio: ¿ah sí? ¿se la estaba llevando el agua?

Cynthia: ¿qué le fue a tocar para que…?

Amigo de Informante: sí, porque…¡nada!…entonces este pues el agua por ahí por donde le caminamos ahorita, al otro lado por ahí pasaba el agua, yo la alcancé a jalar y ¡que la meto! A la casa…

Cynthia: y ¿ella vive sola ahí en su casa?

Amigo de Informante: con su…bueno ahorita sí, no ya no se queda, ya no, ya tiene miedo, a veces queda ahí cuando se queda el hijo…

Cynthia: pero ella si le….¿si les coopera con las medidas…?

Amigo de Informante: Si, no, no, sí, sí, sí

Informante: ¡no no, ella todo!

Amigo de Informante: ¡todos! ¡todos!

Informante: del apoyo todos están conscientes.

Dra. Julio: y sobre la alarma…¿o sea ustedes a raíz de esto es que empezaron a gestionar? O sea ¿cómo se les ocurre? O ¿fue una idea de protección civil de decir: "les vamos a poner ahí una alarma"? o sea…

Informante: mire, ahí le va…después de 4 años y medio, 5, 8, no sé cuántos…

Amigo de Informante: sí 10 años

Informante: después de 10 años, apenas se dan cuenta en el estudio del atlas de riesgo…que…que esta colonia es de los 5 puntos de más alto riesgo en Ciudad Valles. Después de 10 años…y eso ()…Entonces son las cosas que…pues ya…los políticos…()…lo administrativo…

Dra. Julio: y en el caso de la inundación, una vez que pasa esto, ¿recibieron apoyo? ¿qué hace protección civil? ¿Porqué más fue en el 2008 no fueron la única zona, tenían muchas zonas inundadas?…¿qué propusieron?

Amigo de Informante: ahí un compañero…eh y siempre dice, cuando es época de lluvia, las colonias más afectas "Magisterial" …y empiezan….son de las que…

Informante: están monitoreadas…

Amigo de Informante: entonces sí, ellos empiezan a ver pero….

Informante: pero no hacen nada…

Amigo de Informante: pero no hacen nada

Dra. Julio: se vienen y se entrevistan con usted así como "oigan…"?

Informante: ¡no, no! Ellos pasan así sin…

Amigo de Informante: si ve que estamos nosotros ahí llenando costales de arena y todo, porque todos lo hacemos, pero tú pides, ¿tú pides la arena verdad? La otra vez tú la pediste o ¿quién la pidió?

Informante: Sí pero, no, la vez pasada este…

Amigo de Informante: alguien llegó y vino….

Informante: gente, la misma gente…más bien la presión en lo que los medios de televisión que hace que…pero esté yo le voy a decir porque está monitoreada, porque a mi me dijo un ingeniero, un día que estaba entrevistándome de todo eso, me dijo, se llama Zuñiga, dice mira "yo no sé en qué momento….me fui…" estuvo toda la noche monitoreando ahí, él sí sabía que aquí hay ese problema, se fue a la 5 de la mañana…del…() ese día….me dice: "me fui a la 5 de la mañana" y eso sucedió como a las seis… ¡una hora después!…y ¿qué hubiera hecho? Bueno ¡por lo menos avisarnos! Entonces dije: "sí sabían"…o sea estuvo toda la noche…a las seis de la mañana…

Cynthia: ¿ese ingeniero es de protección civil?

Informante: era de obras públicas pero de otro periodo…() hace días fui y me entrevisté con el ingeniero que hizo esta colonia…y él con el lujo de…"sí yo hice la colonia"…y pues la verdad…que mal…(que no, no se explica)

Amigo de Informante: no, yo le rompo la madre, disculpen pero ya no se puede hacer nada en serio…no sí a mi me vale que…yo le rompo todo…()…

Informante: ahora, ahora lo que buscamos () por qué…porque no nos dejaron ni una plazita…¡nada!...

(plática sobre slp y las pocas áreas verdes)

Informante: Ahorita este…yo pienso…() es un acceso y yo ya hablé con ellos y ya sacamos las firmas y todo…()…y dice: "pues ya si ya te la fuimos a emparejar" y le dije oye pero "necesitas saber bien con quién estás tratando, o sea, tu fuiste a hacer una…a emparejar para ratones…ve fíjate cómo pasan los carros ()…cómo ()" ….() nosotros emparejamos todas las calles, todo eso ahí andamos…()

Dra. Julio: hay una casa para acá que está como en una barda, que algunas están como más alto que el nivel de la calle…¿cómo era el terreno aquí? O sea porque hay una casa hasta tienen unas escaleritas hacia delante y parece que esta sobre una barda, ¿ellos la construyeron o así era el terreno?

Amigo de Informante: a mi me dice la señora esta de aquí que está allí en una esquinita…"¿cuándo se fueron? ¿Por qué se fue a vivir ahí?" –"¿por qué?" –"nombre si esto antes, es….hasta acá pasaba todo eso lleno de agua ¡todo!" sí…

Dra. Julio: tienen más tiempo…

Amigo de Informante: y por todo esto pasaba el agua pero…¡caudales!...

Informante: y sí es una realidad….

Amigo de Informante: y todavía, eh nos desvían esto de aquí…así…una s…y ¿cómo?...

Informante: este…no mire esos…tal vez este son como retráctiles para que la casa no se (quiebre)…pero yo ya () de todos ellos a este ritmo…()…pues si en caso pedía una …()..y entonces me dijeron "Te toca la casa 3"…()…bueno, pero cuando yo llego, esta no está, entonces busco 1, 2 y 3…y estaba acá, estaba en la 4…y fui y ya andaba reclamando "no es que la tasa está rota, que ()"…bueno y me dice: "a ver pero usted ¿porqué dice…?" –"es que yo vengo por la casa 3 y me dijeron…" – "oye, la 1 todavía no se hace…", ¿y por qué no? Pues esto era un verdadero arroyo de más o menos 4 o 5 metros…como 4 metros…tenían que edificar….digamos…si se ve en la primera casa, ya esta cuarteada….dicen que esa…()…sí entonces sí…

Dra. Julio: me decía su esposa que incluso en algunas casas eh la fuerza del agua rompió los vidrios

Amigo de Informante: sí, todo, no, todo….

Informante: es que la, la primera, de la casa que esta ahí primera….

(se despide el señor Mario después de llenar su encuesta)

Informante: este…la puerta la destrozó…la puerta…la arrancó…al momento de abrir, la señora a ver qué pasaba, no pues ¡la aventó y la golpeó! A ella…a ella…y este…yo lo veo bien porque le dije oye pues…()…que pues del impacto ()…

Dra. Julio: pero las casas, algunas…que hayan destruido alguna barda…

Informante: ah no sí…las bardas las hicimos nosotros, nadie vino a construirlas…no, es que sí la barda del arroyo, o sea después le dije, mal hecho pero los maestros antes le hicieron los cajones, ese es error… sí porque quién autoriza también…bueno, entonces llega un momento en que la capacidad de agua no era no…y venía una vaca así una vaca ¡pero venía pataleando! Y entonces ahí estaba atorada, sí porque estaba () pero una buena patada con el esfuerzo de la vaca y tronó la barda…ahorita vamos a ir a ver…sí…() y después pasaron puercos, y pasaron…¡ahí iba todo!...entonces este…()…si usted lo ve ahorita dice: "ay qué bonito arroyo" pero ()….

Dra. Julio: sí, hay muy poco agua…¡no se imagina uno!....

Informante: y esa agua natural que sale de por aquí arriba

Dra. Julio: ah es como un manantial, como una noria,

Informante: entonces este…pues ahí total () de todo…

Dra. Julio: si pero, ay que complicado ¿no?

Informante: () ya la sicosis es otra cosa….hubo gente que se quedó paralizada, o sea, uno que los veía así que bien () llega el momento del, del impacto, unos no, grandototes los tenía que subir uno como bultos porque no, no tenían la capacidad…estaban bloqueados…este había otros que estaban… bueno hubo familias que ¡quién sabe cómo se treparon! ¡quién sabe! Pero estaban así arriba en la azotea…

Amigo de Informante: sí estaban arriba

Informante: arriba, este por las ventanas…subieron, es difícil de subir y estaban arriba…

Amigo de Informante: digamos yo, yo…no me explico cómo ¿cómo? ¡cómo se treparon!

(todos hablando)

Amigo de Informante: cómo lo logró esa señora con los niños…() este muchacho anda loco, loco con que su carro y no "espérese, ¡espérese!" () …el mío le digo "el mío ya se fue" …"pero ahí esta mi carro…()"…pero no, no, no…pero en fin

Dra. Julio: pero eso fue nada más, ¿cuánto tiempo estuvieron en las azoteas? Subieron a las seis, ¿a qué horas se pudieron bajar?

Informante: en menos de 10 minutos el agua se había ido

Dra. Julio: a otra comunidad

Informante: en 10 minutos ya no había…()…

Amigo de Informante: increíble…

Informante: tan sólo de aquí, al llegar a la (pared) del río duró una hora () porque ahí estaba peor, ya el agua no entraba al río…por que aparte de que era eso (el…)() fueron 9 días completos…hay un video…() …pero este el día que el (Valles) subió permanente…yo me acuerdo que la ropa, o sea los zapatos, ya no tenía zapatos secos, y tení…y eran tiempos de graduación que sí, teníamos que ir pero "¿y ahora qué me pongo?" pues así…porque como quiera andabas en el agua, ¡ya te habías acostumbrado!...fueron 9 días de agua…

Amigo de Informante: ()…desbordado…el Valles…

Informante: 9 días de agua más la tromba…

Dra. Julio: claro…y tenemos también fotos que usted nos dio ahí de la zona donde hay unas canchas de basket…y hasta donde se ve, hasta dónde llegó de…

Amigo de Informante: sí ….

Informante: a ve haber sido de la inundación 2008

Dra. Julio: sí, fue la del 2008….() y cuando eso pasó, ¿vinieron los de protección civil a ver qué había pasado, si necesitaban algo? En ese momento o sea inmediatamente después o no, o ustedes in…()?

Informante: no e…este…nosotros nos tuvimos que meter, toda la colonia, a apoyar a los que estaban más afectados

Amigo de Informante: Sí.

Informante: eran tareas muy, muy cansadas. ¿por qué? Porque apenas entrabas una casa y (se notaba) todo el día, y eran camiones y camiones…en lo que sí ayudaban ellos era en sacar todo lo que no servía

Cynthia: el escombro…

Informante: pero todo lo de limpieza ()… seis de la tarde …ya no podía el cuerpo

Dra. Julio: básicamente era primero retirar escombros y luego sacar como el lodo ¿no?

Cynthia: y reparar lo…

Amigo de Informante: () cada quién, (y esperar porque ellos querían que) el carro lo jale de arriba, y a veces "mi carro, no me lo maltraten"…pues ¿cómo lo haces?

(risas)

Amigo de Informante: () un gritadero…

Informante: hubo una máquina…era un bulldozer….¡no era una mano de chango!

Amigo de Informante: Ese lo mandó la DAPA

Informante: sí, pero…

(irreconocible)

Amigo de Informante: Ese, truena y desaparece la colonia…

Informante: arriba hay una laguna, ¿cómo se llama? O sea la presa La Lajilla, entonces me imagino que si truena inundaría toda la ciudad…

Amigo de Informante: truena ese y se acaba, ¡todo Valles se acaba yo creo!

Dra. Julio: ¿cómo se llama la presa?

Informante y Amigo de Informante: la lajilla

Dra. Julio: ah presa La Lajilla…el, el río de la laja…habrá qué ver cuando la…la construyeron…() eh ¿cómo se llama? La de AGAPA? Cómo se llama?

Amigo de Informante: DAPA, D-A-P-A Dirección de Agua Potable y Alcantarillado

Cynthia: esto es este municipal ¿verdad? () entonces mandaron esta, ¿nada más esta máquina? Y ya con…() y fue…y lo demás ¡cómo le hicieron ustedes?

Amigo de Informante: nosotros

Cynthia: pero ¿cooperaban o cómo era el asunto?

Amigo de Informante: () para limpieza, nosotros

Informante: ¿la limpieza de qué?

Cynthia: pues de los escombros y no sé si arreglaban casas o banquetas…simplemente…

Amigo de Informante: no….¿cuándo bajamos los carros? Los bajamos en palos…

Informante: no nada más la limpieza, entre todos, pero fue…es que nadie te ayudaba porque, pues todos estaban igual…verdad…el que menos () pues si en 10 minutos queda así…

Dra. Julio: () …y fue en sá…entre semana? Fin de semana?¿qué día fue?

Informante: era un día hábil…

Dra. Julio: ah era un día hábil, o sea ¿ni siquiera ir al trabajo?

Amigo de Informante: ¡no!

Dra. Julio: ¿ ni a la escuela?

Amigo de Informante: no, todos a todos nos dieron el día, a los que teníamos problemas en la escuela nos dieron el día

Informante: sí nos dieron el día libre

Amigo de Informante: porque ya estaba Santa Rosa todo incomunicado

Dra. Julio: pero ¿nada más a ustedes o en general en Ciudad Valles se suspendieron las labores de trabajo?

Amigo de Informante: ()…no, no…nosotros no más a los afectados

Informante: no, no, no, () o sea () al otro día a trabajar

Amigo de Informante: lo bueno que…bueno nosotros tenemos buen director de escuela

Informante: nos dijo "¡váyanse órale!"

Amigo de Informante: () "ayúdenle por favor a sacar las cosas" ()

Dra. Julio: a qué nivel dan clases?

Amigo de Informante: bachillerato

Informante: yo primaria y secundaria…() pero que cree que no nada más es eso….

Amigo de Informante: de todos modos Protección Civil a veces avisa que se suspenden actividades, para que los que viven en comunidades ¡simplemente aquí en la ciudad! …()

Cynthia: y como en ¿cuánto tiempo limpiaron toda la colonia? ¿cuántos días les tocó trabajar así?

Amigo de Informante: ()…como 15 días ¿no?...() sacamos colchones y todo…

Informante: () …no sí se tardó mucho …es que pues no se quieren desprender de sus cosas…() ¡nada sirve! …yo me acuerdo del vecino ahí…de…iban sacando todo y luego me dice "los zapatos"…me imagino los acaba de comprar y me dice: "también los nuevos…"

Amigo de Informante: …y lavaron y no….

Informante: ()…y la gente, mucha gente () lavando la ropa en el arroyo

Amigo de Informante: porque y después el agua servía el agua seguía subiendo limpiecita…y ya ahí lave y lave () si ya no había problema, como ya no había agua…

Informante: aquí…() sí allá estaba…

Cynthia: allá sí se les estancó y quedó ahí…() y por ejemplo estos sacos de arena, ¿los arman entre todos o cada vecino dice bueno yo me voy a hacer los míos?

Informante: no no aquí se arma…aquí traen el montón de arena y aquí se arman

Amigo de Informante: llévamos a los niños, y ya están grandesitos y ¡órale!

Cynthia: ¿y ahí si se cooperan para pedir la arena? O ¿cómo le hacen?

Informante: no, la arena si la pone el ayuntamiento () pero pues nada más la avientan ahí

Dra. Julio: ¿pero es a petición de ustedes o ya llega?

Amigo de Informante: no, nosotros la pedimos

Informante: no, porque ()sino pueden ni con ()

Amigo de Informante: y todo nos lo ponen y ahí nos lo tiran con palas y todo …y a amarrarlos

Cynthia: y los van poniendo por acá…tienen alguna forma de ponerlo en especial?

Amigo de Informante: aquí…aquí así…porque ahí esta el golpe…y ya cada quién por ejemplo por acá yo me traigo dos tres bolsas y los pongo en la entrada de mi casa…sí, y ya brinco ahí y ya.

Cynthia: y ¿los han puesto cada año los ponen o de que pasó ahora?

Amigo de Informante: nada más vemos que ya se viene y ¡órale!

Dra. Julio: no importa si vaya a llover o no, ya están preparados

Cynthia: ¿cada quién los tiene en su casa o tienen un lugar en donde los guardan?

Amigo de Informante: no o sea, los hacen ahí y ya los juntamos y ya en la carretilla nos los llevamos…y si vemos que ya esta () ya empezamos a hacer la barda todos…()…hacemos una barda…()…por ahí los dejamos y se van desbaratando y ya…() y ya queda ahí la arena y pues el que ocupe, ahí va y agarra…() y ya

Cynthia: ()…volvieron a construir ustedes esta barda…me decía

Amigo de Informante: ah sí, sí

Informante: ah es que…se suscitó ()…a reparar…y entonces no pues para qué si vamos a tener que destruir todo…porque…hay que hacer ()…

Amigo de Informante: ya se nos hubiera caído un niño ()…(se cayó un niño pero no le pasó nada)

Informante: entonces yo dije, sabes qué, aquí hay un riesgo…¿y cómo le vamos a hacer? Pues () ponerle coperacha entre todos…¡sí entre todos!...() no pero la gente "oye que ayuntamiento esta trabajando muy bien"….-"sí, que ayuntamiento ni que la jodida"…

Cynthia: y los árboles, los que dice que plantaron, esos también se los….

Informante: la reforestación? La reforestación fueron este los niños del catecismo…este ()…pues hay que ser sinceros, nos los entregaron un partido político. Y este pero aquí han venido

de todos los partidos, y cada quién, si vienes qué bueno y si traes algo () y si no traes nada o sea no estamos pidiendo nada…

Cynthia: pero estos árboles no los plantaron como a la orilla del….fue como como entre las casas o así? Las calles?

Informante: sí la reforestación …este, en la bajada…ahí en la bajada tenemos un problema…()…ahí no hay banqueta…

Amigo de Informante: ()…y aquí en la bajada como no, no hay banqueta, y entonces ustedes vienen por aquí pasan los, los carros…

Dra. Julio: sí y como usted dicen tampoco hay un lugar especial como para jugar…

Informante: ()…también lo de la urbanidad, verdad, la limpieza, la cultura, nosotros impulsamos la cultura de la limpieza…yo siento que ahí es la base…() si y este…

Dra. Julio: y ¿estos carteles que ustedes ponen? O sea quién pone los letreros, todos o ustedes se reúnen y dicen vamos a poner la leyenda así

Informante: No, este es un collage de por sí…este pero…el que estaba aquí (Mario) es el que él los diseñó…y aunque yo llevo una idea me dice, ¿qué crees? Eso no me gusta…bueno a ver cómo lo pone, no pues me dice mira aquí le falta…()…yo le di varios…y él le dio el toque de letra…() el objetivo que la gente dice "oye pero aquí esos letreros no son comunes…" ()…y los hicimos dobles, ()…dos…pero este, pero también conseguimos mamparas o sea, pues no, no nos ayudaron en nada

Cynthia: ¿también a coperacha se fueron?

Informante: no, para la reconstrucción sí, pero las …nos los donaron aquí unos vecinos…

(plática de pato sobre posibilidad de un proyecto de educación ambiental con ellos)

Informante: lo que pasa es que es lo que estamos viendo ()….aquí tocar la vida de los demás nos hace responsable de ellos (y lo que les venga)…por ejemplo cada vez que ven que (pueden tener una) una inundación permanente…es lo mismo en lo ambiental…sino les crece una conciencia ecológica…pues (el mundo) así como vamos…()…nos vamos a autodestruir…esa es la verdad…entonces este, sí…y nadie (), nadie la va a venir a…()…aquí ahorita vamos a restablecer los proyectos este…() la otra vez tuvimos también una…eso de la sesión permanente fue para saber si funcionaba y pues sí funcionó…sí funcionó porque…pues te digo, no había hora…()

Dra. Julio: y más o menos, ¿qué porcentaje de vecinos participan? ¿cuántas casas?

Informante: todos…pero es que no es un proceso de un día o sea ya llevamos 4 años trabajando…

Dra. Julio: claro, () lo que sí ha pasado es que al principio eran tal vez menos y cada vez la gente ha participado más en vista del…de lo que ven…supongo

Amigo de Informante: lo malo que no tenemos un parquesito, sino () bien padre…yo llevo a mi hijo al rancho…()…

(plática irrelevante)

Cynthia: ¿y no le pasa que estos de acá le echan más ganas porque son los que la sufren más?

Amigo de Informante: sí…así sí…

Cynthia: pero en general todos se interesan

Amigo de Informante: Sí, y acá pero…acá como que estamos más…

Cynthia: más unidos

Amigo de Informante: ajá…y estos de acá…() ya estos ya casi no, pero sí cuando es…¡todos! ¡todos!

Cynthia: ¿pero porque son más nuevos?

Amigo de Informante: no, no pues todos, como ellos no tienen tanto () vienen a ayudar acá…y si es limpieza cada quién hace su área y se limpia () entre todos…

Cynthia: y así como ese día que nos decía como…que ha pensado a futuro que al o mejor podría ser, ¿qué otro tipo de cosas han pensado que podrían ser?

Amigo de Informante: ()…podemos poner una carrucha ahí arriba para una evacuación de emergencia….()…pero de perdida algo mientras está acá subiendo porque va subiendo así, porque baja esta cantidad de agua aquí y ahí es donde se hace como el remolino…

Informante: tenemos que hacer rutas de evacuación, o sea tenemos que llegar a la concientización, porque la gente de ahí de…() o sea…se van hacia arriba…()…el problema que estamos más sentados, ()…aquí lo curioso ()…lo más curioso para mi () fue que el agua venía para arriba en vez de abajo, (yo siempre tenía la idea de que era al revés) pero se saturó, ahí donde se le atoró al carro a este hombre…¡no más abajo! Eh es un () y es una casa ahí …entonces los carros que se fueron uno se fue por arriba por ahí donde esta el camino ()…

<algunas cosas las toman con sentido del humor, como el coche que quedó afuera estacionado afuera de un depósito y le echaban burla al dueño de que andaba borracho>

Cynthia: pero ahora que, dejan ahora cuando suena la alarma y empiezan con lo de los costales y eso ¿sacan los coches o los dejan ahí también?

Amigo de Informante: ah no, todos acá, allá arriba los carros

Dra. Julio: ¿y eso lo acordaron o que?

Amigo de Informante: no, no cada quién busca, mire…(ahorita caben 20 carros)

<hicieron como un estacionamiento en lo alto>

Cynthia: entonces nunca han venido de otras organizaciones a platicarles

Amigo de Informante: ¡nah! …no, aquí de aquí de la opinión de ellos de haber qué vamos a hacer

Informante: yo antes de tomar una decisión primero consulto a varia gente para () generar un bien común sin afectar lo menos posible a nadie. Porque eso es un punto y hemos ido checando cada paso, y ya cuando tengo más o menos el consenso de cada quién y ya () porque lo que yo pienso no puede ser lo que todos piensan, entonces este tengo que ()…

Cynthia: y en el comité, cuando se juntan, aquí? Cómo es? Vienen como por manzanas? Cómo es?

Informante: ()…empezamos un proyecto cada quién se hacía responsable de (su sector)…una persona…y entonces esos sectores estaban controlados, ()…y nunca tuvimos ningún contratiempo, lo único que sí no nos () fue el proyecto de captura económica para esto, porque nos pedían el 20% y la

más afectada fue la única que aportó completo pero ya después se le reintegró porque pues las cosas no se dieron…() <del plan integral>

Informante: y queríamos estar preparados pero no veían futuro…o sea no veían…entonces este no, no creímos conveniente la situación…ahorita nos hemos organizado tanto en lo religioso como en la estructura por…por sectores. Es decir, () por ejemplo nosotros aquí tenemos este espacio libre, entonces todos los que ocupan el carro aquí, todo ese sector nos adaptamos de acuerdo a la necesidad. Pero por ejemplo aquí, por cuestión por ejemplo una posada, ()…

<se organizan para las posadas por sectores por casas>

(hablan de las posadas, lo bonito que son)

Informante: y en este sentido todos, todos se involucran…

Amigo de Informante: y estamos con la idea de hacer ahora sí en…una capillita...y andan…no, no, ahí la hacemos…viene el padre y aquí la hacemos, cada quién con su sillita…<la ceremonia, el catesismo también>

Dra. Julio: y aprovechan estas reuniones de la iglesia en ese momento para alguna organización o algún aviso de la comunidad o sea…lo hacen de casa en casa o ¿

Amigo de Informante: no, se respeta y algún aviso se manda acá…<con hojitas> todo el comité por este lado y las actividades a desarrollar…()…

Informante: aquí trabajamos por comités, este es el comité de seguridad, el comité de capillas y coordinador de servicio religioso y el comité comunitario.

Dra. Julio: y este comité comunitario es que el ()…muy bien esta…

Informante: Sí, () un asunto muy intuitivo, o sea, a nosotros sí nos ha aumentado la seguridad, y a la ciudad no…y entonces eso, eso les…()…no es que establecemos territorio es nada más, este… estés o no estés, cierra la puerta…()….eso ha sido un punto medular…no hemos establecido ningún contacto cuando hay algún problema (verda de( ) pero ()…si alguien va a salir…()

<que avisen a los vecinos, para que vigilen la casa>

Dra. Julio: y la comunicación es más por celular o más por?

Amigo de Informante: es de ver…más efectiva…si porque es más práctico…

(cuenta anécdota de que detuvieron a un ladrón en la casa de la vecina, su hijo le avisó, y él habló)

(el Amigo de Informante. Se retira, comentan asuntos de las encuestas: se los darán a gente específica)

en el 2013 metimos lo que es la señalética

(hablan de las copias)

<Sobre el Informante:

años de informant: 23

Tiene enfermedad- tal vez por eso se jubile pronto

Ahora tiene permiso por un año, regresa a labores en agosto>

Informante: Los que manejan los comités comunitarios…no hay hechos….nos dan, nos invitan a un curso para decirnos cómo vamos a trabajar pero ()…

Cynthia: y cómo se llevan con las colonias de al lago, se comparten experiencias o?

Informante: están impactados…seguido vienen a vernos y yo tampoco no puedo ser…tengo que respetar, pero ellos siempre ()… lo que pasa es que esta es una ampliación de la colonia esta, …() Entonces yo, pues aquí no había lámparas de luz, aquí se acostumbraba a vivir unos 70 no sé 100 años sin luz…esta yo la acabo de poner, esta y la de acá, puse 5, pero esta es una y esas las compramos nosotros…nada más les dijimos "ya pónmelas" …-"no pues es que mira…que el brazo no funciona" …()…y por ejemplo ()…

(plática del gobierno y los baches)…

Informante: sí sube pero no rebasa, o sea no se sale….()…hicimos un proyecto, el agua venía así entonces ()….el agua viene aquí y luego se reduce a esta parte, () entonces lo que hicimos, vino un señor y me dijo () "vamos a abrir aquí eso" para que el agua llegue, haga remanso, pierde fuerza…entonces esto es lo que se ha estado, por eso sigue igual, pero esto nos ha ayudado, y que y yo no digo ()…

(hablan sobre ubicaciones de la alarma)

Informante: esa es una medida de solución…()…si porque otras colonias les digo que vienen a verme…no…vienen a verme con la intensión de hacer equipos para hacer contrapeso…no () ya no se tiene que ir a ….a ser del montón…no verás, tu has, trabaja para que puedas tener tu casa ()…o sea () ganancia ni sea buena la relación, pero entre otras pláticas, sí platicamos, "A ver ¿tú qué has hecho?" el problema de las demás colonias es que la gente no apoya…() y pues sí pues aquí lo que tiene la colonia es que apoya…().

Cynthia: nada más les informa y ellos solitos se apuntan ¿no? ¿Les pasa circulares a sus casas?

Informante: ah sí, todo es por escrito, yo tengo otro….tengo otra persona que se ()…yo hago el escrito y él lo reparte, yo lo imprimo….

Cynthia: y ya luego que se los topa en la calle le comentan "oye qué bueno"

Informante: seguramente lo hacemos en la noche, o sea no, porque sí es que hay muchas necesidades nada más que necesitamos identificar ideas también de qué se puede hacer….

Cynthia: y a la gente se le ha ocurrido cosas, así que en su casa diga, que les interese hacer lo mismo…así que se compartan tips?

Informante: sí, es que siempre tenemos que escucharlos. Tenemos algunos casos, allá atrás pero este…estuvo muy () una calle...entonces hubo un momento que se adueña de la (), este espacio era nuestro patio y ahora es una calle, no puede ser. Pero aún así este, hay gente (que está malita) ¡Ay cómo pelea los árboles! Porque ella los plantó…si pero…()…tenemos que aguantar porque ella ()…es un conflicto…() cómo vas a poner tú un, ()…(interrupciones en relación a que llena el formato) …mi hija me regaña me dice "es que no es correcto lo que tu haces, yo la colonia la quiero más verde, y tu vienes y me la haces gris" …y le digo es que "son momentos" o sea porqué porque a veces como allá ()…dura seis meses y la otra te dura…() …yo sí le dedico mucho tiempo a esto…(hablan

sobre su hija) (devuelve la hoja de formato) (habla de cuando regresaría y cosas así)…

Informante: a mi me gustaría saber qué piensa la gente que no presentó problemas…(hablan de la aplicación de la encuesta)

Hacer recorrido, por la colonia, videos…platicar con alguna familia que resultó muy afectada, una entrevista de 20-30 minutos…

Informante: hay dos…pero ()…realmente perdió mucho valor y perdió la confianza, los que están ahí ()…si vas a construir arriba….()…una vez les ofrecieron una cantidad…pero era muy poco…y los ubicaban donde ellos querían…()…donde nadie quiere irse…y les dijeron: "sabes qué? Muchas gracias pero no"…Aquí arriba tenemos que checar, la planta de agua anteriormente cómo cae de arriba, porque esta desviado todo…luego hay un montón de tierra ….()…y acá abajo se atoran los carros donde esta la casa de…dónde es un cuadrito…es que al final de cuentas si arreglamos aquí abajo va a ser lo mismo o sea, no, el problema es de infraestructura de ciudad, no es aquí la colonia, pues aquí pues ya llegamos y aquí estamos, ()…la parte baja donde desboca, donde desemboca…cuando el agua, mire aquí en el Limón Tamaulipas, todo lo de ahí es parte baja, parte alta, pero es lo más bajo…toda esa agua baja aquí, entonces el río aumenta su…y el agua que va cayendo pues se regresa…debe haber fotos de…

Informante: en el sexto año de primaria…el último tema es…desastres…()…a mi me interesó mucho ahorita que…cómo si es un problema de inundación, cómo les gustó ver todo…eso es importante, y es que así deben ser los problemas, debes ver todo. Proyectos integrales…() mira un día, así nada más, ahí se puso un muro de aquél lado, y pelearon por él, por la corriente de agua, y ellos peleaban por que la casa se estaba queriendo derrumbar y que ¡bueno! Total…y yo dije bueno, ¿y yo porqué peleo por este muro ¡si nos queda todo el universo!...sí,…()…el muro era de tantos metros, este muro estaba por acá…este, entonces, iba a estar más bajito, más bajito que…más largo…iba a quedar más largo…entonces no garantizaba nada….entonces me dijo "no sabes que mejor recórremelo y házmelo más grande y aunque quede más chiquito"…ahora el problema nada más en vez de que el agua mordiera acá muerde de este lado …y en vez de que el agua se baje así, agarra y hace una laguna…() "oye y qué vamos a hacer?" –"pues es de ustedes jejeje" , () Vamos a ver qué, pero es que tienen que estudiarle, no nada más es de ir a meter tierra, (para empezar qué tipo de tierra), si luego va a hacer más lodo ahí no, ahí que ver el declive, no…entonces todo eso tenemos que verlo ()…

Dra. Julio: y () muerde de este lado…?

Informante: o sea es cuestión de buscarle, pa qué me sirve, ¿a tí pa qué? ()…tu quieres espacio ahí esta. () primero cuando llegamos aquí no teníamos ni un carro ()luego cada quién con su carrito, después agarraron dos, ahorita los hijos ya tienen, ya , ya empezamos a saturarnos, pues ya, busquen, por sectores cada quién su espacio, y ahí usamos los sectores () y se adaptan…y este entonces estamos en eso de los vehículos…

Informante: () es difícil, sí porque…hasta eso no les quedó muy bien, pero ()…y esta tronada, no pues ni para ellos…pero es que ellos ven lo estético no ven la realidad…() como todos tenemos ideas, no todas las ideas son buenas, porque falta conocimiento, entonces este, para unos esta bien para otros esta mal, nunca van a estar contentos () y eso se da en todos lados. A unos creen beneficiar y al último ellos se meten en problemas. Aquí en Valles tenemos un problema, () un solo puente que hicieron y se cayó…() es el único puente que tenemos…le llaman "la largatija" ()….<hablan sobre el puente que hicieron mal pero no sabe porqué>.

Dra. Julio: y en el caso de las inundaciones, no hacen como una reunión de todos los…presidentes o comités comunitarios…() bueno ustedes tienen problemas de inundación, no hay, no habrá?…claro tampoco les conviene….

Informante: no tienen nada qué ofrecer…desafortunadamente, yo les digo a los presidentes comunitarios ()…este…ya ve que, no sé si es ()…pero les digo es que no están ofreciendo nada…()todas estas colonias tienen un presidente comunitario social, sí, u ese comunitario social es el que se encarga de () de vigilar que sean obras prioritarias y que…que les está diciendo a ellos sobre ellos, pues yo le digo ()…apenas sí me presumió es que traigo un celular nuevo, el celular este me lo acaba de dar el…()…"yo desde cuándo que no te encuentro y tu bien gustoso porque traes nuevo celular que te dio tu jefe…" digo no pues así que…dijo "vamos a hacer esa calle" le digo "se lo recordaré después" …espero que sea la ()…ni eso, si no puede con unas banquetas…() si nosotros tenemos harto, () tenemos 10 camiones de piedra…este…de aquí donde hicimos esta situación de aquí de…sacamos 10 camiones de piedra, y hay demasiada piedra…y la partí…yo la mandé tronar, y cuando ya la teníamos ahí órale ¿no llegaron a llevársela todos? , digo "bueno pues qué, pues sino la partí para ustedes…" este, ahí ()…este, ¡ahora todos eran dueños! Que porque era federal, que porque era…de la DAPA, que por…bueno ¡los trabajadores de la DAPA eran los que estaban ahí! (y fuimos a la DAPA a ver qué fue lo que pasó, "no es que….no, no sabemos") …()…¡todos agarrando piedras! Le digo "hubieran venido cuando estaban () ahí las piedras, se las hubieran llevado" ()…pero el recurso esta, se puede reciclar, de esa excavación que hicimos, ¿del remanso que le dije? Salieron 10 camiones de piedra, y no, y nada más la que ()…entonces sí hay mucho recurso…

Dra. Julio: y eso quién lo pagó? (al final, …())

Informante: esa…es que traigo muchas máquinas, quise emparejar ahí ()…trabajaba en el ayuntamiento esa persona hace tiempo y él fue el que me dijo "te voy a decir vamos a hacer eso" <el ingeniero del remanso> humanamente ()…entonces () entonces llegamos a acuerdos "mira yo sé que no se puede pero en qué te ayudo y en qué me ayudas?"… ¡no pues ya no se veía ni la colonia!, estaba el montón de cosas, ahorita pues porque salí y ya no pude checar unas cosas…()…eran montones de piedra, piedra, todo, o sea tuvimos que emparejar ahí ()… Y la conciencia ecológica es muy difícil, la gente agarra y pasa y nos avienta basura…(como

que les da envidia) ()…no pero esto es más de aquél lado ()…y la otra colonia pues como no va la basura pues ()…

Informante: pero si…dos tres veces me han dicho que la organización es importante, este más que ()…

----END------

Annex Transcription of second interview to Specialized informant

Specialized informant. 2014. Floods in Magisterial Suburb. Cynthia Marisol Peñaloza Guerrero and Patricia Julio Miranda. [audio/mp3]. House of informant in April 5th. (Original version in Spanish)

Informante: este espacio que esta aquí en la entrada, es este, queremos rescatar como plazuela pero es particular…

Cynthia: para hacer un jardín?

Informante: pero como es particular ahorita, ayuntamiento no da pero nos da este otro, este está acá…() y queríamos un mini campo pero dice que tiene mucha pendiente de agua y se va a deslavar, y () un muro grandotote aquí…

(hablando del mapa, ubicación del remanso y de los documentos)

Informante: si usted se da cuenta hoy entró como el 50% de la comunidad a hacer aseo de la colonia…pero yo ya no les digo, ellos ya lo hacen cada sábado. Sí pero ahorita por ejemplo el 50% sí tiene el espacio y se ponen a limpiar. () Él desazolve es muy complicado para nosotros, el desazolve es …por ejemplo todo el arroyo ()…para nosotros a veces es el problema porque es muy pesado ese trabajo, cuando se hace se meten 20 gentes, entonces se limpia primero todo, se chapolea y se va…()…chapoleo es cortarle la hierbita, la maleza…ya que está así se ve la dimensión del bordo o de dónde el agua puede hacer () y entonces entra una máquina y desazolva todo para que el agua pase, pero eso es lo único que puede hacer ayuntamiento…

Cynthia: pero ustedes hacen la petición?

Informante: sí…() <él contrata a un amigo para que haga sus labores del sábado que le tocan a él como vecino, ya que él no puede ayudar por su enfermedad> <le encarga que vaya a recoger basura que tiraron los de la colonia vecina al interior de la colonia>

Cynthia: ¿cada cuándo hacen el desazolve?

Informante: Ah eso sí es preventivo, porque…dos veces al año…sí y además que también hay formas de hacerlo entra la máquina y avienta uno (la tierra) hacia las casas, eso esta peor…uno por la inseguridad porque ahí () los malhechores y la otra es este…porque humedecería mucho las casas. () seguridad, aquí se paga a una persona por todas las noches, <velador> y se le da un extra para que lo haga por las tardes…() un día descansa….()…cada persona le da 20 pesos semanales…<cada quién se lo da al señor> no, ¡yo lo que menos quiero es dinero! Porque el dinero…confunde mucho las cosas…esto es…capilla religiosa

Cynthia: eso de la capilla, vi en un documento que decían que ya tenían una capilla…

Informante:ah…¡es provisional! O sea todos () todos los…()…pero nos hemos habilitado con toldos,() eh tenemos todos los implementos de una iglesia pero no tenemos lugar…() ahora aquí nuestro sacerdote de ()(congregaciones) él dice yo pongo la mitad…claro () pagable al hacer actividades y reintegrar todo después, y el ayuntamiento que ponga la otra mitad nada más que aquí no hay mucha <ayuda> pero aún así buscamos () sillas, buscamos….proyectos () hicimos asunto el proyecto "dona una silla por familia para la Capilla"…la novena de posadas hacemos nueve…porque es novena…en el 2012 le toca a unos, en el 2013 le toca a otros y en el 2014 a otros y así….

Cynthia: y esto esta relacionado con lo de los sectores?

Informante:sí…son 9 sectores

Cynthia: nueve sectores, y como de cuántas casas cuadras?

Informant como de seis

Cynthia: seis casas por sector...y hay como cabeza de sector? Que serían las personas…?

Informant lo que pasa es que todos los, ¿cómo le diré? Los líderes como que también van siendo modificables, por decir, este año se encarga uno…el año que entra por alguna razón este se cambió o este se…tiene otra actividad, entra otro relevo…() entonces por ejemplo en este tiempo que estaba yo al frente, ahorita entra la maestra de al lado <de su mismo sector>. ()

Cynthia: y a través de ellos es que los comités se comunican…? Porque ya ve que decía que tenían 3 comités?

Informante: ah no, esos son aparte.

Cynthia: ellos nada más se organizan para las posadas y las limpiezas?

Informante: para todo, porque hay mucha conexión, es que buscamos la conexión entre ellos, este, ellos, por ejemplo, aquí somos de la esquina hasta dos casas antes…es nuestro primer proyecto aquí vamos a ver qué tal sale…pero esos 9 sus intereses están aquí…entonces todos ellos nos juntamos y decimos "vamos a hacer este proyecto, ¿cómo nos apoyamos?" pero es de beneficio ()…pero luego, a ver pero "es que aquí no nada más hay carros de aquí, también hay de acá" bueno a esos dos tres los involucramos…y ya…pero no es lo mismo aquí que al siguiente sector…que sus carros, que sus espacios que sus…todo…y lo que es bonito de pronto decirlo es, a cada milímetro hay un interés diferente…y ojalá y pudiéramos dar la vuelta pero le podría decir la gente que los mayores problemas son las pegazones de casas…de las paredes…(habla de las comparaciones de los representantes de cada sector por año)…de todo esto, ¿cuál es lo importante? La participación, ¡todos participan!...todos. Pero es en todo casi, () a todos les damos ()…() <luego sobre el proyecto Vecinos Vigilando el comenta:> nada más que esto, a mi no me parece correcto que nada más me lo den a mi…entonces yo lo que hago es multiplico la información y le pongo nombre, lo bautizo, y pero cada quién tiene dónde acudir en un momento determinado…teléfonos y …sí se consolidan algunas cosas y la ampliación del turno de la ()…ah () de la basura, ()…todos concentran, los mismos sectores concentran lo de afuera de

las casas y pasa la basura, y se les da una compensación…sí pero esa () es voluntaria…es cooperación…() hubo un momento que se peleaban por venir a la colonia los camiones, un día vinieron 3 camiones, diferentes, ()…esto les favorecía <la cooperación sin cantidad fija> y era un peleadero…() <habla del croquis que dio donde vienen las dimensiones de su casa>

Cynthia: oiga y las colonias que me dijo que estaban haciendo para arriba?

Informante:los asentamientos? …es lo que le digo de esto, o sea si cuando nosotros llegamos estaba todo así…porque () para otros lados no había nada…

Cynthia: pero estos se pusieron después de que ustedes llegan o antes?

Informante:Después, entonces el agua escurre más rápido

Cynthia: ¿Cómo en el 2000 sería?

Informante:Como en el 2003 hay un despegue de casas…sí 2003…() a cada escrito le ponemos un mem…un este…así sea de religión…(habla de los documentos, los lee). <explicación organización con el gobierno> son tres partes, nosotros estamos aquí: "comité comunitario"…aquí esta: "CODESOL" que es que se encarga de todas esas obras, entonces aquí en medio se eligen por cada 12 colonias, se elige un "presidente del comité" aquí se nombra un…"representante comunitario social" <el señor del celular> ¿qué hace? Él supuestamente debe ver aquí prioridades, en función de esto propone, y vigila que se de, que se hagan las cosas…de los cuáles ni una cosa ni otra….¡nada! …¡ah! Pero sí les dan una lanita…o bueno un celular también…y a lo mejor algo de viáticos…por eso le digo que están medios maliciados…pero bueno entonces aquí el punto era ese…()

Cynthia: y esta encuesta se la dieron a través de este señor o?

Informante:no, no, no él lo único que vino aquí a invitarme a una reunión de desarrollo social. O sea son comités comunitarios sociales urbanos y comités comunitarios sociales rurales. Aunque parezca la relación muy lejos, hay mucho que ver…ahorita, () a nivel nacional todo lo…todo esto…haga de cuenta que lo echan a la basura, la (indicación) del…presidente de la república y todo su esquema es…el medio…se olvidan de calles de puentes, de toda la infraestructura…nada más ubíquense a luz, agua (). El poquito de porcentaje, entonces todos los presidentes a nivel nacional, municipales se pusieron al brinco porque tienen muchos compromisos, entonces lo que hace ahorita el presidente, lo que creo que va a hacer () este es el urbano, nada, el rural, va para el rural todo, todo. Entonces los compromisos chiquitos que tenían los presidentes municipales, () entiendo entonces lo que van a hacer, creo que van a hacer, nada más un poquito ampliar el presupuesto, pero lo urbano….muy mal. Entonces, ()…aquí esta lo lo voluntario, ¡tanto se estuvo insistiendo! Que ahora la gente lo hace normal. Yo lo que único que busco las formas es que en los espacios grandes que no son nuestros y que por imagen nada más…

Cynthia: y en estos espacios grandes cómo le hacen? <para limpiarlos y mantenerlos>

Informante:bueno el arroyo es imposible que nosotros…si acaso quitamos llantas y este, o algo que esté obstruyendo así este…pero es un trabajo pesado…entonces ahí si hago, con tiempo, la () a ayuntamiento. Ellos se dan sus tiempos, sí saben, porque en cuestión de lluvias, cualquier cosa no, no sé…entonces se dan sus tiempos. Ellos tienen una temporada de canales, ()…sí pero tienen tiene uno que solicitar sino pues no. Y nada más la parte de entrada () que van a venir a apoyarnos, pero con ellos sin ellos…()….y los apoyos son muy pocos, pues yo tengo un año pidiendo (cubetas) de pintura para guarniciones, "pásele por una" ()….pues uno busca la forma de embellecer…(continúa hablando de las frases de los documentos y de los documentos, nombrándolos)

Cynthia: y quién guarda esas sillas?

Informante:no cada quién, este nos hacemos responsables, yo me llevo…() yo guardo esto, yo guardo aquello, entonces llega la misa y todos…<se las llevan> (sobre el 20% que tiene que dar la comunidad para hacer el proyecto integral:) son 200 mil pesos…y sí los pudiéramos reunir pero no hay confianza…o sea…esto nos ha () pero ahorita ¡cero para todos! Así como le digo….sí…estos son los programas de parte de ellos, unas becas, abasto popular, programas de láminas, todo lo que manejan ellos y que uno tiene qué detectar, por ejemplo si falta alguien de…que tenga esa edad y pues no esté incorporado, que a nosotros poco nos ayuda porque como están todos pensionados jubilados de parte del ISSTE ya salen sobrando…()

Cynthia: y vi ese el molino, el que está allá por donde vive el informant Carvajal, ese es de una…para vivir mejor o no sé qué dice…

Informante:no…este…mire…sí…(ya no contestó)

(pide el Facebook…para comunicarse posteriormente) (hablan de la foto antigua que no sabe la fecha)

Cynthia: ¿por qué fue que no reconocieron al comité emergente en esa ocasión?

Informante:sí eh mire, al principio el problema era de que pensamos que no teníamos ningún problema, que la colonia tenía todo, entonces si la colonia tenía todo pues, ¿para qué queríamos un comité? –ese era nuestro pensamiento en ese tiempo…de tal manera que el ayuntamiento tiene fecha…apenas ingresa como…como nuevo…nueva ayuntamiento () se gana un periodo de un mes y hacen toda esta elección de comités municipales, más bien comité comunitarios…pero el problema es…que no, se tiene que juntar, en ese tiempo manejaban un 20%...y no nos juntábamos ni como 5! Y venían una vez, no, dos veces, no, tres veces…se quedan sin comité. Ahora no, júntate 5 y ya puede ser, porque no les funcionaba lo demás, si aquí que estamos mas o menos educadones, pero allá no…entonces…no pues no, no se juntaron. Entonces ellos cerraron sus tiempos, cuando esto sucede, no eran tiempos de hacer comités, simplemente se formó porque había la necesidad de buscar ayuda, buscar todo…(habla con su esposa)…entonces esa…situación así…hace que…que nosotros salgamos, no tengamos esa acreditación, en ese tiempo…(habla con su esposa)

Cynthia: pero sí fue más del 20% que se juntó para hacer el comité emergente?

Informante:¡ah pues estaba al 100%! Sí…pero nunca lo reconocieron

Cynthia: hasta después que se volvió a convocar ahora sí?

Informante:hasta que se abrió el periodo () entonces ya entré yo…esa es la…

Cynthia: de las primeras cosas que hicieron fue gestionar la alarma a Protección Civil? Cómo fue? Usted conocía a alguien en Protección Civil? O generaron una petición escrita o?

Informante:no mire, más bien este la alarma la pusieron después de ahogados, después de inundados, uno nada más esta vigilando de que sea permanente…

Cynthia: o sea, un día llegaron y le dijeron "mire le vamos a poner eso"

Informante:no yo todavía no estaba, estaba el emergente que fue lo único que Protección Civil dijo "pues aquí hace falta"; considerando que la inundación, bueno la inundación duró mucho tiempo, pero, pero el problema ¡duró 10 minutos!....en 10 minutos ¡llegó todo el montón de agua!...permítame…

(el informant baja a un asunto- se interrumpe la entrevista)

(entra la señora de la Secretaría de Salud: María del Socorro Sánchez Monarca, monitoreo de huevo de mosquito de Dengue, coloca y revisa trampas en papel filtro (ovitrampas), hace conteo semanal de huevos por trampa e identifica las especies de mosquito que oviposita, buscando a la especie responsable del Dengue – trae gafete que dice Abatizador, eso es la persona que aplica larvicida de mosco Abate una vez cada mes- pero en este momento ella sólo monitorea las ovitrampas).

Informante:Ella monitorea aquí toda la colonia, y parte de otras colonias…()…en el caso de ella ella monitorea las trampas, de los mosquitos

Trabajadora Sector Salud: la positividad del sancudo ().

Informante:() trabaja sector salud…entonces este, no sé si le gustaría que le platicara…sobre todo después de inundación o lluvias…

Sra: esta papeleta nosotros la ponemos en el botesito, en una como tipo macetera, no sé si alcanzan a ver todo esto negrito, es porque, los puntitos () ahí del caminito, todo eso es huevecillo, y traigo una lupa…esta protección la ponemos en el botesito alrededor, le ponemos agua y a la semana, a los 8 días, regresamos y checamos la papeleta, si la papeleta esta positiva la recogemos, ponemos otra papeleta nueva, y a los 8 días estamos dándole el seguimiento, cada 8 días…entonces esta papeleta salió positiva por 148 huevecillos, anoté el número de ovitrampa y los huevecillos…148 huevecillos…

Informante:y por qué ()…

Trabajadora Sector Salud: porque () no crea que el sancudo este precisamente va a venir a depositar un huevecillo a todas las papeletas, como puede ser que yo recogí la papeleta hoy () hoy le puse otra nueva, a los 8 días después de que se…() o sea no siempre vamos a encontrar…hay papeletas que todo, cada que vamos dándole seguimiento, cada 8 días encontramos () en la papeleta…en en la vivienda donde encontré esta, no hay casi plantas….entré a otra vivienda donde hay mucha planta y yo dije: aquí voy a encontrar ahorita que entre, aquí mi papelito va a salir positiva porque aquí hay bastante planta…y no, ¡no estaba positiva! Y en esta papeleta, en esta casa donde entré, el señor, así bien despejado que tiene, este por su terreno, despejado…

Informante:son medidas preventivas, todo esto

Cynthia: positivo me decía, de dengue?

Trabajadora Sector Salud: eh no, positivo en huevecillos, por eso le decíamos nosotros que una papeleta positiva de huevecillos…esta papeleta yo la tengo que recoger porque si yo la dejo ahí, por ejemplo si la casa, si la vivienda esta cerrada, este el señor no está o la señora no está, y yo no la recojo esta papeleta positiva, esta ese huevecillo puede caer al agua de ese botesito que tenemos, entonces ahí se se va a reproducir el sancudo (), porque está cayendo al agua, pero esta papeleta yo la estoy recogiendo, la estoy guardando la entrego a la secretaría contado con los huevecillos que encontré, y de la secretaría la mandan a México…verdad? Son medidas preventivas que están ahorita tomando para evitar que haga mucho caso de dengue…ya que el año pasado hubo mucho caso de dengue aquí en Valles, ¡nunca había habido…

Informante:¿cómo se llama cuando rocían?

Trabajadora Sector Salud: este…fumigación…

Informante:ah fumigan, rocían, entonces ya que encuentran todo eso empiezan la fumigación

Trabajadora Sector Salud: por la forma

Papá: por la densidad de huevecillo se determinan las áreas críticas para empezar a …

Trabajadora Sector Salud: exactamente, cuando, por ejemplo, si encuentro aquí ahorita varías, ya yo reporto y ellos toman las medidas preventivas de fumigar el área dónde hay más…

Informante:ya cuando viene muy seguido es porque ya hay, ya tenemos gente enferma…pero () colateral de toda esa situación porque son medidas preventivas y que…que se han estado atacado desde…septiembre…para ir monitoreando

Cynthia: y les han tocado muchas fumigaciones aquí en la colonia?

Trabajadora Sector Salud: ahorita yo no le, no le sabría decir sí….

Informante:sí vienen este pero sé ()…

Trabajadora Sector Salud: cuando viene más la fumigación es en temporada de lluvias, cuando viene más () que hay va a haber mucha más conteo…hay papelitos que encontramos de 1000, de 1300 pero ¡tapizados señorita! O sea…y siempre vienen así, así como vienen esos en caminito y ¡vuelven y vuelven! Pero ¡tapizadas!

Papá: a ver a ver, pero o sea que el animalito llega y pone huevos y se va caminando y…los va soltando?

Trabajadora Sector Salud: sí, él va…él dónde se va poniendo va poniendo los huevecillos, hay una que es…una ovipostura tiene ¡hasta de 50 en un sólo!…

Papá: ¡ay caray! ¡Bien cargado!

()

Trabajadora Sector Salud: ()…cuando es de la, cuando es de la (Aedes) el huevecillo siempre lo va a depositar en un montón

Cynthia: cuándo es de la qué?

Trabajadora Sector Salud: cuando es de la (Aedes) es dengue…sí ese es el zancudo del dengue…este este huevecillo es de…este zancudo este nos pica pero no nos transmite ninguna enfermedad…hay el otro el () también, hay otro tipo de zancudo

Informante:la trampa esta allá abajo…es un aparatito es un botesito…

Cynthia: todas las casas tienen su botesito?

Informante:esta monitoreado o sea no es todo…(ahora es otra la que monitorea…)

Cynthia: y esta es de aquí esta?

Informante:sí

Cynthia: y ahora ha detectado muchos así que parezcan de este mosquito de…

Trabajadora Sector Salud: no, esta tiene menos…

Informante:bueno por suerte mi casa esta limpia (risas) pero eso no nos limita a que no tengamos problemas porque en otras casas…pero bueno

Papá: pero esos huevitos nada más están esperando el agua…

Trabajadora Sector Salud: sí, esos huevecillos por ejemplo cuando vienen los () de México verdad? Y quieren hacer una prueba con un insecticida nuevo que nos manden verdad? Para, para () esta papeleta la pueden depositar en un bote de agua () la meten ahí al caer la papeleta al agua ellos van a esperar a que el huevecillo se desprenda, se va a desprender, cayendo al agua se desprende el huevecillo, y a los 3 días se va a hacer lo que es un maromero, una larva, entonces son otros 3 días y se hace una bolita, una pupa, otros tres días y pasa lo que es, ya se convierte en adulto…el procesa esta de 9 a 10 días, en el proceso de que ya que nace el zancudo, no cree que ahorita si

se nos desprende el huevecillo para mañana no, tiene un proceso de 9 a 10 días de incubación.

Informante:no sé si quiera preguntarle el nombre, de dónde viene, o…viene de la secretaría de salud o?

Trabajadora Sector Salud: Sí, de la Secretaría de Salud

Informante:cómo se llama el responsable de esto?

Trabajadora Sector Salud: ahorita que…()…ahorita ando en ovitrampas…()…en las viviendas () si hay tanques de agua, este…() larvicida…Esto es para evitar que no se reproduzca el maromero, si llega a caer el huevecillo en ese tanque ya no se va a reproducir porque ahí ya está ()…y siempre depende de la cantidad de agua, por ejemplo una pileta, de cuántos litros tiene esta pileta de cuántos litros tiene esta pileta se le va a ()…larvicida. () la aplicación es cada mes. ()

(siguen hablando de la papeleta, cómo se ve, de cuestiones generales sobre la campaña)

Trabajadora Sector Salud: porque al zancudo del Aedes no le gusta el agua sucia, este se da en pura agua limpia y pura agua de casa, por eso () nosotros a los hogares, mucha gente me dice "oye porqué no vas al arroyo?" () lo que pasa es que ese es el Cule, es el zancudo que no nos transmite el dengue, pero el que se da en nuestros hogares es el que es el Aedes, porque ese se da en agua limpia, en las cubetas que tenemos en nuestras casas, () si tenemos un rotoplas arriba en el techo y está destapado, ahí estamos permitiendo que se nos reproduzca el zancudo, ¿por qué? Porque el zancudo va a ocupar depositar el huevecillo alrededor de ese tanque porque ahí hay agua…él deposita el huevecillo en las paredes así como el () y él esta viendo que ()….pero él no sabe que esto es una trampa para él, () removemos la papeleta y ya no se va a reproducir, para eso es…si yo dejo esta papeleta aquí este…(foto de la papeleta en el botesito) …se recomienda poner la ovitrampa siempre entre las plantas donde haga sombra…() el sancudo siempre se reproduce en los hogares en lo oscuro ()…ahorita que esta el sol, él no anda en el sol ()…por eso sale al atardecer o de madrugada <horarios de salida del mosco en el atardecer, y en la madrugada>...

(más preguntas sobre los moscos, sólo las hembras requieren sangre para producir el huevo)

(después se despide la Sra. Y agradecen)

(El informant repasa cada encuesta y hace anotaciones sobre quién es el que responde)

Cynthia: he visto que marca, () marcó daños a la salud…a qué se referirá? Es por el mosquito?

Informante:gastrointestinales…sí…()…no pero sí, no se estancó pero dejó así de lodo, y la costra es bien o sea, era acabamos a las 8 de la noche, yo bien rendido, por decir así en mi casa, pero nada más () en una casa…imagínese la labor gravísima de lodo que entró a las casas, y ¡en la calle peor! Pues ni paso había, ahí donde pasa uno, todo lleno de troncos, () entonces ese lodo no es un lodo común, se compacta bien rápido porque es la arena, es lodo, es agua, es una mezcla que rápido se pudre, rápido huele, rápido…este…osea rápido se descompone () y se compacta, tarde mucho en sacarla…sí duramos casi 15 días al mes para ahí "medio" limpiarla…pero no se limpia tan fácil porque queda todo impregnado, las casas huelen mal, entonces las enfermedades se vienen…

Cynthia: oiga y usted se acuerda cuánto duró la del 2004? ()

Informante:() la primera fue lluvia…() la diferencia es que esta fue lluvia continua…duró 3 días por decir…y ya después se vino la inundación…la del 2008 fue atípica, es decir, fue constante pero ()… 9 días…no he encontrado el video…9 días constante (), no hubo descanso pero se aunó una tromba…5:55 am…todos dormidos…duró de 10 a 15 minutos…()…sí bajó mucho agua…

Papá: no hubo alguna obra hidráulica afectada en el 2008?

Informante:()…aquí fue bajó mucho agua pero se vino la tromba ()…lo que dice usted es cierto, arriba tenemos una presa…y…presumimos…() que desahogaron…porque aparte de la tromba, () porque estaba a su máxima y si truena esta entonces ya no es la colonia, es Valles. () Se juntaron los elementos, si era mucha agua, permanente, sí era la tromba y () bam…

(sigue entregando encuestas)

Cynthia: …este informant nos comentó que la gente estaba lavando en el río después, porque no había…cortaron un poco el agua o algo así?

Informante:ah se colapsa todo

Cynthia: no tuvieron? Qué servicios fueron los que no sirvieron?

Informante:pues agua y drenaje, es que el drenaje se botó y el agua ()…

Cynthia: y de luz y de recolección de basura también les faltó?

Informante:no, () osea en una vivienda cuando se inunda se pierde todo, en () menos de una media hora ya no sirve nada, si es de madera menos. Así como va saliendo () como basura…

Cynthia: pero nunca se les cortó la luz o, digamos otros servicios que se les hayan interrumpido como el agua y el drenaje?

Informante:la luz sí, porque son tormentas eléctricas, pero sí se colapsa todo….sí…es más esa se va sin…con viento, con viento…con en tiempo que hay calor truenan todos los transformadores porque se usa aquí mucho el aire acondicionado, truena () truena entonces un viento () todo colapsa…

(hablan sobre las lámparas, que no se pueden apagar…son solares pero no se pueden tocar- es un desperdicio de energía enorme, así esta todo Valles)

Cynthia: y en cuánto tiempo se le reestablece el servicio del agua? () ya llegó otra vez normal? También tardó como mas o menos en lo que hicieron las limpiezas? ()

Informante:no es que póngale que el agua se reestablece pero no, no es limpia. Entonces tomas agua de esa o tomas o lo usas para todo, entonces llegan los problemas de salud

Cynthia: y ubica así como a partir de qué volvió a la normalidad? Cómo más o menos qué sería un mes o?

Informante:no pues es que dura todo…() para ir medio…acomodando las cosas son 15 días…() hasta que no lavan los filtros, no lavan todo…() sí en que el agua bien pues tardó…

(el carro también genera problemas de salud, se genera mucho moho)

(habla de las encuestas indicaciones sobre quién responde cada una)

Informante:si viéramos a los vecinos que están más en peligro, que están aquí, en la parte baja esta es la más ()…la fé es importante pero también hay que ver los elementos. () bajaron todo tipo de animales…

Cynthia: y esa vez la del lodo, se fue quitando así pues ya con el tiempo? Seguían limpiando y ya? No sé, trajeron un camión especial?

Informante:No sabemos de dónde salió tanta ayuda pero mucha gente, era imposible que el ayuntamiento se hiciera cargo de todo porque era mucha necesidad…entonces, se, cada uno, () una gente que conociera y "préstame tu camión" y vámonos. En el puro primer día yo creo que sacamos unos de 10 a 15

camiones, o más…pero eso ahí nada más en la entrada pero luego la limpieza…eso…¡ah!...

Cynthia: y las enfermedades que se les presentaron, ustedes también con sus propios medios salieron o les vinieron a traer con qué?

Informante:no nadie nadie, cada quién se ocupó.

(sigue con las encuestas, diciendo quién contestó cada una, y los papeles)

Informante:al principio que cree? Perdieron todo su valor adquisitivo o sea no se vendían por nada…ni una parte…pero poco a poco como le hemos dado imagen y todo eso se ha ido rescatando, o sea como que ya se les ha ido olvidando…

(siguen hablando de las personas que fueron encuestadas-mientras escribe)

Informante:bueno yo creo que sí importa también, si la colonia esta organizada es porque es pequeña, entonces quiere decir que las colonias deben ser semi-fraccionadas para poder tener más control…o sea lo que aquí me dicen: ¿oye cómo se organizan? Bueno pues es que…()…

Papá: no y también es la educación

Informante:sí, ()….

Cynthia: oiga y acá es dónde le van a hacer el jardín….y tienen fecha para? O andan en eso?

Informante:en 15 días, ya ve que () se venía la feria…andan todos en la feria…

Cynthia: entonces ya es un hecho….y entonces usted me decía sí es importante sí saber las necesidades de los vecinos y eso sólo usted lo llega a saber nada más con pláticas? O usted les manda así como encuestas así como qué ideas tienen?

Informante:no mire, es bien sencillo, yo estoy parado por ahí, es una atención personalizada, pero no la busco, sólo sí, las necesidades se llegan solitas, por ejemplo llega una persona y me dice "oye mira sabes qué tenemos…él es del comité pero…" -escucho su percepción -"tenemos dos problemas uno es en razón de que…de qué…hay que dejar las puertas cerradas…y la otra es de que llegan personas pidiendo informes…entonces esas personas….este que no den ningún informe…porque están utilizando esa información". Entonces yo ya me pongo, eso ya lo concentro y ya lo aplico, entonces ya () información: "por ningún motivo des información a gente que no conoces considerando ()"…entonces mire () la percepción es personal, analizada y la información es esa…no nos ha fallado.

(hablan sobre encuesta, cuántas hay y de que están distribuidas la muestra)

(hablan del croquis: lo rojo es la banqueta, lo verde las delimitaciones de casas, lo azul los cuerpos de agua)

Informante:lo que pasa es de que yo ya tenía mucho tiempo dando lata con el anterior, y como que ya les fastidió…()…<alguien se lo imprimió de la base de datos del ayuntamiento> entonces me dice "oye pues hay que actualizar eso"…() si voy con catastro me tardan mucho…() fuimos a la computadora, todo esto ellos lo tienen en un mapa virtual…<los del municipio> ()…no hay muro de contención, hay un bordo de tierra nada más…por suerte () sindical, pero eso no quiere decir que libre de todo…

(siguen hablando del croquis)

(agradece al Informant y cierran la entrevista)

----END----

Annex Transcription of interview to Key informant

Key informant. 2014. Floods in Magisterial Suburb. Cynthia Marisol Peñaloza Guerrero. [audio/mp3]. House of informant in April 5th.

(original versión in spanish; Visitant person only joined the interviewer and does not belong to Magisterial suburb)

Informante: () ella lo vivió personalmente…

Cynthia: pues sí ahora sí que…comentan mucho que ustedes se cambiaron acá a raíz de eso…

Informante: a raíz de eso, sí, o sea la situación ya era…ya era era ya como cuestión de salud porque quedamos tan afectados, que en cuánto empezaba a llover, se ponía nublado, se empezaba a oscurecer, y empezaba a llover era…ya casi inundarnos () al verlos yo, mi vecina y yo que fuimos las más...¡ya no soportábamos oír llover! Porque nos afectaba ya, ya empezaba ya con ganas de salir uno, ¡ya no queríamos estar aquí! …Empezó así, eran qué las de la mañana?

Informante: 5:55

Sra: 5:30 – seis de la mañana, ah, vivíamos ahí abajo, la puerta principal era de madera, bonita con cristal, grande ¡bonita! Y empezó a tronar, la la madera, entonces mi esposo me dice "oye alguien se quiere meter" …por que oíamos que llovía pero pues nunca nos había pasado, ¡14 años aquí y nunca había pasado! , ¿12 años verdad?

Esposo: si llevábamos…

Informante: 12 años, nunca había pasado que subiera el agua. Entonces él se para a ver quién se quería meter, y no ya cuando se para ya el agua iba para arriba, y la puerta estaba tronando porque el agua la estaba ya presionando para botarla…y me dice: "¡párate!" – teníamos al niño chiquito, ¿qué tendría? ¿seis años? … seis años mas o menos, ¿seis años?, este me dice "¡párate! ¡el agua se va a meter!" y también tenemos otra hija, 12 años 13 años tenía y ¡corro! Aunque yo corro, aunque yo me bajo así de la cama y el agua me llega a los tobillos, a los tobillos, corro al cuarto de mi hija que era el último de atrás y le digo "párate mami" le digo, "se nos va a meter el agua". En lo que ella se levanta y salimos a la sala, (del cuarto) del fondo a esa parte, ya el agua ya la traíamos aquí <cadera> …ya no pero ¡subía!...cuánto te gusta para correr (y regresar) dos minutos? En lo que paro la niña y salgo ¡ya el agua! Ya el agua ya viene acá. En lo que llegamos a la sala el agua ya nos venía acá! Y tenía yo jarrones, pues sí ¡todo lo que es una sala!....tapetes grandes, jarrones, flores, adornos ¡todo andaba flotando! …flotando, le hacíamos así <mueve sus brazos como abriendo una cortina> para abrirnos paso entre el agua. Él en lo que nosotros, en lo que yo fui por la niña, él sale…a avisar a los vecinos a gritar. Cuando yo salgo con los niños le digo "¡ayúdame!" ya estaba, estaba oscuro, le digo "ayúdame, ¡se me va a caer el niño!" ¡yo andaba descalza!, entre el agua, ¡donde me resbale! Se me cae y ya no lo…¡ya no lo encuentro! Le digo: "agárrame al niño!" me lo quita

y corre a subirlo a una camioneta allá, de un vecino, en lo que él corre yo agarro a mi hija y le digo "¡vente aquí mami!" y ahí vamos las dos caminando, ya en la puerta le digo, "agárrala" y me la jala, ¡me la jala y la saca! y la sube también a la camioneta. Yo me quedo en la puerta en bata y descalza, ya cuando él regresa el agua ya estaba acá <señala su pecho> ¡pero con corriente! ¡con corriente!... ¡El agua bufaba! ¡bufaba! Sí…me dice "¡vente!", "¡no!" le digo "¡no, si salgo me va a arrastrar!" – "¡vente!" me decía. Él se agarra de no sé qué, y me tira la, así el brazo y ¡me agarra! En lo que doy yo el primer paso yo así para fuera, ¡el agua me tumba! ¡me arrastra! , si él no me tiene agarrada, ¡el agua me lleva! ¡me lleva! Sí, como puede me jala y me avienta allá a la orilla, le digo: "¿dónde están los niños?" – "allá ()" gritan "¡acá mamá, acá estamos!" corremos y vamos a casa de los vecinos porque el agua ya estaba…(a la verde, a la verde)…y este y le toco yo a la señora "vecina, ¡ábrame!" dice "oiga pues ¿qué tiene?" le digo, "¡se nos está metiendo el agua!" y se asoma ella ¡no! ¡esto ya era un río!...¡era un río! Y justo a tiempo, y ¡meto a los niños! Y él ya había bajado por los vecinos de ahí que también tenían niños chiquitos, y andaban brincando () andaban brincando que tenia barandal la casa, pues andaban brincando y ya brincan a la esposa también por, por este lado, la brincan y le digo "() vamos a llevar a los niños ()" ¡el agua seguía! Subimos a los niños ahí, nos los recibe la señora y nos volvemos a bajar, por que yo () ya andaba sacando a los vecinos de acá, ya andaban sacando mecates y () no, ya era una cosa! ¡eran gritos! Eran…¡no, no, no! ¡horrible! ¡horrible! ¡no te puedes ni imaginar! O sea era una ¡tragedia! ¡qué tremenda!...¡una desgracia!..."¡sáquennos!" La vecina cuando la quisieron sacar, se traba la puerta, y ya no la pudieron sacar…ya la…()…y apenas, () la primera vez que quisieron salir ya la puerta se trabó el portón, y ya los niños ya les llegaba el agua acá () ya lo que hacen es subirlos al techo, (pero pues estaba esto que) eran de una sola planta todas las casas, los suben al techo pues ya no pueden sacar a los chamacos y eran gritos de los maestros también, por que pues (), por que el agua iba ¡pa' rriba pa' rriba! Llegó un momento en que ya no sabíamos qué tanto iba a subir. Entonces no era una desesperación horrible, eran gritos de todos los vecinos, "¡sáquennos, ayúdennos!" Y no los únicos que salieron fueron ellos y nosotros. La vecina de aquí tenía dos niños pequeñitos…

Esposo: pero eso fue en la segunda vez…

Informante: ¿fue en la segunda?

Cynthia: ¿cómo que en la segunda?

Informante: por eso la segunda fue la del 2008

Esposo: no, en el 8, la primera ¿fue en el que? En el 8 la otra fue el 12

Informante: no, 2004

Esposo: ¡ah! ¿2004? La primera fue el 2004 y la más grande fue en el 2008

Informante: exacto

Cynthia: esta que me platican…2004?

Informante: 2004

Esposo: no, no, la segunda vez estuvo ¡peor!

Informante: la primera vez subió como uno qué, ¿1.20? algo así…quedó la marca en la casa 1.20

Cynthia: 1.20 en el 2004

Informante: bueno pasó y desde ahí quedamos tocadas, pero bien () emocionalmente afectadas porque le digo, si él a mi no me hubiera agarrado, así como me agarró, ¡yo si me hubiera ahogado! ()

Esposo: lo que pasa es que ahí enfrente es el…se hace arroyo, por el choque y …se hace un arroyo por todo el andador, y el desnivel que hay entre el estacionamiento y el andador por ahí son como 50 centímetros, y pues ya no…

Informante: y cuando arrastra el agua, arrastra piedras, arrastra lodo, arrastra árboles, palos, animales, y luego pues ahí lo que va jalando de allá todo va pasando por aquí…eh ese día a nosotros se nos echó a perder todo ¡todo!... ¡camas! Todo, todo, camas, todo ¡total! El refri, el refrigerador fuimos a encontrarlo allá, los tanques de gas se fueron, el comedor se desbarató…o sea…

Cynthia: o sea sí agarró fuerza

Informante: Sí, sí sí…¡hacía remolinos adentro el agua!

Informante: Dulce, ¿cuántos minutos duró? (por que nunca duró) mucho

Informante: 20 minutos a lo mucho…máximo 20 minutos…¡así como subió! ¡En minutos subió! ¡En 10 minutos subió pero!...

Informante: y en 10 minutos se bajó

Informante: y en 10 minutos bajó… y quedó…dejó ()…sacaban las cosas con palas, lodo, ropa, zapatos, ¿verdad? Qué ¿qué servía? ¡nada! ¡nada servía! O sea quedó todo batido, todo no ¡horrible! Perdimos ¡todo! Colchones, camas, refrigerador, comedor ¡todo lo que teníamos! Nos quedamos…() en aquél entonces se usaba mucho el oro todavía, para () todo se fue…nos quedamos…aquí (). Compañeros del trabajo nos daban cobijas para los niños, ropa, porque nos quedamos sin ropa, con lo que traíamos puesto, mis hijos en calzoncito, la playera y yo con la bata, él con los shorts nada más.

Esposo: oye (ustedes) tienen las fotos…

Cynthia: y no recibieron ayuda de, en esa ocasión, como de…? ()

(ruido. Hablando)

Informante: sí…o sea nos daban sí, fue simbólico por decirlo, sí nos mandaron ropa, eh tennis, hubo grupos religiosos que nos traían de comer, que sopas y todo, () se desbarató con el lodo, con el agua, con todo, o sea nos quedamos así sin nada, digo nos traían de comer, nos traían de cenar, nos dieron zapatos, no dieron shorts, ropa, pero que digas tu nos dieron, no sé, una estufa, o nos dieron una cama…no…

Cynthia: eso ya les tocó a ustedes

Informante: Nada, nada, o sea lo perdimos todo, todo.

Esposo: () no hubo ayuda supuestamente que porque nosotros somos profesionales. (y teníamos recursos) () y nunca llegó…

Informante: a raíz de ahí, este, yo ya no, de hecho…a la semana o dos semanas le digo "sabes qué, vámonos de aquí, yo ya no quiero vivir aquí" mis hijos estaban pequeños, o sea de que…a, ¿a qué me voy a esperar? ¿a que les pase algo a mis hijos? A que algo grave vaya a pasar al rato por estar aquí, no, no, no ()

(se despide el esposo)

Informante: ()este no sé, compramos una casa por ahí…mi hijo pues estaba chiquito tenía sus amigos aquí, () no pues vamos a hacer arriba…() y ya le dije ()…

Cynthia: fue más que nada por sus hijos…

Informante: por seguridad y por estar bien

Cynthia: quedarse aquí

Informante: Y sí, empezamos a construir a partir de ahí, nos tardamos no sé 3 años en las labores, en tener más o menos este el modo de empezar

Informante: oye Dulce, y cuánto tiempo se tardarían en limpiar totalmente la casa? Porque () el primer día fue…a mi me tocó esta casa venir a ayudar pero no ()

Informante: Eran camionetas que llenábamos de basura, de lodo

Informante: ¿cuánto fue ese tiempo para que más o menos normalizaran?

Informante: un mes…yo creo porque siguió lloviendo, entonces había mucho lodo y como que se pudrió todo, porque traía, y lavábamos y lavábamos y el olor seguía, el olor () a podrido

seguía o sea ¡feo! Y enfermedades de piel y sí, sí , sí…te digo o sea eran cubetazos ¡eran paladas! ¡y paladas! De lodo ¡que le dábamos! Y pues no aguantábamos, no aguantábamos, () un montones, montones, camiones y camiones venían por, ¡por todo! Colchones viejos, sillones, salas,() ¡todo! ¡todo batido quedó! ¡Feo, feo feo! Pues sí tardamos mucho, mucho te digo, y seguía lloviendo, seguía lloviendo. Y sí quedamos muy mal, quedamos muy mal nosotras. Luego () con psicólogo yo creo como medio año de que ocurrió eso…

Cynthia: ¿ah sí? Tuvo que tomar terapia usted?

Informante: sí

Cynthia: pero era ¿grupal o usted por su cuenta?

Informante: no, era por mi cuenta, sí por yo, te digo yo, yo me acercaba, me ponía mala, empezaba a llorar (empezaba a decir) "ándale, vámonos" De hecho yo ya traía maletas de ropa en el carro. Y les digo "saben qué mis hijos, hagan maleta, la vamos a dejar ahí" empieza a llover y ¡nos vamos! No, no vamos a () porque este te digo no, no, mis hijos () que les pasara algo…y me decía "cálmate, cálmate, ya no pasa nada" y ¿si llueve? Y como había sido en la madrugada, como había sido en la madrugada y si nos agarra de noche, y sí…¿cuál tiempo me va a dar en salir? Y te digo ()…

Cynthia: y ustedes tenían un auto…?

Informante: Teníamos carro, teníamos un…¿qué era? Como un…*monza*, que también le entró el agua, (le entró el agua) al monza también, todo, todo.

Informante: y ese dónde quedó?

Informante: lo vendimos ya

Informante: no o sea pero dónde quedó aquí?

Informante: metido entre el alambre, atorado en el alambre en el tirante de la luz

Informante: ah es que ese salió, salió… () en la foto que ()

Cynthia: Pero este fue en el 2004 ¿no?

Informante: en el 2004 sí

Visitant person: Y, no cambiaron el poste? ¿no los cambiaron?

Informante: no, nos cambiaron los tirantes, fue lo que cambiaron sí.

Cynthia: el poste sigue igual

Informante: en cambio del cableado sigue igual

Informante: sí, los tirantes sí se aflojaron todos, por que se atoraban los carros ahí y como el gua seguía lo empujaba entonces sí quedaron flojos.

Cynthia: antes no se le cayó el poste encima…y luego ya cuando hace este segundo piso ¿antes del 2008 o ¿

Informante: sí, antes del 2008

Cynthia: entre el 2004 y 2008

Informante: entre 2004 y 2008, como en el dos mil seis siete…

Cynthia: en el 2007, ah pues un año antes

Informante: sí, y esa vez estuvo peor, todavía, ¡peor! Fíjate, porque digo bueno, pasó () llovía y ya andábamos así,

Cynthia: checando

Informante: a ver, a ver si subía () y no subía, o sea cada año era () con el pendiente, de que volviera a subir. Y ese día yo me levanté o sea en la madrugada, yo me paraba iba y me asomaba <al canal> () y ya teníamos un, otro carro ya mejor, y le digo a mi esposo: "saca el carro…va a subir el arroyo, está subiendo el arroyo" y me decía "no, no sube"…le digo "sí va a subir, sácalo" y se asomaba "no, no sube" y le digo, "sí sube", le digo "saca el carro por favor" pues ya () sube el carro porque pues allá arriba ya no sube, ya llegando arriba () y sigue lloviendo () y le digo "saca el carro" y ya se va, cuando él se va el arroyo empieza, ya cuando él bajó ya el arroyo ya había brincado pero ¡así! ¡En 5 minutos! ….y pues ya de ver que el arroyo esta subiendo y empieza a correr a tocar puertas "Pera, ¡sálgase! va a subir el arroyo, ¡está subiendo!" pasa para allá, "¡Salgan, se va a subir el arroyo!" y casa por casa se va, llega hasta la última casa (cuántas son que) seis 7 casas, llega a la última ya el agua ya la traía aquí (en el estómago) le toca a la maestra "Maestra ¡sálgase! ¡el arroyo esta subiendo!" y se asoma la maestra "no –dice- yo no me salgo" –"sálgase maestra, va a subir el agua" y ya cuando la maestra se asoma él ya tiene el agua aquí (pecho) y dice "sí sáqueme ¡sáqueme!" le dice, entonces abre la puerta y la puerta ya no abre, porque el agua ya la estaba empujando y la puerta se abre para afuera, entonces ya no la pudieron sacar, entonces le dice "¿sabe qué maestra?, súbase a algo, súbase a algo porque el agua va a subir" y la maestra pues ya loca miraba () ya cuando ya ves () ya ya no ya no razonamos, ya nada más la () ahora sí como los animales, ()

Cynthia: pero es la misma señora, de la, ¿del otra vez?

Informante: no, no es la de, () el otro fue como a seis casas

Cynthia: y se trepó a la azotea ¿o que?

Informante: entonces ya mi esposo, ya no se puede regresar, ya no, porque ya el agua ya iba, (entonces él iba) de casa en casa, encuentra un palo por ahí, un palo de este ancho <30 cm> () y lo atraviesa de casa a casa y ahí viene como gato, y ¡unos gritos que tenían allá! Porque el agua ya estaba… y yo con mi niño, ya mi hija ya se había casado, y yo con mi niño y aquí los dos gritando "¡Miguel! ¡Dónde estás!" –"acá voy, espérenme" le hacía. Y ya estábamos arriba, pero para entonces como ¡nadie salió! ¡nadie pensó!

Informante: todos estaban dormidos, yo también me agarré toque y toque puertas, no…por eso le digo que lo atípico sucede en una hora cuando todos están dormidos

Informante: y fíjate y esa vez te digo que yo, yo me paré desde antes de que brincara, desde antes me paré, y él se sacó el carro, pero estaba el estacionamiento lleno…Entonces cuando él viene ya, ya el agua había subido no sé, 1.80 si te gusta…1.80…ya los carros andaban así como carros chocones, chocaban unos con otros, ¡andaban flotando los carros! Yo veía que el agua ya salpicaba acá arriba, cuando chocaba con mi casa, ya el agua salpicaba y dice "no, va a subir, va a subir". Y ya veo que mi marido ya viene de casa en casa, para esto ya todos los vecinos, como nadie alcanzó a salir, todos brincaron arriba, todos los vecinos estaban arriba, ¡todos! <en la azotea> y era una gritadera ¡horrible! O sea, no tienes idea de la sicosis que te hace o sea ¡¿son unos gritos?! Que te duran no sé, meses en el cerebro en la mente.

Informante: toda la vida

Informante: ya él llega aquí ya nos abraza y nos dice "no pasa nada, no va a pasar nada" No ya los carros ya estaban metidos aquí…aquí () en la vecina, ¡4 carros!...<como sándwich> ¡4 carros! …otros se metieron hasta el poste aquél el segundo poste de la luz, ahí se atoraron dos carros, atravesados, como se atoraron entonces el agua empezó a subir acá, a regresarse y a subir…a subir…y el vecino <del lado derecho viendo de frente a su casa>, que tenía dos niños chiquitos, en mi pared de aquél lado yo no tengo protecciones no tengo nada, están lisas, cuando ya amaneció, mis vecinos estaban arriba…¿cómo se subieron? Sólo Dios sabe, como gatos yo creo, ¡como gatos! Los bajamos, allá "vecino, bájenos, bájenos" ya mi esposo puso la escalera, ella igual en calzonsito y camiseta, ya ()…o sea ¡horrible! No no, en serio ¡no tienes idea de lo horrible que la hemos pasado esta, las dos inundaciones. ()

Cynthia: pero ¿no vivía alguien abajo?

Informante: Tenía yo, yo, yo a raíz de eso yo rento ahí abajo, () yo los rento a los niños pero eran vacaciones y no había nadie, tenían sus computadoras, tenían impresoras, sus teléfonos, sus libros, su ropa, zapatos, () ¡todo! Sí, sí, sí, o sea camas, o sea

independientemente o sea, ¡todo! Lo que hay en una casa y aparte los objetos de ellos, todo se les echó a perder, yo se los tuve que pagar…pues sí pues qué más…son niños ¡jovencitos! ¿De dónde se compran otra computadora o otra cosa así? No hombre…()…

Cynthia: y ¿la limpieza y todo fue muy parecido a…?

Informante: igual, igual o peor, pues la otra como 1.80, 180 no si hubiera habido gente abajo, ¡se me ahogan!...hasta acá nos llegaba el agua…

Informante: 1.80…ahí se ve la dimensión 2004 y 2008. En el 2004 1.20 y 2008, 1.80.

Cynthia: ¿y también duró menos esta del 2008?

Informante: No pues igual…igual…en media hora…

Informante: no hay nada…()

Informante: es una zona de desastre aquí sí, aquí en serio, los carros, tengo 4 carros ahí empalmados…carros de los vecinos los fueron a encontrar allá al arroyo, allá abajo del arroyo…()…

Visitant person: a lo mejor la ubicación del sensor no es la más ideal…porque ya cuando el sensor alarma es porque ya viene el agua y tienen que correr…es muy pronto…

Informante: No, sí, no, no, ni 10 minutos cuando mucho, ()

(voces irreconocibles)

Informante: ()se pone a sonar cuando ya está brincando…

Informante: te digo, este, empieza a llover y ya la gente ya anda así, o sea no crees que esto, que la gente sale…

Informante: sí salimos a observar…

Informante: Sí…se llena ahí el arroyo se llena todo…todo, todo

Cynthia: y ¿todavía tienen sus maletas en su coche?

Informante: Sí, de repente sí, cuando ya es temporada de lluvias "hagan maletas" sí…

Cynthia: mucha gente sí sale corriendo ¿verdad?

Informante: dice mi marido "ya no pasa nada, ya no sube" …() ya no las olemos cuando es la temporada de lluvias…porque ya () dos meses? Dos tres meses y ya vienen el agua…

Cynthia: y a hacer sus costales decía…

Informante: Esta, esta segunda vez, ¿cuándo fue Garay? Este año ¿Verdad? no ¿el año pasado?

Informante: es que es cada año…

Informante: es cada año, esa vez empezó las aguas, y empezó a subir, empezó a subir, y mis vecinos tienen un niño pequeñito de meses…¡nombre! () loca, ¡loca, loca, loca! ()….y se viene ella nada más en una pura escalera… y pues era temprano…7 de la mañana, "Dulce, ¡Dulce!" dice, "¿Qué pasó?" –"¡Cuídeme a mi niño!" –traía a su niño dormido chiquito ¡envuelto en toallas! – "tenga-dice-¡Guárdemelo allá!" …lo metí pues a mi cuarto…imagínate o sea ¡a lo que llega uno! Desde antes ya andar poniendo en resguardo ¡a los niños!…(todos nosotros, los niños) y le digo yo a mi viejo, (en aquél tiempo uno) salió brincando corriendo, pero el tiempo pasa, y uno se hace más viejo le digo…pues sí…el tiempo pasa y ese no perdona, en aquél entonces yo alcancé a brincar a ratos a gatas salir allá…pero y ¿quién nos garantiza que en 4, 5 o 10 años?

Informante: () 2004, 2008, 20012 pero (en el 2012 ya no)…() pero sí…

Informante: pero el peligro sigue, sí, el peligro sigue y te digo nada más es temporada de lluvias y nos ves allá abajo…todos mojados mirando el arroyo

Cynthia: y le pusieron estas puertitas de….?

Informante: de metal…o sea…la vez pasada nos tumbó la barda de acá, la primera vez nos la tumbó, Miguel la volvió a construir…y sí pues vamos a ver cuándo () pero pues ya cuando el agua sube así ya pues…pues ya no hay nada qué hacer…

Cynthia: y va agarrando ideas también de sus vecinas…de…

Informante: pues si te fijas la gran mayoría tiene barditas de piedra…previniendo…() pues sí a raíz de la primera inundación y ahí vamos

Cynthia: y lo de los costales lo empiezan también…¿después del 2004?

Informante: después del 2004, cada año, nada más, empiezan la semana de lluvias y empezamos a poner costales y los construimos nosotros y ¡los llenamos nosotros! Es trabajo de

Informante: de todo un equipo

Informante: sí , de todo un equipo y de días…o sea desde que nos traen la arena, () a llenarlos a amarrar a llenar…y nosotras las mujeres a llenar con palas y los hombres a cargar y empezar a hacer la barrera para protegernos…

Cynthia: pero ¿esa la hicieron para el 2008? ¿tenían su barrera?

Informante: sí, desde el 2004…desde el 2004 empezamos a de ahí, ¡cada año lo ponemos!

Cynthia: y ¿sí cree que sí les sirvió en un poco? Bueno ¿para el 2008 o de plano fue completamente fuerte que…?

Informante: sí, no, lo brincó

Informante: no, no sirvió

Informante: lo brincó sí…incluso hemos puesto el, el camino del…

Informante: para lo único que sirve es da unos, dos un minuto o dos mientras () sales…mientras sales pero ya de ahí…

Informante: y () la barricada de costales y sí protege del golpe del agua pero ya cuando sube, () por la orilla, ya cuando sube () y empieza a escurrir…o sea es una solución momentánea, momentánea para evitar el golpe del agua, pero ya cuando sube mucho pues ya no…

Informante: oye Dulce y ¿cuándo hay un problema así han pensado en alguna salida de emergencia o nada más hacia arriba?

Cynthia: la tirolesa que decía el informant Carvajal…

Informante: pues es que es bien complicado uno no sabe la dimensión de las cosas

Cynthia: bueno de menos ustedes tienen un poco cerca la, la parte alta…corren todavía pero la gente que está justo en medio ahí sí…

Informante: () por que () ya no, ya no es viable

Cynthia: sí, la última casa ahí…ya les toca

Informante: ah pues ya le vinimos a refrescar la memoria

(risas y plática irreconocible)

Informante: yo sé que eso pasa y que a veces en vez de alejarnos un poquito de, de, lo emocional, ()….¿qué hacemos con la realidad? Tenemos que buscar alternativas…tu dijiste ()…modificamos el curso del agua…y ¿cómo vamos a garantizar que ya no tenemos problema? ….

Cynthia: pero cada vez están más preparados

Informante: ()

Informante: Pero lo cuenta uno y has de cuenta que fue la semana pasada, en serio…en serio o sea no…() 4 o 10 años…() yo siento que pasó el mes pasado…() marcados, esos se quedan marcados grabados sí en el cerebro que…no, no, no…no era la hora todavía, ¡no nos tocaba! (ríe)

(plática irreconocible- importancia de la recuperación emocional, que las autoridades brinden ayuda en este sentido –Visitant person, informant / explica el proyecto)

Informante: yo creo que aquí la solidaridad de los vecinos es bastante, en la medida que pueden verdad porque pues tampoco no nos van a dar lo que no tienen, pero yo creo que sí la compañía, el apoyo, el…() de proteger bastante…

Cynthia: sí, por algo no se van muchos ¿no?

Informante: ajá…

(agradece a la Informante Cierran la entrevista)

----END----

Annex Matrix of synthesis of interviews' data

A matrix of synthesis was made in order to present the information given by the informants (columns) per category of analysis (lines). Interpretation and a conclusive synthesis of each category is presented by the researcher also inside this matrix (last column).

Category	Subcategory	Specialized informant with additional participation of a closed friend of him.	Key informant	Interpretation-Conclusion
City context	Flood in Cd. Valles	Informant: "*arriba hay una laguna, ¿cómo se llama? O sea la presa La Lajilla, entonces me imagino que si truena inundaría toda la ciudad…"* Translation: Informant: "up there is a lagoon, how is it called? I the Lajilla damn, then I imagine that if it breaks it would flood the entire city"	-no comments-	La Lajilla damn can have the potential to influence flood risk in Ciudad Valles city.
	General problems	Informant: "*el problema es de infraestructura de ciudad, no es aquí la colonia…aquí en el Limón Tamaulipas, todo lo de ahí es…parte alta…toda esa agua baja aquí, entonces el río aumenta*" Informant: "*Aquí en Valles tenemos un problema…un sólo puente que hicieron y se cayó…"* Informant: *"se olvidan de calles de puentes, de toda la infraestructura…"* Informant: "*….y los apoyos son muy pocos… que a nosotros poco nos ayuda porque como están todos pensionados jubilados*" Translation: Informant: "the problem is about city infrastructure, not about the suburb…here in El Limón Tamaulipas, everything from there is…elevated zone…all that water comes down here, so the river grows" Informant: "Here in Valles we have a problem…a single bridge was made and it felt down"	-no comments-	A general problem of Ciudad Valles city is rooted in lack of urban planification and lack of good infrastructure, as bridges. The help of the government does not apply to them in most cases because most of them are retired informants

	Risk know ledge	Informant: "*en el sexto año de primaria…el último tema es…desastres.*." Translation: Informant: "at sixth year of elementary…the last theme is…disasters…"	-no comments-	Possible sensibilization about flood risk in young community
Suburb context	**Origin**	Informant: "*las casas nos las entregaron… para un préstamo bancario …Lo que pasa es que las casas fueron…este terreno fue donado al sindicato…*" Informant: "*hace 20 años…fue en el …1994 marzo* <entrega de casas>" Translation: Informant: "the houses were given to us…for a bank loan…What happens is that the houses were…this terrain was donated to the syndicate…" Informant: "20 years ago…was in the…1994 march <house delivery>"	-no comments-	The houses were delivered 20 years ago to the people that could obtain a bank loan, even though the terrain was donated to the professorade syndicate.
	Inhabitants	Informant's friend: "*Sí, yo creo…< todos son informantes aquí en la colonia>*" Translation: Informant's friend: "Yes, I believe so…<all are professors here at the suburb >"	-no comments-	Apparently professors are an important fraction of the community of this suburb
	General problems at suburb	Informant: *"…. están todos los…los hoyos…y nadie se hace responsable de una calle*" Informant: "*el muro… pero es que tienen que estudiarle…falta conocimiento*" Informant: "*sacamos 10 camiones de piedra… llegaron a llevársela todos…"* Informant: "*Y la conciencia ecológica es muy difícil, la gente agarra y pasa y nos avienta basura…*" Informant: "*…después de 10 años…se dan cuenta <Protección Civil> en el estudio…de riesgo …que esta colonia es de los 5 puntos de más alto riesgo en Ciudad Valles"*	no comments-	There is a lack of manteinance of streets by the authorities that are suposed to survey that aspect. And there is a lack of knowledge for building efficient flood-preventive infrastructure Community building materials have been aparently taken away by external people without their permission

		Translation: Informant: "…there are all the…the holes…and nobody gets responsable of a single street" Informant: "the wall…but they must study it… knowledge lacks" Informant: "we took out 10 trucks of rock…everybody came to take it" Informant: "And the ecological conscience is very dificult, people pass and throw us trash" Informant: "…after 10 years…they <Civil Protection> realize that in the risk study…that this suburb is one of the 5 points within the highest risk in Ciudad Valles"	-	Ecological awareness and care from the external people is lacking, suburb has to deal with their trash sometimes The suburb is one of the top 5 suburbs with the highest flood risk in Ciudad Valles.
	Qualities	Informant: *"…el problema de las demás colonias es que la gente no apoya…y pues sí pues aquí lo que tiene la colonia es que apoya*" Informant: "*si la colonia esta organizada es porque es pequeña…*" Informant: "*este es el único arroyo que está limpio, a pesar de que es poquita agua…y esa…sale de por aquí*" Informant: *"…de esa excavación que hicimos…Salieron 10 camiones de piedra…entonces sí hay mucho recurso*" Translation: Informant: "…the problem with the other suburbs is that people does not support…and…here what people have is that it supports" Informant: "if the suburb is organized is because it is small" Informant: "this is the only stream that is clean, despite it is very Little water…and that…comes out from here" Informant: "…from that excavation we did…10 trucks of rock came out…then there is a lot of resource"	*"…aquí la solidaridad de los vecinos es bastante…la compañía, el apoyo…*" Translation: "…here the solidarity of the neighbors is quite much…the company, the suppor	The people from this suburb is solidary and supportive to all group effort, and the level of organization reached has to do with the fact that it is a small suburb The suburb is dotated with clean fresch water from a stream and with
	External relations	Informant: "*están impactados…otras colonias…vienen a verme … con la intensión de hacer equipos… ya no se tiene que ir a ….ser del montón…no tu has, trabaja*"	-no comments-t..."	Other suburbs have wanted to join Magisterial organization in order to make petitions to the government, but that has not been posible valuable rock resource for building

		Translation: Informant: "they are shocked…other suburbs come to see me…with the intension of making teams…we don't have to go to…be like all the others…no…you do, work"		because suburb is not interested on manifestations, but in hard work to build their suburb
Flood context at the suburb	**Floods temporality**	Informant: "…los vecinos que están más en peligro, que están aquí, en la parte baja…" Translation: Informant: "…the neighbors que are most in danger, that are here, at the low part"	"ya no las olemos cuando es la temporada de lluvias…" "…pero el tiempo pasa, y uno se hace más viejo… en aquél entonces yo alcancé a brincar …pero y ¿quién nos garantiza que en 4, 5 o 10 años…?" Informant: "…2004, 2008, 2012 pero en el 2012 ya no…" "…pero el peligro sigue, sí, el peligro sigue…" Translation: "we expected them when is rain season…" "…but time goes by, and we are getting older…back then I could jump…but who can guarantee us that in 4, 5 or 10 years…? " Informant: "…2004, 2008, 2012 but in 2012 it did not…" "…but danger remains, yes, danger remains…"	Apparently, floods are possible to appear during rain season. Floods affect more neighbors from the less elevated part of the suburb.

	Floods origin	Informant's friend: "*el agua…fue desviada…el cauce original…no tenía nada de…curvas…entonces esto lo hicieron así para poder construir todas estas casas…"* *Informante: "…esto era un…arroyo de más o menos 4 o 5 metros*" Informante: *"…antes no teníamos asentamientos de colonias arriba…y…ya hay, entonces el agua corre más rápido*" Translation: Informant's friend: "the water….was diverted…the original channel…did not have any…curve…then this make it like that so that they could build all these houses" Informant: "…this was a…stream of more less 4 or 5 meters" Informant: "…before we did not have suburbs upstream…and now there are, then the water runs faster"	-no comments-	The floods are recurrent because suburb location is over the original river channel, and also because the city has grow and upstream terrains are becoming impermeable due to urbanization.
	2004 flood (causes and loses)	Informant: "*…no fue tan fuerte…el nivel de agua… en el mismo nivel…pero no la misma fuerza*" Informant: "*…la primera fue…lluvia continua…duró 3 días …y ya después se vino la inundación*" Translation: Informant: "…it was not that strong…the water level…at the same level…but not the same strength" Informant: "…the first was…continuous rain…lasted 3 days…and then the flood came"	*"12 años, nunca había pasado que subiera el agua…* *el agua ya estaba acá <señala su pecho> ¡pero con corriente! "* *"y en 10 minutos bajó…"* "¡*horrible! Perdimos ¡todo! Colchones, camas, refrigerador, comedor ¡todo lo que teníamos! …Teníamos carro… le entró el agua…: lo vendimos*" *"…sí…nos daban…simbólico …. grupos religiosos que nos traían de comer…nos dieron zapatos… ropa, pero …una estufa… una cama…no…"*	The 2004 was probably the first flash flood in a decade. It maybe was due to a constant 3-day rain that cause the water level to suddenly rise and flow with considerable strength. A flash flood that took no more than 30 minutes to appear and disappear. The flash flood caused many loses at the suburb's households. The neighbors received basic aid from external entities, but most of the recovery was covered by themselves. It is believed that all the measures pre-, in- and post floods were trigered since this 2004 flood event.

			"*Compañeros del trabajo nos daban cobijas para los niños, ropa, porque nos quedamos sin ropa…"* Translation: "12 years, it had never happened that the water rise…the water was here <mark her chest> but with current!" "and in 10 minutes it went down…" "horrible! We lost everything" mattresses, beds, refrigerators, dining rooms, all we had! …we had a car…the water entered in it…we sold it" "…yes…they gave us…symbolic…religious groups brought us something to eat…they gave us shoes…clothes, but…a stove…a bed…no" "Coworkers gave us blankets for the kids, clothes, because we ran out of clothes…"	
2008 flood (causes and traits)	Informant: "…fueron 9 días completos… de agua más la tromba…" Informant: "…arriba tenemos una presa…y…presumimos…que desahogaron…" Informant: "….a las seis…en menos de 10 minutos el agua se había ido…" Translation: Informant: "…there were 9 full days…of water plus the waterspout…" Informant: "…upstream we have a damn…and…we suspect…that they vented…" Informant: "…at six…in less than 10 minutes the water was gone…"	"pues….como 1.80" "No pues igual…igual…en media hora…" Informant: "…En el 2004 1.20 y 2008, 1.80". Translation: "well…like 1.80" "No well the same…the same…in half hour…" Informant: "In 2004 1.20 and 2008, 1.80"	The 2008 flood was similar to 2004 flood: started early in the morning (5 to 6 am), was due to extreme rain event, and both lasted more less half hour to start and ended. The difference was in the depth of the flood level, around 60 cm more (1.20 in 2004 and 1.80cm in 2008).

	During 2008 flood	Informant: "*…venía una vaca…¡pero venía pataleando! …tronó la barda… y después pasaron puercos…¡ahí iba todo!...*" Informant: "*...hubo gente que se quedó paralizada…los tenía uno que subir <a lo más alto de ciertas casas> como bultos porque…no tenían la capacidad---* " Translation: Informant: "…there came a cow…but it came swimming!...broke the fence…and then pigs passed…everything was there!" Informant: "…there was people that stood paralized…we have to pull them up <to the higher part of certain households> like bags because…they couldn't do it"	"¡andaban flotando los carros!" Translation: "the cars were floating!!"	The water ran faster and with more strength, that could lift heavier things like cars and farm animals, and that caused more damage than in 2004.
	After 2008 flood: external participation	Informant: "*No sabemos de dónde salió tanta ayuda…era imposible que el ayuntamiento se hiciera cargo de todo... gente que conociera y "préstame tu camión" y vámonos"* Informant: *"…en lo que sí ayudaban ellos <autoridades> era en sacar todo lo que no servía …pero todo lo de limpieza (nosotros)…"* Translation: Informant: "We do not from where such help came out…it was impossible that the authority could be in charge of everything…people that we knew and "lend me your truck" and lets go" Informant: "…in what they <authority> did help was in taking out all that was broken…but all about the cleaning (we)"	-no comments-	There was minimal participation from authorities after the 2008 flood. Other people (known by the neighbors) from outside did voluntary work to clean the debris in the suburb.
	After 2008 flood	Informant: "*…ese lodo…no se limpia tan fácil…las casas huelen mal, entonces las enfermedades se vienen…"* Informant: *"…enfermedades …cada quién se ocupó*." Informant: "*…en una vivienda cuando se inunda se pierde todo <los servicios>…para ir …acomodando las cosas son 15 días…el agua…tardó…"*	*"…es una zona de desastre aquí…tengo 4 carros ahí empalmados… carros de los vecinos los fueron a encontrar… allá abajo del arroyo*" "*igual, igual o peor <el proceso de limpieza comparado con el 2004>"*	After the 2008 flood, the suburb had at least four main problems: (1) cleaning and ítem-recovery process was hard and it was a task only made by the neighbors themselves. (2)the recovery of the basic services was relatively fast except the potable water service that took longer. (3) the diseases that the mud in decomposition generated among the population, and the cost it represented for every neighbors to

		Informant: "*sí se tardó mucho … no se quieren desprender de sus cosas…¡nada sirve!…"* Informant's friend: "*…y muchos familias ya salieron de aquí…hubo un tiempo en donde parecía cementerio…"* Translation: Informante: "…that mud can not get easily cleaned…houses smell bad, then diseases come" Informant: "diseases…each everyone got responsable" Informant: "in a household when it gets flooded <the services> …to go…arraging things there are 15 days…the water…took time…" Informant: "it did take long…they do not want to let go their items…nothing works!" Informant's friend: "---and many families have gonne from here…there was a time when it looked like a cemetery…"	*"...¡ya no soportábamos oír llover! Porque nos afectaba…¡ya no queríamos estar aquí!* Translation: "…is a disaster zone here…i have four cars here overlapped…neighbors' cars were founded…there downstream" "the same, the same or worse <the cleaning process compared to the 2004>" "…we no longer standed hearing rain! Because it affected us…we did not wanted to be here"	threat themselves. (4) the psychological trauma that neighbors developed and the permanent migration of many of them.
Neighbors' reaction to flood problem	**Begining of local organization**	Informant: "…ni se juntaban para armar el comité porque no, ¡no había problemas! …pero *el día que nos inundamos vimos toda la magnitud, y se hizo un comité emergente…"* Informant: *"…el ayuntamiento tiene fecha…apenas ingresa como…nuevo ayuntamiento y hacen toda esta elección de-…comité comunitarios…se tiene que juntar…20%...y no nos juntábamos ni como 5!...ahora no, júntate 5 y ya puede ser…"* Translation: Informant: "…they did not get together to make the committee because no, there were no problems! …but the day we got flooded we saw the whole magnitude, and an emergent committee was made…" "…the City Hall has a date…just when start…as new City Hall period and made all that election of…communitary committees…20% has to be gathered…an we could gather not even 5!...now no, get 5 together and it can be <a community committe>"	-no comments-	The local organization was triggered by a flood event as a emergent committee (there is the suposition that was 2008 flood). And later there was a formal community committee register at City Hall (apparently in 2011)

	Causes of the local organization	Informant: "*Cuatro años y medio y no se hace nada <el gobierno no les ayuda>…*" Informant: "*…no nos van a dar nada…ahora vamos a hacerlo nosotros…"* Translation: Informant: "Four and a half years and nothing gets done <the government does not help them>…" Informant: "…they wont give us nothing…now lets do it ourselves…"	-no comments-	The main causes of the local organization reside in the inefficient support from the local authorities.
	Characteristics of local organization	Informant: "*combinamos <la organización>… lo religioso…Porque… hacen que haya…un bien común*." Informant: *"…yo antes de tomar una decisión primero consulto a varia gente…"* Informant: *"…aquí trabajamos por comités, …comité de seguridad, el comité de capillas y coordinador de servicio religioso y el comité comunitario*." Informant: "*…nos hemos …por sectores…son 9 …como de seis <seis casas por sector>...líderes…modificables…"* Informant: "*hay mucha conexión <entre comités y sectores>….pero esos 9 sus intereses están aquí…entonces decimos "vamos a hacer este proyecto", y ya…pero no es lo mismo aquí que al siguiente sector… a cada milímetro hay un interés diferente…*" Informant: "*…la organización de cómo, cómo trabajan…puedes adaptarte…"* Informant: *"<explicación organización con el gobierno> …son tres partes, nosotros estamos aquí: "comité comunitario"…aquí esta <señala el otro extremo> "CODESOL" que* *es que se encarga de todas esas obras, entonces aquí en medio se eligen por cada 12 colonias...un …"representante comunitario social" …Él*	"la solidaridad de los vecinos…la compañía, el apoyo…" Translation: "the solidarity of the neighbors…the company, the support…"	Some main characteristics from the local organization of the community suburb are: (1) two scale organization hierarquies rely inside the community: community level through the 3 community committees (security, religious and general-concerns); and the block level through the 9 sectors. General or more particular community-drive projects are developed at these two scales. (2) the connection with the government is stablished through the "social community representant" and it has been quite inneficient due to the lack of responsability of this representant. (3) the organization mix religious aspects in order to get closer to people, and also stablish an adaptive framework for neighbors participation in communitary activities, allowing them to participate when they have the time; since neighbors are very supportive, projects have been embraced by the whole community. (4) the new decisions are consulted withing some neighbors.

		supuestamente debe ver aquí prioridades, en función de esto propone, y vigila que se …hagan las cosas…de los cuáles ni una cosa ni otra…" Translation: Informant: "we mix <the organization> with the religious…because…they produce a common good" Informant: "…me before taking a decisión first I consult several people" Informant: "…here we work by commitees…security committee, committee of chapel and religious service coordination, and the communitary commitee." Informant: "…we have…by sectors…they are 9…about of six <six houses per sector>…leaders…modifiables" Informant: "there is a lot of connection <between committees and sectors>…but those 9 their interests are here…then we said "lets do this Project", and that is it…but it is not the same here that in the next sector…eachcmilimeter there is a different interest…" Informant: "the organization of how, how they work…you can adapt…" Informant: "<explanation oranization with the government>…there are 3 parts, we are here "community commitee"…here it is <mark the other extreme side> CODESOL <government institution for development> that is in charge of all these works, then here in the middle per each 12 suburbs…a "social community representant" is selected…he is supposedly must see here the priorities, based on that he propose, and survey that…things get done…of which betwixt and between…"		

	Characteristics of local communication inside organization	Informant: "*ah sí, todo es por escrito…<a través de informes y circulares a los vecinos>"* Informant: *"…es una atención personalizada <la forma en la que se recogen sugerencias de la comunidad>, pero no la busco…las necesidades se llegan solitas…llega una persona y me dice…no nos ha fallado <esta forma de comunicación>…"* Translation: Informant: "oh yes, everything is written…<through reports and handouts>" Informant: "…it is personalized attention <the way in which the community suggestions are gathered>, but I do not look for it…needs come along…a person arrives and tells me…it has not failed is <this way of communicate>"	-no comments-	The local communication between neighbors is through written media distributed to all households, and each neighbor can express directly and personally, their suggestions to the community president whenever they wish to.
	Age of the local organizatio	Informant: *"… son 3 años…<edad del comité comunitario>"* Translation: Informant: "…there are 3 years…<age of community committee>"	-no comments-	The local organization in its formal way has more less 3 years old through the formal creation of the community committee. It was formalized to authorities in 2011.
	Attachment to the suburb	-no comments-	*"…mi hijo…estaba chiquito tenía sus amigos aquí…fue por seguridad y por estar bien…"* Translation: "…my son…was little had his friends here…it was for safety and for being ok…"	Apparently people who decided to stay did it because of the social network the community posees.

	Type of communal activities (not related to flood management)	Informant: *"el señalamiento vial en el 2013, pintamos bardas"* Informant: "*El último proyecto que hicimos fue Sesión permanente de limpieza*" Informant: "*aquí…atrapamos a los…rateros… nos metimos en un proyecto…"* Informant: *"…aquí se paga a una persona por todas las noches, <velador> y se le da un extra para que lo haga por las tardes…"* Informant: "*…él los diseñó…<los carteles para generar conciencia ecológica> yo le di varios <frases>…..también conseguimos mamparas …nos los donaron aquí unos vecinos…"* Informant's friend: *"…y viene el padre y aquí la hacemos <misa>, cada quién con su sillita…<la ceremonia y el catecismo también>"* Informant: *"…aquí no había lámparas de luz <en las calles>…esas las compramos nosotros…"* Informant: *"la basura…los mismos sectores concentran lo de afuera de las casas y pasa la basura, y se les da una compensación…es voluntaria…"* Translation: Informant: "the road signs in 2013, we painted walls…" Informant: "The last Project we did was the permanent cleaning Sesion" Informant: "here…we catch the…burglars…we got us into a project" Informant: "…here we pay a person for all nights, <watcher> and it is given to him an extra for doing it by afternoons…" Informant: "…he designed them…<the posters to generate ecologic awareness> I gave him several <phrases>…we got screens too…they were donated here by some neighbors.."	-no comments-	Several comunal activities are done in this suburb. Non flood-management realted activities are: (1) put road signs and give maintenance and clean households, (2) neighbors hire a watcher and they also watch themselves over burglars, and prevented crime inside the suburb, (3) elaborate and put posters for ecological awareness in the streets of the suburb, (4) mass in public open spaces once a month and also catechism lessons to children (5) put street lights, (6) organize and manage garbage per sectors

		Informant's friend: "…and comes the reverend and here we make it <mass>, each person with his little chair…<the ceremony and the catechism too> Informant: "there there were no light lamps <at the streets>…those we bought them…" Informant: "the garbage…the same sectors concéntrate what is outside the households and the truck passes, and a compensation is given to them…is voluntary…"		
	Future communal activities	Informant's friend: *"y estamos con la idea de hacer …una capillita..."* Informant: *"este espacio que esta aquí en la entrada…queremos rescatar como plazuela pero es particular…ayuntamiento no da pero nos da…otro…en 15 días <comienzan la planeación>…"* Translation: Informant's friend: "and we have the idea of making…a chapel…" Informante: "this space that is here…we want to rescue it as a small square but it is a particular <tenency>…city hall does not give but give us…another…in 15 days <starts the plannification>…"	-no comments-	There are future community activities planned, the instalation of a chapel and the construction of a small square for the community.
Measures previous to floods	**Actual measures**	Informant: *"…si no hay muro de contención, todo, ¡todo se acaba!"* Informant: "…las bardas las hicimos nosotros…la barda del arroyo…" Informant: *"…la alarma la pusieron <Protección Civil>…uno nada más esta vigilando de que sea permanente…"* Informant's friend: *"…a mover carros…andamos limpiando arroyos …prepararnos con los sacos, con arena…¡todos…llenamos y ponemos!"* Informant: *"…aquí traen el montón de arena y aquí se arman…"*	*"…Y les digo "¿saben qué mis hijos?, hagan maleta, la vamos a dejar ahí" empieza a llover y ¡nos vamos!"* *"…empieza a llover y ya la gente…sale…<a vigilar el arroyo>"* "…le digo a mi esposo: "saca el carro…va a subir el arroyo, está subiendo el arroyo" …sube el carro porque pues allá arriba ya no sube <el agua>…" "…la gran mayoría <de vecinos> tiene barditas de piedra…previniendo… a raíz de la primera inundación…"	Some of the developed community measures the community has previous to floods are: (1) related to infrastructure, like a retention wall at the upper part of the suburb, a wall was built along the stream channel at the center of the suburb, a backwater was built at the critical part of the stream channel, (2) related to behaviour neighbors clean the stream from garbage or other ítems that can block the water flow, they fill and build a sandbag bareer along the most critical part, they constantly survey the river level during rain events

		. Informant: *"…vino un señor <un ingeniero> y me dijo…haga remanso <arreglos del canal>, pierde fuerza…esto nos ha ayudado…"* Informant: "…el arroyo…si acaso quitamos llantas …o algo que esté obstruyendo…" Informant's friend: *"…muchos <vecinos> ya no se quedan, se van para otro lado <durante la temporada de lluvias>….y luego esta el velador… pasa…toque y toque…"* Translation: Informant: "…if there is not retention wall, everything, ¡everything ends!" Informant: "We did the walls…the wall of the stream" Informant: "…the alarm they put it <Civil Protection>…we are just watching it is permanent…" Informant's friend: "…to move cars…we are cleaning streams…preparing ourselves with bags, with sand…¡all…fill and put them! Informant: "…here they bring the pile of sand and here they are put together…" Informant: "…came a man <an engineer> and said to me…make a backwater <arrangements of the cannel>, it looses strength…this has helped us…" Informant: "…the stream…if any case we took away tires…o things that can be blocking it…" Informant's friend: "…many <neighbors> do not stay, they go to somewhere else <during rain season> …and then there is the night watcher…passess…knocking and knocking…"	*"…después del 2004, cada año…empiezan la semana de lluvias y empezamos a poner costales y los construimos nosotros…las mujeres a llenar con palas y los hombres a cargar y empezar a hacer la barrera para protegernos…es una solución momentánea…para evitar el golpe del agua, pero ya cuando sube mucho pues ya no…"* Translation: "…And I say to them "you know what my children?, make bags, and we are going to leave it there <at the car>" starts to rain and we leave!" "…starts to rain and the people …come out…<to survey the stream>" "…I tell my husband: "take out the car…the stream is rising" …he puts the car in an high place because up there it does not rise <the water>…" "…the mayority <of neighbors> has stone fences…preventing…following the first flood…" "…after 2004, each year…starts the rain week and we start to put sandbags and we make them…the women to fill them with shovels and the men to carry them and start to make the bareer to protect ourselves…it is a momentary solution…to avoid the impact of the water, but when it rises a lot is no longer…"	Other individual actions are taken by the neighbors, such as (1) they share the measure of building stone fences outside their homes in order to prevent them from flooding and the flow impact, (2) they move their cars to a higher and safer location, (3) some of them prepare bags with their belongings and put them in the car just in case they must ran out, (4) some of them go to live somewhere else during rain season

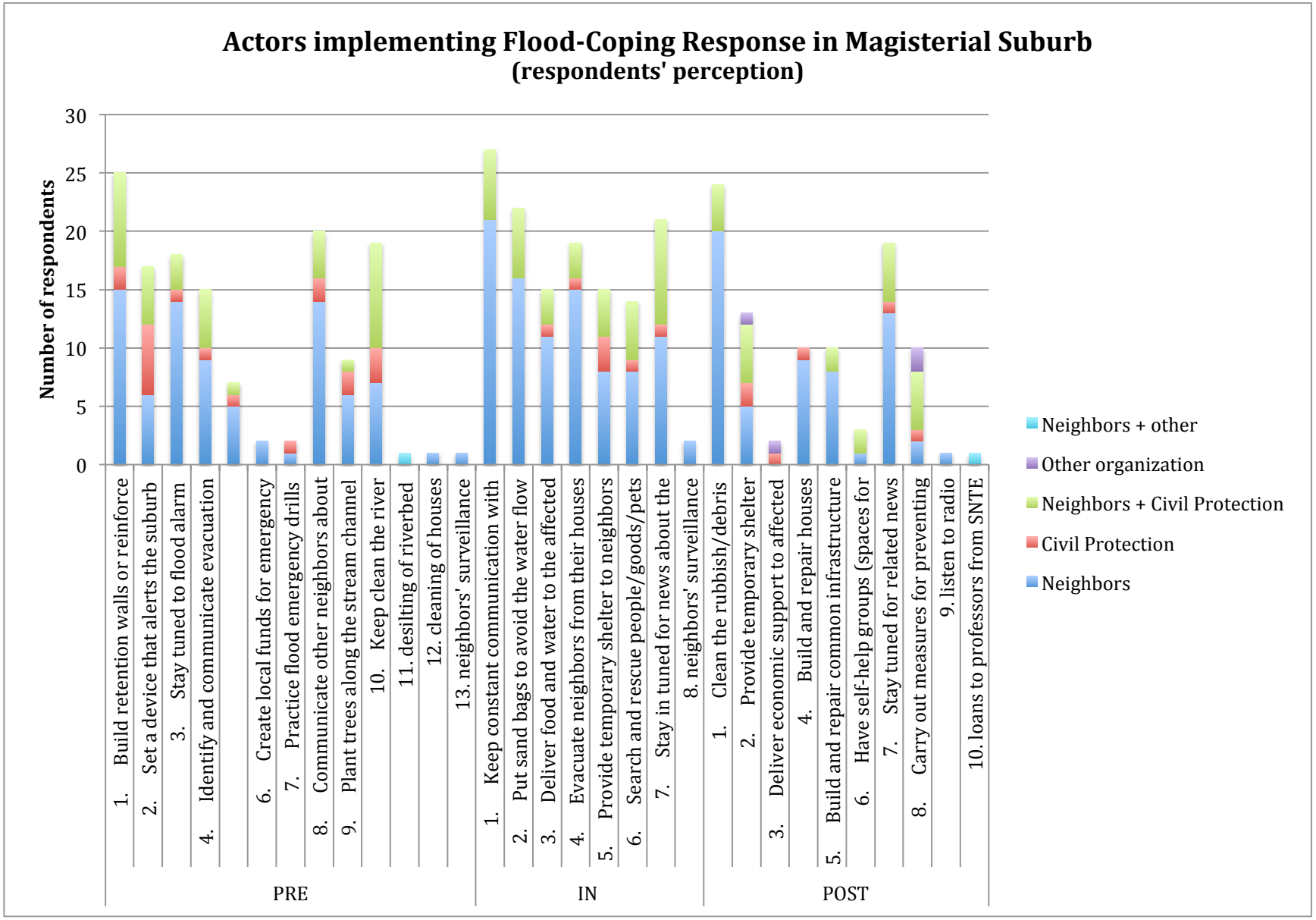
	Future measures	. Informant: *"…vamos a restablecer los proyectos…de la sesión permanente <de limpieza>…"* Translation: Informant: "…we will restablish the projects…of the permanent sesión <of cleaning>…"	-no comments-	The permanent cleaning sesion seems to be the only mesure close-related to flood management that is planned to be done in the future.
	Missing measures	Informant: *"…no hay una evacuación de emergencia es….no, no la tenemos…"* Translation: Informant: "…there is not an emergency evacuation is…no, we do not have it…"	-no comments-	An plan for emergency evacuation is a missing measure in the community.
	External institutions measures	Informant: *"…la alarma…sí es de protección Civil…"* Informant: *"<por Protección Civil>…están monitoreadas…<las colonias más afectadas>"* Informant: "*…la arena <para los sacos de arena> si la pone el ayuntamiento…pero pues nada más la avientan ahí, nosotros la pedimos…"* Informant: *"El desazolve…es lo único que puede hacer ayuntamiento… eso sí es preventivo, porque…dos veces al año <a través de una petición oficial>…"* Employer of Health Secretary[51]: "…son medidas preventivas que están ahorita tomando para evitar que haga mucho caso de dengue…" Translation: Informant: "…the alarm…yes it is from Civil Protection.." Informant: "<by Civil Protection>…they are monitored…<the most affected suburbs>" Informant: "…the sand <for the sandbags> is given by the city hall…but they only throw it there, we ask for it…"	-no comments-	Civil Protection, City Hall and Health Secretary are some external institions that had provide help with some measures previous to floods. Civil Protection's main participation on the suburb was through the instalation of the flood-alarm. The City Hall has provided the neighbors with sand and with river-bed-desilting process. And Health Secretary is monitoring the probabiliy of Dengue aparisson in the region, in order to take precautions when a flood comes.

[51] Mrs. María del Socorro Sánchez Monarca,
appear during the interview because she was monitoring the mosquito's egg tramps that are located in some households of the location. She works for the Health Secretary of the Federal government, for the monitoring of the egg of the Dengue mosquito.

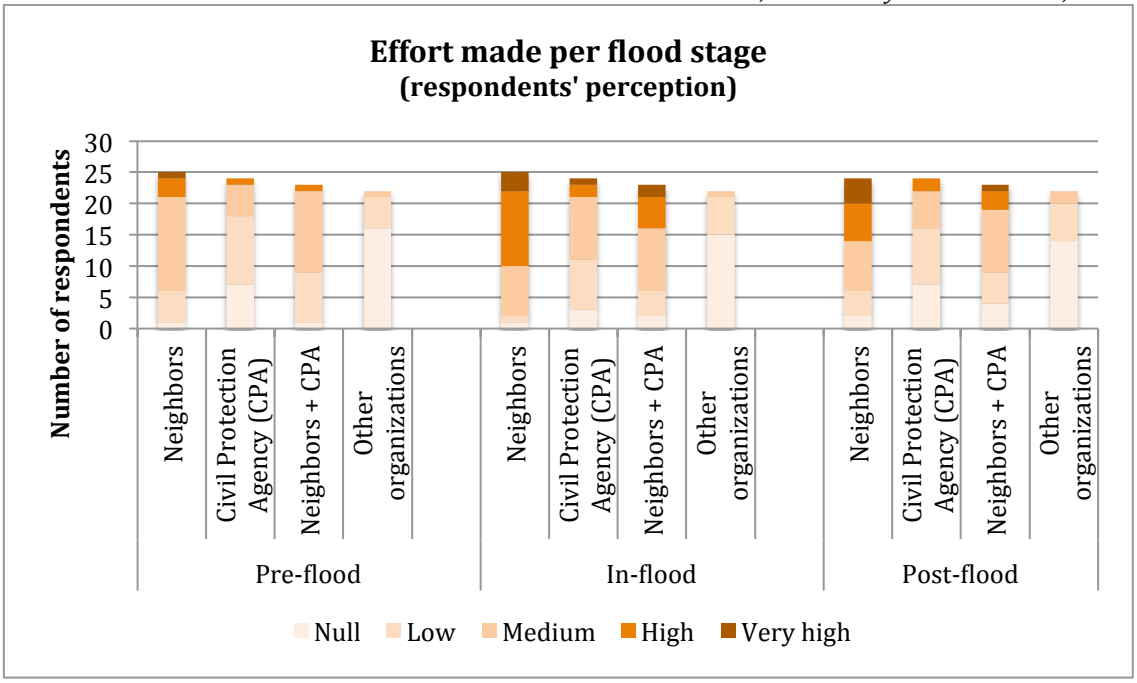
		Informant: "The desilting…is the only thing that the city hall can do…thai s indeed preventive, because…twice a year <is done through an oficial petition>…" Employer of Health Secretary: "…they are preventive measures that are being taking now to avoid many Denge chases…"		
Measures during a flood	**Actual measu**	-no comments-	-no comments-	There are no specifically planned measures of any kind (individual or group) to implement during a flood.
	Actual improvised measures	Informant's friend: *"…¡se nos hubiera muerto doña Gloria sino la jalo!"* Translation: Informant's friend: "…¡Mrs. Gloria would have died if I don't grab her""	"…y pues ya de ver que el arroyo esta subiendo y empieza a correr <su esposo>a tocar puertas…casa por casa" "…todos brincaron arriba, todos los vecinos estaban arriba, ¡todos! <en la azotea> y era una gritadera ¡horrible!" Translation: "…and once he sees that the stream is rising and starts to run <her husband> to knock on doors…house by house" "…all hopped up, every neighbor was up<at the roof>, ¡all of them! and it was a shouting scene ¡it was horrible!"	The only measures during floods that neighbors do are improvised measures. They consists of disorganized activities such as spreading a flood alarm to all households, rescuing people trapped inside their houses, hopping up their roofs, among others.
	Future or missed measures	Informant's friend: "…podemos poner una carrucha <tirolesa> ahí arriba <el segundo piso de su casa> para una evacuación de emergencia…" Informant: "tenemos que hacer rutas de evacuación" Translation: Informant's friend: "…we can put a pulley <a zipline> up there <the second floor of his house> for an emergency evacuation…" Informant: "we have to do evacuation routes"	-no comments-	There seem to be any future measures planned, instead they identificate that an emergency evacuation procedure must be established.

Measures aftera flood	**Actual measures**	Informant's friend: "…lo que hacemos es que nos ponemos a limpiar nosotros mismos…." Informant: "…<sobre la reparación de la barda que la vaca tronó durante la inundación del 2008>…a reparar…ponerle coperacha entre todos…" Informant: "al principio…Perdieron todo su valor adquisitivo … no se vendían por nada… pero poco a poco como le hemos dado imagen y todo eso se ha ido rescatando…" Translate: Informant's friend: "…what we do is that we put ourselves to clean…" Informant: "…<about the wall reparation that a cow broke during 2008 flood> …to repare…lets all put money to it…" Informant: "…at the beggining…they lost all their adquisitive value <the houses> they did not get sold by nothing…but slowly as we have been giving them image and all that was rescued…"	"Eran camionetas que llenábamos de basura, de lodo…Y pues no aguantábamos <el trabajo excesivo cuando limpiaban escombros>…" "…Y sí quedamos muy mal...con psicólogo…como medio año de que ocurrió eso <la inundación del 2004>…era por mi cuenta <los costos de la terapia>…" "…la vez pasada <la primera vez> nos tumbó la barda de acá <el impacto del agua>…Miguel <su esposo> la volvió a construir…" Translate: "They were trucks that were full of garbage, of mud…and we could not take it <the excesive work when cleanning debris>…" "…And we did ended very bad…with psichologist…like half year since that happend <the flood of 2004>…it went on my own <the therapy costs>…" "…last time <the first time> it overthrow the wall from here <the impact of the water>…Miguel <her husband> built it back together…"	The actual measures after a flood that the community perform are also responding to improvisation efforts. The cleanning effort is made in group at the begining, but at the end all neighbors focus more on their properties. The common infrastructure reparations are supported by community, but few ones seem to be fully involved in the process of reparing. The permanent cleaning sesions and the infrastructure reparations have helped to improve the suburb's image and returning its economic value to the properties.
	Local authorities measures	Informant's friend: *"…Protección Civil a veces avisa que se suspenden actividades <suspensión oficial en la ciudad cuando ha habido una inundación extrema>…en lo que sí ayudaban ellos era en sacar todo lo que no servía <escombro >…"* Informante: *"…hubo una "mano de chango" <máquina para sacar los coches atorados y lo mandó la Dirección de Agua Potable y Alcantarillado> …"* Translation: Informant's friend: "…Civil Protection sometimes announce that activities are suspended <oficial suspensión at the city when there has been an extreme flood>…in what they do helped was in taking out all that does not functioned anymore <debris>…" Informant: "…there was a "mano de chango" <machine to take out the cars that were jammed and it was sent by the Direction of Potable Water and Sewerage>…"	-no comments-	The local authorities measures after the floods seem to be also minimal but key. Civil protection tends to help to remove the debris and machinery to remove heavy things, like cars, is borrowed by local authorities sometimes.

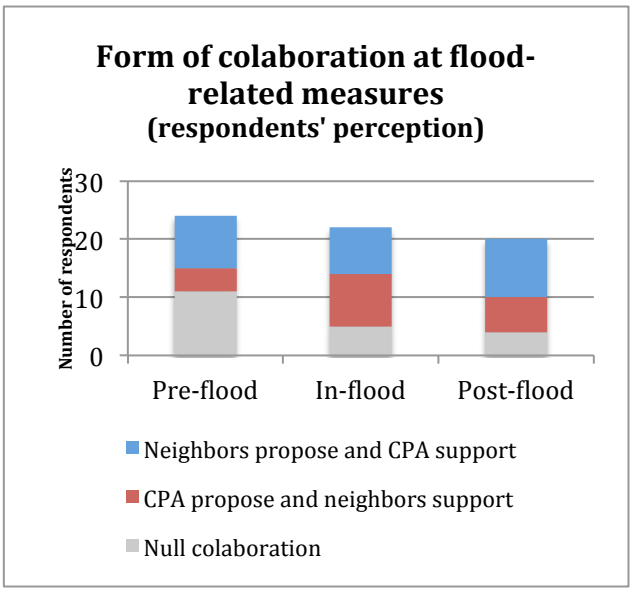
Annex Details of performance of Coping-Response at Magisterial suburb

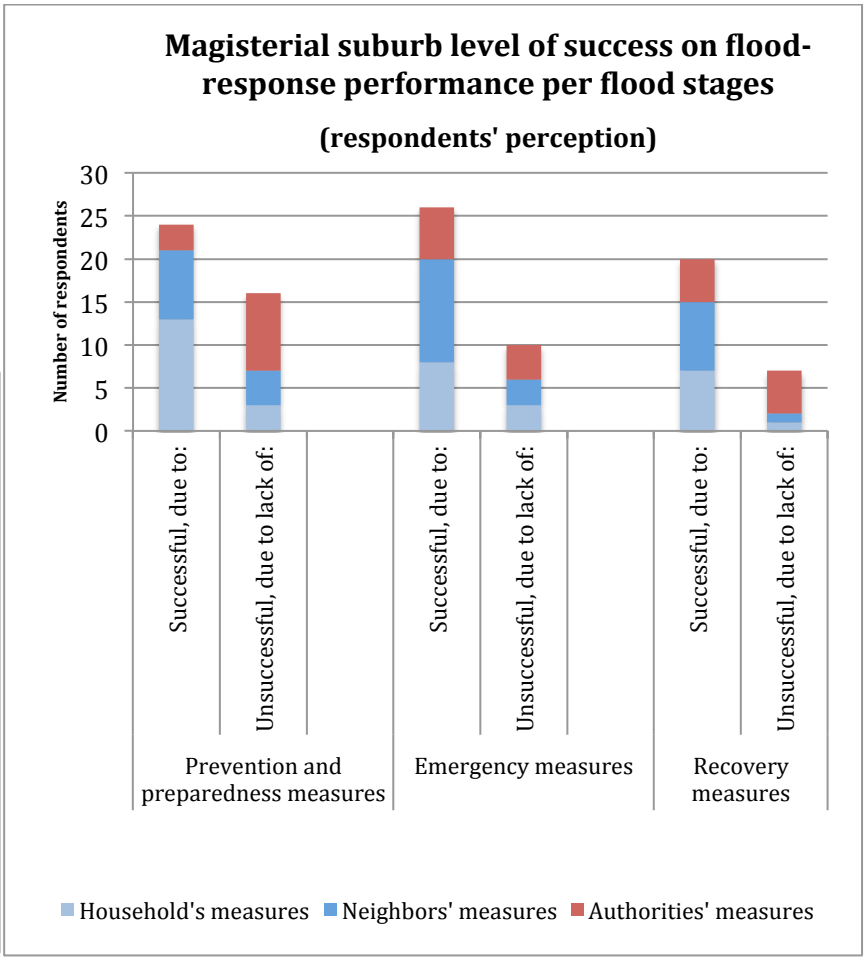


Graph 6 Actors involved in the implementation of pre-, in- and post-flood coping measures at Magisterial suburb.

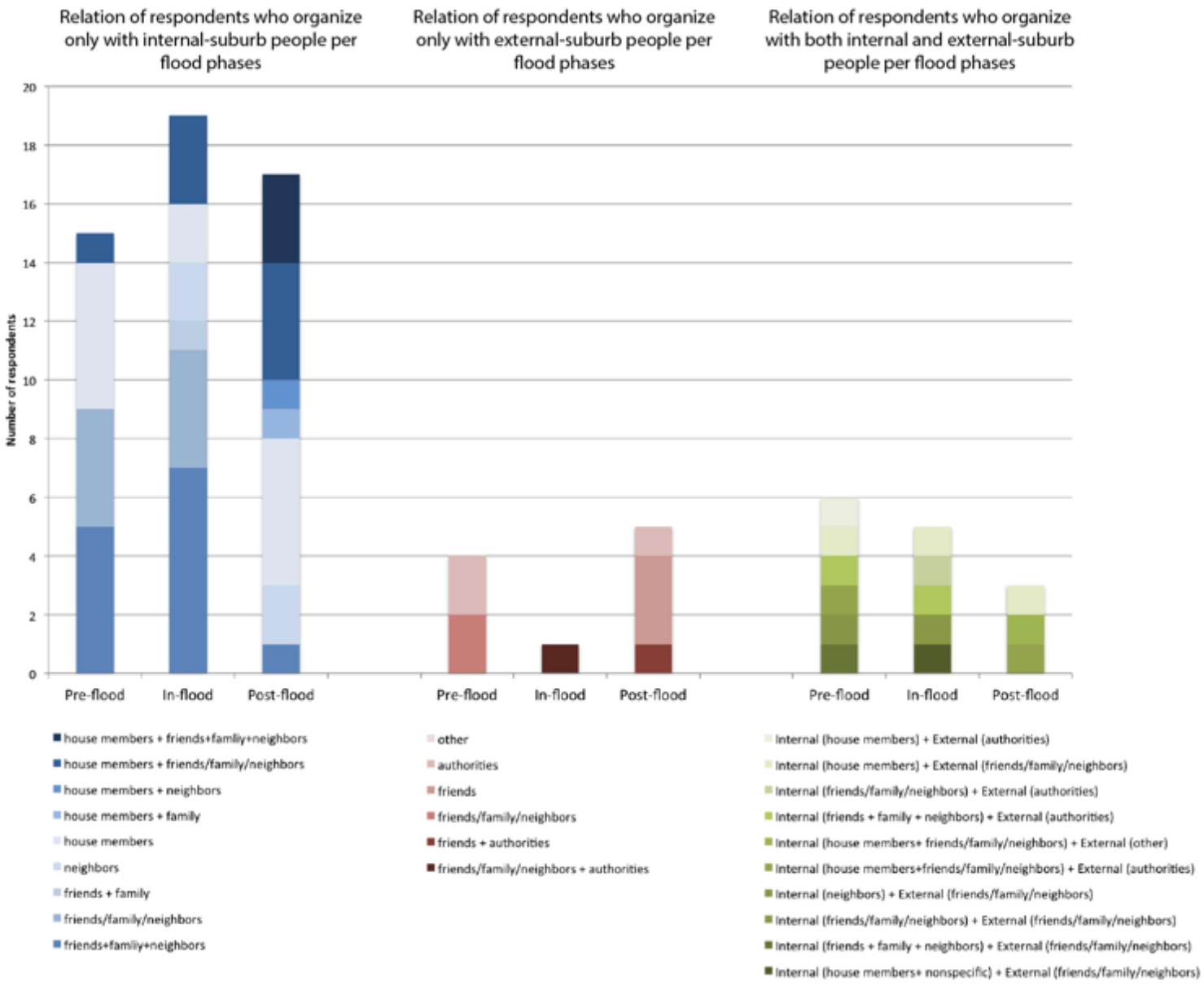


Graph 7 Level performance-effort made at Magisterial suburb by several actors during Pre-, In- and Post-flood stages. Darker colors mean higher effort made.





Graph 8 Graph to the left presents respondents' perception regarding the form of colaboration between neighbors of Magisterial and Civil Protection Agency related to flood pre-, in- and post-flood stages. Graph to the right presents the respondents' perception of level of success/unsuccess of Magisterial suburb performance at pre-, in- and post-flood and cause of such success in terms of measures coming from household, neighbors (as group) and authorities' initiatives.



Graph 9 Graphs that detail the relation of respondents' way or organizing before, during and after a flood event. Darker colors mean that organization implies more joined participation, in other words, involve more agents (e.g. house members + friends + family + neighbors has more agents than house members + family).

Annex Suburbs of Ciudad Valles municipality under Flood Risk

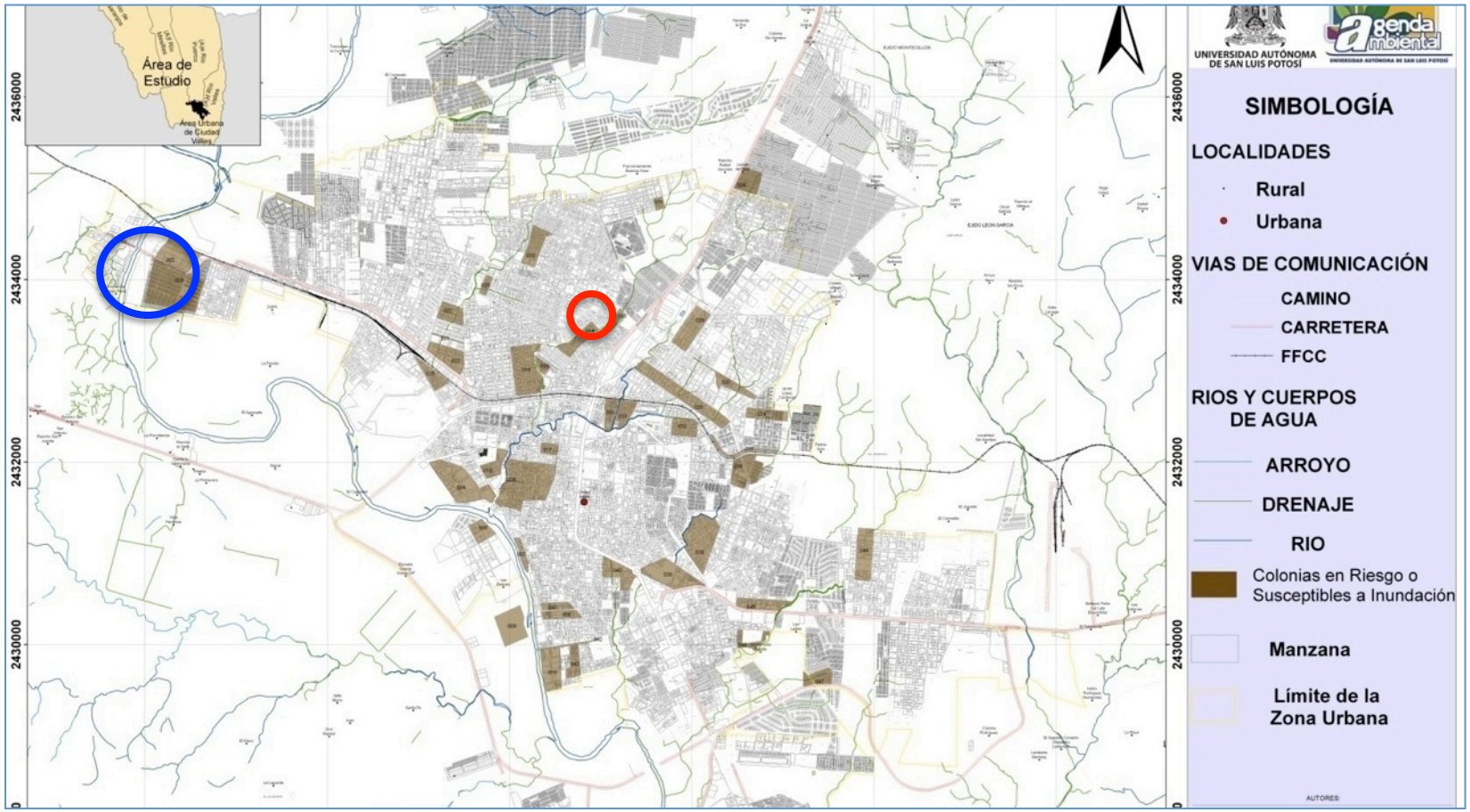


Image 32 The *Praderas del Río* suburb (under the blue circle) is the most affected suburb in Ciudad Valles, with a register of 112 affected households by the rising river of *Río Valles*, and Magisterial suburb (under the red circle) presents a total of 80 households but it is quite more small than *Praderas del Río*. Source: Agenda Ambiental, 2008.

Annex Photographic register of 2008 flood event at Ciudad Valles city

Photographs provided by Specialized informant and close friend, both neighbors from Magisterial suburb Ciudad Valles

Image 33 Left: Damage caused to the fence and the car at the higher part of the city during the flood. Right: threes and light posts were completely broke and dragged by the torrent.

Image 34 In the lower parts of Ciudad Valles municipality, the water reached considerable depths and higher retention time. Bottom pair of photos shows the same basketball court without flood (own actual photo) and during the 2008 flood.

Image 35 Ciudad Valles population during the flood of 2008.

Magisterial suburb

Image 36 People of Magisterial suburb after the flash flood of 2008

Image 37 Internal household damage (left), damaged furniture (chairs) (right).

Image 38 The neighbors of Magisterial reported total loss of cars. These cars were drag several meters by the torrent and ended up at lower parts of the city completely destroyed. Green car was found stocked over a bridge, blocking the river channel.

Image 39 Cars were lifted up and crashed against houses and light posts.

Image 40 Damages to public infrastructure (left); according to witnesses a floating cow destroyed this channel wall during the flood. The National Pedagogical University adjacent and immediately at the lower part of Magisterial suburb suffer great damage during the flood. Watermarks on the walls inside their library are visible and fence was blended by debris within the flash flood torrent. (photos from the bottom were taken at field survey 2014, own source)