

27-F EARTHQUAKE AND TSUNAMI RECONSTRUCTION PROCESS IN CHILE: AN APPROACH TO URBAN VULNERABILITY IN THE RECONSTRUCTION MASTER PLAN OF DUAO, ILOCA AND LA PESCA

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Abstract

In Chile, the 8.8 magnitude earthquake and tsunami that struck the country on February 27th 2010, made noticeable the necessity to Plan the Reconstruction of little towns and coves on the Central Chile costal edge that were affected by this natural disaster. For this reason, since 2010 onwards, the Government began different creative design programs in the search for the best way to carry through a sustainable Reconstruction in those urban centers which had been devastated by tsunami.

These mentioned facts were materialized in the Master Plans for the Reconstruction of Chile. Its purpose was to articulate multidisciplinary teams in diverse areas such as: architecture, urbanism, design, economics and public policies in order to implement the Reconstruction plans. However, an unplanned collateral effect showed up: the local Urban Poverty increased.

The Sustainable Strategic Reconstruction Plan of Duao, Iloca and La Pesca is a very important case of study in Chile, due to this experience shows clearly different ways of actors associativity, namely between public and private actors. Consequently, this process is a re-interpretation of the Opportunity Structures in territorial planning context after a natural disaster.

Keywords: Reconstruction; Associativity; Social Vulnerability; Opportunity Structures.

1. INTRODUCTION

This investigation is about the territorial Reconstruction plans that were developed in Chile in 2010 and which established new models of urban intervention through public - private associations in each one of the towns in Central Chile that had been severely affected by the earthquake and tsunami on February 27th of that year, onwards 27-F.

In this context and due to the geographical diversity, and the social and political features of the affected towns after 27-F, the Chilean Government proposed that each town needed a particular solution to resolve several existing problems. In this way, 133 master plans were formulated by the Urban Territorial Reconstruction Program to indicate the future development for 112 towns in Chile. That is to

say, Reconstruction plans have been developed in the 32.37% of the communities affected by the 27-F, distributed in 17 Provinces from Valparaiso Region in the North to Araucanía Region in the South of the country. Despite the fact that this is a small geographical area in Chile it concentrates approximately 51% of the Chilean population, equivalent to 8,380,394 inhabitants according to preliminary results of the 2012 CENSUS. Furthermore, this disaster generated a loss estimated at US\$ 30 thousand millions, equivalent to 18% of the national GDP (Larragaña and Herrera, 2010).

These statistics show the scope and magnitude of the disaster, and according to the Government report, there was neither a place in Central Chile that was not affected by the earthquake nor littoral areas by the tsunami (Chile Unido Reconstruye Mejor, 2010).

On the other hand, if we want to understand the current moment of the Chilean urban planning, is compulsory to review the tendencies that have guided the public policy in Chile during its recent history, particularly in relation to territorial management in natural disasters context. This kind of model of management in the country has been approached from two opposite points of view, which are the following.

First, at the beginning of the 20th Century, it was from a perspective of the Welfare Government, which was responsible of planning, developing and applying initiatives for all citizens, including post natural disaster context.

Second, during the Military Government period, the public policies were made following a neoliberal logic. This perspective with the passing of time has been transformed gradually; however it maintains its essence, because the Chilean Government establishes the regulatory framework for action of external actors under free market rules (Moulian, 1997).

Under this latter logic the Government developed the urban territorial Reconstruction post 27-F, where different organizations were associated to design a Reconstruction master plan for every one of the 112 towns.

These projects have had an exploratory nature, and have sought to achieve a high impact in the urban revitalization of towns that were affected by the 27-F, and they are currently known as Reconstruction master plan. By means of associativity, the Government set in the basis that suggests an investment for a period of eight years (2010 – 2018), mainly in rural little towns and coves. This is a territorial scale feature, which is crucial to understand the associativity phenomenon, because these towns have low population density and they are split in the territory and also they are much less known in the national

urban context. So, it was the perfect stage to transform the affected territory in an urban laboratory with the Reconstruction as excuse.

No doubt, this associativity process was an important Governmental help for the action of private actors in the territory which was damaged by 27-F. Simultaneously, these backgrounds open the discussion between pertinence and adequacy of the public policies in the existent social network, because of its relation with the privatization process in the country, in post disaster context. This is the empiric evidence of what we are going to call Opportunity Structures.

“The opportunity structures are defined as probabilities of access to consumer goods, services or a salary. These opportunities impact on the home welfare, because they permit or facilitate to the home members the use of their own recourses or because these permit to get new recourses for them” (Filgueira, 2001. P.9).

Additionally, Filgueira in his conceptualization of the Opportunity Structures proposes that crisis or economic growth, recession, technology change and transformation in the productive structure are factors of short or long term, which modify the market structure and influence the different chances of the people or their homes.

Methodologically, the present research is developed following a descriptive methodology of the urban and social facts which have happened in the Reconstruction process post 27-F, all this from an Urban Sociology perspective. According with Manuel Castell, the Urban Sociology is “the study of the space and the collective consumption process (...) about the structures and the social actors” (Castell, 1971. P.63).

In this paper the emphasis will be in the Social Vulnerability, concept which we are going to understand as “a multidimensional process that combines the risk or probability of the individual, home or community to be injured or damaged by changes or permanent external and/or internal situations” (Busso, 2001. P.8). Finally, the research temporality is defined from 2010 until 2013; it is to say, a three-year period in the development of the Government Reconstruction Plan.

2. RESEARCH OBJECTIVES

The main reason that motivates this research is to raise awareness, among academic circles and public opinion, about how the Chilean Government went into action with its programs to intervene in the territory that was affected by 27-F. These Governmental programs - Urban Design and Housing - were implemented simultaneously, and have changed the way of living and the domestic economy of

thousands of families in these places. Due to the normative and legal obstacles for the action of new actors over the territory drop in this type of process following Opportunity Structures logic. In this context, the Sustainable Strategic Reconstruction Plan of Duao, Iloca and La Pesca definitely is an emblematic case about this process in Maule region.

For this reason, the central questions in this research is the following:

Which are the effects of the Sustainable Strategic Reconstruction Plan of Duao, Iloca and La Pesca in the territory and the social network? Considering that it has been developed under Opportunity Structures logic with the trident: Government, private actors (the market) and civil society.

In the basic diagram that defines Opportunity Structures is noticeable and alarming the absence of a transcendental actor as the organized civil society, because its presence is essential for a good development of an integral reconstruction plan.

Besides, in Chile the implementation of public policies has been made from a sectorial way and in this process of Reconstruction it was noticeable. Because of that, the intervention made in cities and towns affected by the catastrophe has been a collage of Governmental territorial points of view but mainly of private actors, where the strategic planning concept falls into crisis.

3. THEORETICAL APPROACH TO THE SOCIAL VULNERABILITY IN THE CHILEAN RECONSTRUCTION

The earthquake and subsequent tsunami on 27-F in Chile, originated an emergency situation that in a country as Chile, it is not an isolated event. On the contrary, periodically Chile must bridle limit situations associated with natural disasters, which does not mean that the country is prepared in its different components, civil society, political groups and private groups to deal with this kind of defiance.

However, why this kind of situations put the country in trouble, but not only from a political perspective? In opinion of the author, the answer to this question is possible to find in the circumstantial feature that nobody can predict when a natural disaster will happen. Despite natural disasters are absolutely unexpected, they are a latent risk in a country as Chile due to its location: the Pacific Fire Ring area, where all the time exists a high probability of an earthquake taking place.

The kind of latent risks in the country, in addition to its physical expression, periodically obligates the Government to deal with emergencies. On the 27-F a total of 4,349 families were obliged to relocate to one of 107 makeshift houses townships built for the emergency.

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TABLE 1 - TOWNSHIPS BUILT AFTER 27-F IN CHILE

Region	N° of Townships	N° of Families
Valparaiso	3	66
O'Higgins	4	287
Maule	16	430
Biobio	84	3,566
Total	107	4,349

Source: GONZALEZ, Luis Eduardo, Master Thesis in Residential Habitat, JAN 2013

In this context, it is possible to recognize a different situation that until certain point is far beyond the poverty situation that our society commonly knows, for instance: makeshift-houses shantytowns, homeless people or people living under the poverty line. Even though, a natural disaster makes evident other manners of poverty, where people have necessities that they would not have in a normal moment of their lives. In this context, it is necessary for people to be able to deal with adverse situations, in order to overcome the fall in opportunities for the family development, the reduced access to consumer goods and the changes in the family economy, which easily can end up in an infringement of their Human Rights if the Governmental action is negligent.

These ideas echo from the human capacity perspective, as this perspective proposes, "The human capacity perspective offers the basis to elaborate strategies for the collective human development" (Dubois, 2007.P.32). That is to say, the collective group and its necessities are more important than the individual and its particular necessities. In the same way, this is a condition that has been suffered by thousands of families along Chile because of 27-F. This affirmation is backed up by the Government Official Report, which published that the number of affected families that received a Governmental housing subsidy was 220,000. In this experience of Reconstruction each family had different levels of loss (whole, partial, possible to fix, amongst others). This figure (220,000) shows that a similar number of families had to deal with a situation of Social Vulnerability that is expressed in different manners.

One way to understand the Social Vulnerability is the "Fragility and defenselessness before changes induced in the environment, such as the institutional abandonment from a Government that neither contributes to reinforce nor take care of its citizens systemically; such as internal debility to deal with the necessary changes of the individual or home to utilize the opportunity set that is introduce to him" (Busso, 2001. P.8).

Busso sustains that his concept of Social Vulnerability has three central components: the consumer goods (the strategic use of them and the set of opportunities offered to the individual, homes and communities by the market); the Government; and the civil society. Hence, this conceptualization of vulnerability will originate a constant dialogue between the environment and the inside (Busso, 2001), which represents a particular feature that qualifies the analysis unit as vulnerable in relation with the risk to which people have been exposed to.

In our analysis of Social Vulnerability in post disaster context, the subject has changed its condition, because it is becoming a poor person and now, unfortunately, it will have to deal with other effects that natural disasters carry: vulnerability, marginality and exclusion situations. In this process that according with The Bank World man attributes the responsibility to the Government and its unfit performance to the affected people. Consequently, about this social responsibility to affected people, he affirms: "The majority of the public policies which have been developed by countries of the region, have sought to increase the Welfare of urban poor people. Nevertheless, the Government has omitted integration problems of the society. Additionally, the public policies have operated as if only improvements in the life condition of the people could establish (or re – establish) an important link between the Government and the community" (Katzman, 2001. P.2).

Besides, Katzman sustains that when these policies are extended to include basic benefits such as transportation, education, public security, health, entertainment services, and also is it possible to add the housing, three important changes take place in the social structure which simultaneously impact in and trigger social isolation mechanisms of the urban poor. The changes in the social structure are the following:

"Firstly, the informal sociability spaces among the social classes - originated by sharing the same services- are reduced. Secondly, the control over common problems that households face in their daily life is also reduced. Thirdly, the public services lose the important support derived from the interest of the medium social stratum in maintaining the quality of the services they use (...) Thereby, a vicious circle of increasing quality differences between private and public services is activated" (Katzman, 2001. P.173).

The vicious circles of the Urban Poverty and the Social Vulnerability are phenomena that in the Chilean experience have induced different changes in the family economy. Principally because when the families lost their consumer goods, they could apply to Governmental housing subsidy directly or through intermediary enterprises, but this last kind of subsidy is regulated by market economy and mainly by the price of the land in urban areas, following a neo-liberal logic. Consequently, the affected

families were displaced from their neighborhoods, where they had lived for many years, to others places, because housing opportunities are in the outskirts of cities or in rural areas. Later, people found themselves living in a vulnerability context with less access to opportunities in the city. As consequence, they lost the access to opportunities that they used to have in their original social network.

“When subjects inhabit the territory, they connect diverse spaces: the housing with its immediate surroundings, their direct community and urban equipment, to finally connect it with a more widespread regional space. This perspective of residential habitat suggests to address the reconstruction interventions in a multidimensional manner and with different scales. Employment, health, urban equipment, education and connectivity, amongst others, are dimensions that overlap in the daily routine of the people and as a consequence they should be addressed from an integral perspective” (Observatorio de la Reconstrucción, 2011). Reinforcing this idea, the Overcoming Poverty Foundation (“Fundación para la Superación de la Pobreza”) defines Habitat as:

“(…) The place that the human inhabits, hence, it is the physical place of home, natural or constructed environment, and also the manner in what the inhabitants give significance to that space that represents their individual or collective identity. The habitat constitutes an essential area in people welfare because it conjugates necessities of being, doing and having. The right to an adequate habitat, neighborhood, city and environment, results fundamental to open up the economic, social and cultural capacities of people, particularly, those in poorness or vulnerability situation” (Overcoming Poverty Foundation, 2014).

The graph 1 represents the effects of a natural disaster in the dimensions of the residential habitat concept:

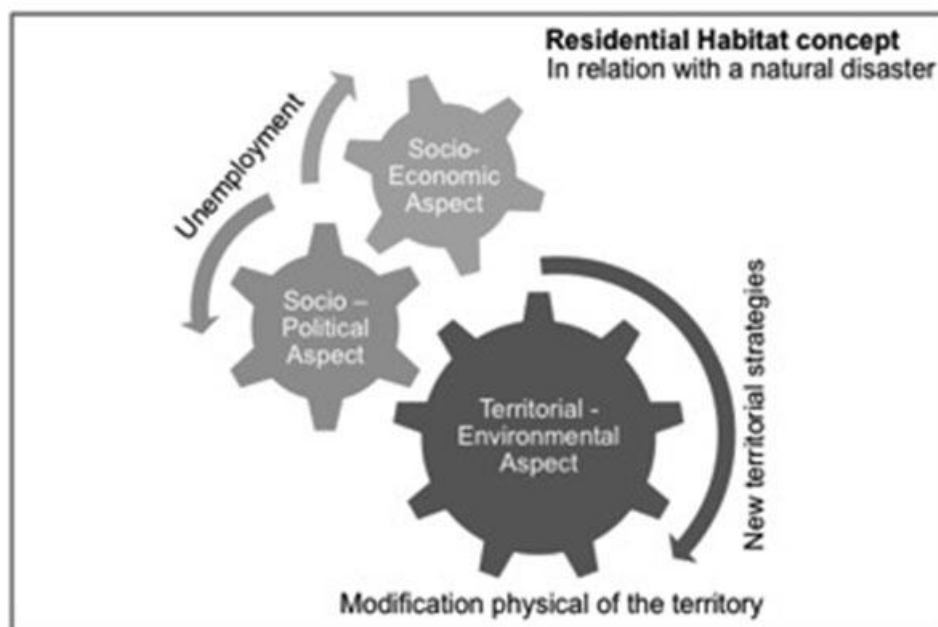


FIGURE 1 – ASPECTS OF RESIDENTIAL HABITAT CONCEPT
Source: Own elaboration, OCT 2014

According to the former graph it is noticeable that the governmental important decisions are developed from the socio-political aspect. These decisions are going to determine the strategies under which the Reconstruction plan for the towns affected by this natural disaster should be developed. But, if these strategies are evaluated from the urban growth perspective that Chile process goes back to the initial premise, that is to say, the Reconstruction is linked has, the with the private actors, and thus, linked with the market trends materialized in profitability, land use and investment, amongst others. Then, this influences in the territorial – environmental aspect, due to the noticeable physical modifications in the cities and finally, the territorial – environmental aspect has a repercussion in the socio – economic aspect through employment sources, and the displacement and modification of social routines. Each political model, from its different awns, influences in the networks within the residential habitat, which is the reflex of many years of consolidated networks, mainly social networks.

For this reason, the displacement of families from their historic settlement is a major change, because it originates isolation, which has situational characteristics in different scales of the residential habitat concept (housing, neighborhood and city) excluding them of opportunities that the city offers. In fact, the fundamental features that define poverty are noticeable: situational, dynamic, relational, subjective and mainly relative; this according with the definition made by Overcoming Poverty Foundation.

The previously described condition increases the social inequality in emergency context with the development of big investments in little towns. This is an inflection point and it backs up the theory that gives sustenance to this research, because on one hand exists the poverty situation of families that suddenly need to deal with poverty situation and on the other hand, the existing Governmental lineaments that bifurcate the way towards social integration, specifically through Reconstruction plans focused on attracting private investment which had a target population that was not necessarily the inhabitants of the localities where this investment was implemented.

It is in this context and perspective to address the poverty concept, that this research studies the impact of a public policy during its implementation process and the way in what it intend to overcome the poverty condition, or perhaps only touch it in a circumstantial manner, according with the graph 2.

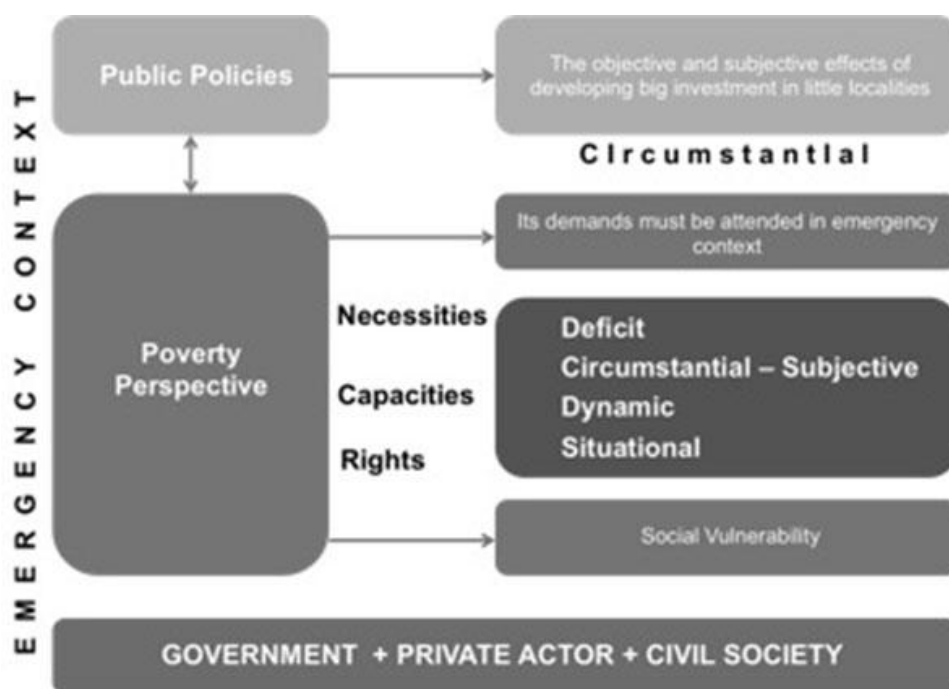


FIGURE 2 - CONCEPTUALIZATION OF POVERTY FROM A SOCIAL VULNERABILITY PERSPECTIVE
Source: Own elaboration, OCT 2014

The aspects that were previously addressed focus our research in the following questions: how is the poverty addressed in emergency context? And in parallel, what are the objective and subjective effects of big investments developed in little localities?

4. DISCUSSION ABOUT THE SOCIAL VULNERABILITY AND OPPORTUNITY STRUCTURES IN THE CHILEAN RECONSTRUCTION PROCESS: CASE OF SUSTAINABLE STRATEGIC RECONSTRUCTION PLAN OF DUAO, ILOCA AND LA PESCA

In the case of study, the Government decided to work with its Reconstruction plan, which was constituted by diverse actors that directly and indirectly influence in the plan. These actors were connected with public, private and educational institutions. That is to say, it is a model created in high places and brought later on to the damaged territory. However, in the implementation process one fundamental actor was evaded, the population.

In the construction of the model of management, the authors share the fears of Naomi Klein, regarding to similar post natural disaster processes around the world:

“Only a crisis – real or perceived – gives the opportunity to make a real change. When that crisis happens, the actions made, depend on the ideas that float in the environment. I believe this should be

our basic function: to develop parallel alternatives to current policies, to maintain them alive and active until the politically impossible turns into inevitable” (Klein, 2010).

The theories of Klein and Figueira, about opportunities produced by crisis and Opportunity Structures, respectively, echo in the Reconstruction process because the crisis is the perfect stage when the Government is exceeded by the demand of answer that the country needs. In this context, not only exist 220,000 affected people demanding for help, but also, the local and regional public organizations, the organized civil society, amongst others. That is to say, the crisis is the suitable stage for the intervention of an external entity in association with the Government; they can give an adequate answer to popular demand.

This process of Reconstruction is implemented, developed and managed in the territory by external entities, which the majority of time has the intention to help and wish to do a really good work, but these intentions are depleted by the low awareness of the territory and the own urban sociology of each locality. According to Lawner, this process of Reconstruction shows how the Government power has been reduced down to a merely subsidiary role because of a new actor who has replaced it in its old-functions, that we are going to name external consultant.

After signing the Cooperation Treaty for the affected area in study - between the Ministry of Housing and Urban Development (MINVU), the Local Government and the external consultant-, the ex- Minister of Housing and Urban Development said “Without this kind of treaties, the reconstruction would have been very difficult because of the dimensions of this disaster” (Matte, 2010).

It is necessary to mention that the Actor Maps, according with the Cooperation Treaty in study was constituted by three groups that were the basis of this plan. However, it was also possible to find other actors influencing the map development in a tangential and indirect manner.

To sum up, it is possible to affirm that in this case, the basic structure of the Cooperation Treaty in study were: HATCH Consultant, Universidad Mayor (later replaced by Universidad Finnis Terrae), Ministry of Housing and Urban Development and the Local Government of Licantén. With the passing of time, this basic structure of the plan had to change, since it was necessary to incorporate other four private entities due to the reduction of attributes of the Government: Desafío Levantemos Chile, AOA (Architectural Studio Association), Antofagasta Minerals and Alejandro Rojas Sierra Foundation. In addition, other local actors wanted to be incorporated to this process, such as: three fishing unions, the local Commerce Chamber and the Housing Committees. All this actors, which were outside of the basic structure, looked for having a place in the Opportunity Structures that were controlled by the interests of the market and private entities.

5. RESULTS: QUALITATIVE EFFECTS OF THE SUSTAINABLE STRATEGIC RECONSTRUCTION PLAN OF DUAO, ILOCA AND LA PESCA IN THE TERRITORY AND THE SOCIAL NETWORKS WITHIN IT

Qualitatively, the focus of this research is to know the experience of Duao, Iloca and La Pesca inhabitants during the reconstruction process and how they have had to coexist with components that define the poverty concept, for example Social Vulnerability and inequality, as it was mentioned before. The present chapter considers speeches from families that have suffered the effects of the implementation of this Reconstruction Public Policy from 27-F onwards.

At the beginning, to face the necessity to achieve a housing solution, families started to work together in two housing committees with two different target populations. One group was oriented to families without land to build their housing solutions (CNT), which have only started to be built in August 2014. Nevertheless, the other group of 13 families had their houses built rather quickly because they owned land to build in (CSP). The president of this last group said that:

“We have fought so much to achieve an agreement. If we have sign a paper saying that is our responsibility to remain living there, we will do it. Because, my house was already built, but I do not have any paper saying that it is mine and I don't want that in the future, the construction company comes and takes my house away” (Mercedes, Housing Committee, Iloca 2012).

This kind of situation is very common in those localities, because at the beginning SERVIU (Service of Ministry of Housing and Urban Development) of Maule Region made its work rapidly and started building housing solutions for families that owned the land where their destroyed houses were placed. But unfortunately, later on, when the hazard studies were ready and said that those places were flooding area, the SERVIU could not accept those newly built houses from the construction companies and obviously the families might lose them.

Consequently, these families have lived until now in a state of uncertainty about the real support from the local public policies or thinking that they are only quantitative data. In this context a local leader from Rancura – La Pesca said, “... we are abandoned, two years have passed and we don't know if some day, we will have a solution. In our committee we were 60 families, all with different necessities. But, today we do not have anything and many of us, are living with relatives as guests” (Carlos, Rancura 2012).

On the other hand, when the family environment is affected by a crisis or catastrophe, regularly there is a loss and/or a decrease in labouring opportunities associated, which was possible to confirm in Duao:

"I am an affected person [fisherman's family] and it is possible for me to feel how some things change, luckily in summer things change a little... because in winter this occupation is very hard, because my husband and I do not own a boat and we have to work for other people..." (Mirta, Cove, Duao 2012).

All of these stories are still valid, because of the employment sources, such as micro-enterprises, that have not been recovered yet for different reasons, mainly, due to economical constraints and the lack of savings of the affected owners that made them ineligible to participate in the Governmental help programs: "My wife and I had a little store in our house, but the house does not exist anymore and neither does our little store... Nowadays we work in different informal occupations wherever we can" (Luis, Neighbour of Iloca, Iloca 2012).

Due to an unequal distribution of the public investment in these localities (Duao, Iloca y La Pesca), the perception of local families - namely the affected ones which have not had a Governmental answer yet - is a sensation of absolute abandonment, impotence and frustration.

Finally, in this Reconstruction process, lamentably the main result is damage in the social networks. This has happened because of preexisting social issues that the Governmental intervention (master plan), unfortunately, worsened, increasing the division and the social damage in the localities in study. From the Social Vulnerability perspective this is a mistake very difficult to rectify, because the social network has been split and the subjects segregate. Furthermore, the affected people feel that the Government and its local authorities left them alone. Also, the public opinion, as well as the authors, have the idea that the local political authorities have given priority to public investment linked with private actors, because that produces incomes for the local Government, that is to say, under an opportunity structures logic.

6. CONCLUSIONS

Firstly, it is demonstrated that in the Reconstruction process post 27-F does not exist a real approach to the Urban Vulnerability concept. In this Reconstruction process, it was possible to recognize the following features:

The Master Plans were originated as a necessary product that in the Chilean political context and economic model, allowed cities and towns affected by the catastrophe to partially arise with the support of the Government. This is possible to see in the territory by means of housing and urban regeneration subsidies. In this process the Government established the regulatory framework, but private actors who collaborated with it, lamentably, influenced the social dynamics in the towns affected by de 27-F.

With the passing of time, the private actors have begun to collaborate more and more with the development and design of public policies. As a result, they have been a determining factor in the social network development in the localities affected by 27-F.

Hence, the authors propose that only the Government must have the main role in the Model of Management (in natural disaster context), and no other actor.

In the process post 27-F, the action framework permits to experiment new processes of associativity and to deal with urban problems from a laboratory logic. This, not only in search of giving benefits to the community, but also an investment opportunity to private actors.

Accordingly, the Sustainable Strategic Reconstruction Plan of Duao, Iloca and La Pesca is a product not consolidated as an urban integral answer because of its experimental nature. However, it has achieved that tangential social help institutions have now a place in many localities after the 27-F.

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