8. Post-disaster dynamics in inner areas. An Italian hypothesis for transition management

Nora Annesi[1], Annalisa Rizzo[2], Matteo Scamporrino[3]

Abstract

The city can be defined as a balanced relation among *polis*, *civitas* and *urbs* (Salzano, 1998). Disasters impact this balance. Undermining the link between the components as well as the component themselves, the disaster can lead a city to the death, especially if the balance is already damaged (Edgington, 2010), at the same time it can represent the opportunity for changing the development trajectory of the territory (May and Williams, 2012). The catalyst effect of a disaster, and in particular of an earthquake, emerges more evident in inner areas where generally there are ongoing negative demographic and socio-economic trends (Barca, 2014).

With this premise, the chapter proposes an overview of Italian reconstruction processes from the post-war period until today with the main aim of highlighting the dynamics of disaster governance and community organization, which are often less visible in the ordinary circumstances.

The approach to reconstruction used seems not to be able to stem these phenomena and to reverse trends in order to "revitalize" the territories.

The chapter aims to show the possible application of a flexible tool, such as the Transition Management approach, to the issue of post-disaster management in inner areas.

Basing our study on transition management theories and (Rotmans *et al.,* 2001; Bosch and Rotmans, 2008) disaster and post-disaster literature, the research uses the window of opportunity concept to connect the concepts of development trajectory, transition, trajectory break and trajectory reshape. Finally, the aims of the research are explained under the light of the ultimate goal of contributing to resilience-building vocation of the National Strategy (Barca *et al*., 2013).

[1] *Corresponding author*. Ph.D. Student in Change and Complexity Management at Sant'Anna School of Advanced Research, e-mail: n.annesi@santannapisa.it.

[2] Ph.D. Student in Urban Regeneration and Economic Development at Università Mediterranea di Reggio Calabria, e-mail: annalisarizzo@hotmail.com.

[3] Researcher at Università degli Studi di Firenze, e-mail: matteo.scamporrino@unifi.it.

Using a multiple case study approach, three different earthquake events will be analysed and reasons of the occurred (if occurred) urban-death in inner area will be outlined.

The work will try to connect the issue of disaster-management and inner-areas, and it will propose to improve the post-disaster phase thanks to the exploitation of an existing planning tool with the aim to start a conscious recovery by optimizing efforts, data and time.

Looking at the failure factors of three recovery processes the authors will propose the adoption of an existing National strategy (SNAI) as actant for the planning of inner and earthquake-impacted areas.

Keywords: Inner areas, Transition management, earthquake.

1. Introduction

Cities are a perfect balance among three components: *civitas, urbs, polis* (Salzano, 1998). The presence and the interrelation between those three components are the *conditio sine qua non* for a settlement to be defined as a city. The physical aspect, the *urbs*, as well as the community with its social implication, the *civitas*, and the governing body with their exclusive balance represent the unique conceivable idea of city. The pluri-secular overlap of uses, spaces, functions that have created an ingenious and conscious civilization represent the city (Norberg-Schulz, 1979). These literature assumptions help us to understand the strong relation between *urbs* and *civitas* and why the theme of city with its new physical and social evolution is under the spotlight of the academic debate. The third component, the *polis*, has finally the role to manage all the changes, relations and uses of the city, with *a super partes* approach and in coherence with the community needs and rules. The mutual interaction among the components determines the vitality of the city. This perspective set the framework for the case study analysis carried out in the second section. Basing our research on the assumption that the balance of the city components is the life of the city itself, the paper will analyse the reasons of city abandonment after a calamitous event, such as an earthquake, and try to outline a possible recovery strategy.

A disaster represents a shock of the *urbs-civitas-polis* asset and represents a break of it. A hazard can be defined as the (still) unexpressed damage that an event can produce toward a community through the interruption of regular activities, the destruction of buildings and

infrastructures and through the physical damage against the population (Smith, 2003).

A disaster can hit one, two or all of the three city components, leading to the death of the city. From a different perspective, disasters can also be portrayed as an opportunity for the city to take a different path of development. Although the existence of post-disaster policy windows has been pointed out (May and Williams, 1986), "several conditions can be identified in which policy windows might more likely lead to effective policy changes" (Solecki and Michaels, 1994). Furthermore, in a long term perspective, the earthquake plays the role of a catalyst of changes and it appears able to accelerate the ongoing demographic and socio-economic trends (Edgington, 2010; Scamporrino 2013). In a certain way, it represents the opposite phenomenon compared to the change of path expected with the post-disaster window of opportunity. In the last decades, the academic literature has showed the need to deal with the post disaster management using a different approach, framed in a long term strategy, suggested also by the shift from the term reconstruction to post-disaster regeneration (Scamporrino, 2013). The main outcome of this shift is a different perspective: reconstruction implies the restoration of the previous functioning system, eventually improved, unlike the regeneration and/or the transition which admit the possibility of a different future asset. Both of them need to be supported by a long term vision; but while regeneration found its sap into endogenous resources, transition is based on the management itself that steer the process. The concept of "window of opportunity" is still effective when inscribed in the larger framework of the transition management. In that case the long term vision should be already defined when the disaster happens because "a transition can be accelerated by one-time events, such as a war or large accident or a crisis but not be caused by such events" (Kemp *et al*., 2003). Framing the research in Eddington's and Scamporrino's theories about "path dependency" of the reconstruction, in the final part the chapter tries to identify in the Transition Management application a possible strategy for the management of post-disaster recovery in inner areas.

2. Literature framework. Transition management and seismic inner areas

Transition Management (TM) is a flexible approach formulated to direct towards a shared idea of scenario by exploiting available resources (Loorbach and Rotmans, 2009).

From the first applications in the Dutch context, aimed at understanding and managing social changes (Rotmans *et al.,* 2001, Bosch and Rotmans, 2008), to the successive experiments, TM have seen its application in other field of study, such as climate change (Roorda *et al.*, 2014; Wittimayer *et al.*, 2014), the run-up to sustainability (Kemp and Loorbach, 2003) or in the management of public policies (Rotmans *et al.,* 2001).

The exploration of the local context, named Integrated System Analysis (Loorbach, 2007), the exploration of local actors (Actor Analysis), in terms of their role, their potentials or the identification of the power dynamics playing by them on the territory (in conditions of stable equilibrium) are the bases by which the TM defines short-term actions to implement in a medium-long term perspective (Rotmans, 1998).

Near the ISA (Integrated System Analysis) and the AA (Actor Analysis), the Transition Arena and (TA) represents the central tool of TM to meet local actors and develop shared and coordinated plans with them.

The idea to adopt TM as tool to support risk and disaster management at national scale has a number of advantages and it has not yet been exploited. Post-disaster policies are sometimes characterized by improvisation and by priorities that temporary tend to neglect historical, cultural, architectural and urban heritage. The need of defining a strategy for the regional development before the disaster for a better recovery management may sound paradoxical, but it could make sense for those areas, such as the inner areas, where the necessity to act with a preventive approach both for the presence of hazard and presence of negative trends is clear (Strategia Aree Interne, 2015).

Inner areas, as well as seismic areas, have been addressed by a number of strategies and theories without consistent successful results. The literature in particular, defines “inner” those areas significantly far from those centers that offer essential services, such as education, health and mobility. Moreover, inner areas appear to be characterized by high availability of natural resources and demographic, as well as economic, negative trends (Barca *et al.*, 2014).

According to IFEL (2015) the Italian distribution of inner areas finds a special density at the Appennine areas, that is the national area most exposed to seismic risk. The SNAI, as well as other studies (IFEL, 2015; Dematteis, 2013) for Italian inner areas, does not take in consideration also the seismic nature of those context.

In this multilevel complex context, the characteristics that make TM an eligible tool for inner areas management, in term of prevention, are the versatility and its process-oriented nature. In fact it is usable in different

contexts and for different purpose, moreover it is possible to have the same shared process to achieve different purposes and strategies.

The three level of policy making analysed by Kemp and Loorbach (2003), such as tactics, strategies and operational, have different time of implementation and in this sense, TM is able to respect times and objectives (short and long-time objectives) powered by policy-maker choices. Preparedness planning is not typical of urban planning policy in Italy. More often the overlapping of un-coherent plans and goals and the increased number of actors involved in the emergency phase set the perfect ground for speculative actions. TM in this sense is able to embrace the circular-course nature of monitoring systems, made of a continuous auditing and redefinition of the trajectory, that should characterize planning or re-planning processes.

The TM approach is totally in contrast with the classical approach that define a-priori, generally 50 years long, planning path without considering the contextual changes. The idea to have a set of possible scenarios that define the expected, or desirable, trajectory or result without having a fixed path, represents the innovative and advantageous characteristic of TM.

Finally, the opportunity to adopt TM approach at different scales, without the need to have new different agencies for its applicability, represents a reduction costs benefit.

All the above mentioned characteristics make TM a strategic tool to achieve all those peculiarities that characterize Italian territory, such as morphological heterogeneity and the political, as well as, administrative fragmentation.

3. Analysis of case studies. Three examples of disaster recovery failure

Taking evidences from three case studies, the chapter analyzes how three main factors, such as the nature of the disaster, the previous trends and the reconstruction management, can damage in different ways the relation among civitas, urbs and polis and how the loss of the mutual interaction between these components can lead the city to coma or death. In the following section the analysis and the interpretation of Fucino earthquake, 1915, Belice earthquake, 1968, and finally L'Aquila earthquake, 2009 will be chronologically reported (Table 1).

3.1. The entity of the tragedy: the Fucino earthquake

The impact of the seismic activity of the 1915 in central Italy has been analysed among the abandoned areas due to the nature of the disaster. On January 15, 1915, at 6.53 (G.M.T.) an earthquake occurred (no foreshocks reported and 4 year of aftershocks) near Avezzano with a magnitude of 7 points on the Richter scale. Speaking of the intensity of the event as a cause of abandonment (voluntary or not) it is important to pay attention on the detected level of destruction. The seismic event had a maximum intensity of XI on the Mercalli scale. In the case of Fucino, the "quantitative" impact of the first shock was measured in: 21 settlements totally destroyed, 30.519 victims, 5 provinces damaged and 41 landslips (Itala Publishing Co., New York s.d., 1915). According to Oddone (1915) the geological localization of destroyed settlements has caused local amplification of the seismic motion. The alert launched too late (12 hours later), the impossibility of reaching some places and an abundant snowfall completed this tragic event. Analysing the impact, the Government decided to apply two different post-disaster policies: reconstruction for historical and/or partially damaged settlements and a delocalization policy for irrecoverable settlements. The second choice, based on the law 445/1908, was driven by the necessity to reduce the risk of future seismic events and by the awareness of being unable to guarantee a sufficient number of task force on the territory in the reconstruction phase. In both cases the affected population has undergone a long period of "temporary dislocation" in 21.000 "shacks" with a consequential breakdown of the social fabric and with an interruption of productive activities. To have an idea about the "temporary dislocation" is sufficient to observe that most of the centres were rebuilt around the second half of the 30s (15 years later).

A long period analysis shows three different scenarios as results of the two post-disaster policies:

1) Recovered settlements: it is the case of Avezzano and other settlements/cities of which the strategic role for the territory could not be removed without leading to a total social implosion of the area.

2) Repopulated settlements: those settlements, initially destined to the dislocation, that have been rebuilt and repopulated owing to the strong will of the survived community. Sometimes the repopulation has been occurred later also for those settlement that had already had a reconstruction of a twin "new town".

3) Definitively abandoned settlements: those settlements that were strongly both physically and socially impacted.

The delocalization choice has led to a duplication of each destroyed settlement. Actually in the affected area about each municipal unit was characterized by the presence of two distinct settlements of which one is totally abandoned. The new "town", or more precisely "settlement" has generally been rebuilt more downstream and it was characterized by a geometrical structure, lack of identity and out-migration trends.

By observing the evolution of the Fucino context, it is thus possible to state how in an initial state of demographic stability, the magnitude of the damage and the dislocations choice have heavily influenced the future of the whole affected area. The magnitude of the disaster has almost irretrievably impacted the territorial balance and each of the elements that characterize the nature of each urban centre. The physical structure, the *urbs*, of urban settlements was reduced to a collapse of rubble and the whole territorial pattern appeared totally flaked. The community suffered the loss of a quarter of the inhabitants with a consequential break of social ties and of the *civitas* structure. Finally, the historical context with the imminent war have led to the absence of a governmental structure that could guide the affected territories. In the long run, post-disaster management choices have led to the breakdown of territorial ties (socialism, landscape-productive structure, ...) and left urban (old and new) corpses on the territory. Despite the disastrous premises, the Fucino area has begun an unexpected process of rebirth. The strong linkage of the territory with the old urban centres has in recent years exerted a magnetism capable of initiating a new process of spontaneous repopulation of abandoned settlement. The *urbs-civitas-polis* balance does not seem totally lost. The territory is still in transition and the observation of trends suggests that the new town are destined for emptying in favour (partly) of the old centres. The territory was able to initiate a process of spontaneous rebirth by repopulating areas that were destined for dislocation. This specific phenomenon is the confirmation of the strength of the original bond man-place. On the other hand, the inability of new centres to re-create the original social magnetism has been caused both by the lengthening of reconstruction times (over 15 years) and by a dislocation that did not take into account the study of the *urbs-civitas-polis* balance.

3.2. Previous trends: the case of Belice Valley

The Belice earthquake, occurred in 1968, has often been studied as the first disaster managed by the new Republican regime, as a consequence, in most of the scientific literature the focus has been more on the management

process then on the context. After a series of foreshocks, a strong shock of 6.5 on the Richter scale occurred during the night of 14/15 January producing an impact of X of Mercalli scale[4] (Ambraseys, 2009). The south west Sicily was damaged for an area of 6.200 Km2. The most damaged area is identifiable in 12 municipalities of the Belice Valley. The earthquake caused 400 victims, about 97,000 homeless and 100.000 people with a heavily damage house (Scamporrino, 2013). The 60% of the resident population was displaced. In the first post-disaster phase, the Government introduced a set of special tools for displaced families and temporary settlements. In particular, a series of benefit was established, such as relief for the population-suspension of payment of taxes, moratorium on debts and bills of exchange, suspension of lease payments, etc. Temporary settlements (prefabricated house units) were located in areas not always adjacent to the damaged original site (i.e. Gibellina), in view of the future territorial reorganization proposed by the central State (Chubb, 2002). The recovery process, based on the dislocation of old settlements combined with the creation of a new industrial economy, appears an utopian development model laid down into a detached context. The Belice Valley was originally characterized by an agricultural vocation and its territorial structure was still based on the original medieval asset with sumptuous villages and a road structure intended for the agricultural use. The traditional way of running the activities made the area underdeveloped compared to the rest of the country, but also backward in comparison with the other part of the Sicily region. While analysing previous demographic trend, an area characterized by a significant out-migration, in particular of the young male population, emerged (Carta, 2009), which represents the most important phenomenon to be taken into account to understand the death of this territory. The trend has been accelerated in the first post-disaster phase. About 12.000 people moved to the north of Italy where a part of the population had already moved in previous years for work reason. In addition, the promotion of migration to northern Italy and abroad through monetary incentives, clearly expressed the government's desire to not initiate a reconstruction and repopulation process. The ownership structure, marked by few big ownerships and the vast majority of the agriculture workers who didn't own their land, in addition to the negative trends, set up the elements of the vulnerability that led to the reconstruction failure. The government strategy gave the final blow to this fragile context. Look at the actual Belice Valley, it is possible to see in a glance what we could define the parody of a reconstruction: the

[4] Mercalli scale (in) is a 12-point ordinal scale and it evaluates the impact of the earthquake especially on human and human-made structures (Mercalli, 1902).

old city has been concreted over (as a land art work performed by A. Burri) while the dream of a new city with its new economy never took off. In this perspective, the case of Belice represents the clearest example of the role of previous demographic and economic trends in the rupture of the city balance. Referring at the past demographic trends, it is clear how the negative phenomena already strongly present in the territory were only further stimulated by the catastrophe. The entity of the event, a reconstruction too slow (40 years) and far from the will to recreate a liveable urban environment have just completed a downwards trajectory already in place.

3.3. The role of the management process: the case of L'Aquila

L'Aquila earthquake, embodies the rupture of the city, operated firstly by the disaster itself, but also by the reconstruction process. Although an earthquake swarm was going on since December 2008, the shock of magnitude 6,3 occurred at 3:32 a.m. on the 6th of April 2009 caught the city literally sleeping: unprepared and off guard. The effects have been devastating: 308 victims and 1.600 injured (Chiarabba *et al.*, 2009). During the emergency phase more than 67.500 inhabitants have been assisted and 27.850 of which were displaced in shelter or private accommodation. The disaster involved also the physical destruction of the settlements: Onna has almost completely ruined down, while in L'Aquila the most affected area was the entire historic city centre and the monumental heritage. At the end of July, the municipalities officially affected by the event were 577. Considering the whole area hit by the earthquake, almost 50% of the built environment has been declared safe, among the public buildings even more. The polarization characterizes both the demographic and the economic structure of the region. In the last century the area carried out the transition from an agricultural economy and polycentric urban structure first towards an unsuccessful industrial development and then toward the development of the tertiary sector. Some of the villages in the last decades tried to develop a tourism industry alongside the traditional agricultural practice. Despite the positive or stationery trends, the demographic and economic assets were to a small extent place-related, the population balance took advantage from the University student inflow as well as the economic trend. The earthquake shock unveiled the weakness of the relation between part of the *civitas,* and the related economy, and the *urbs.* Compared to other earthquake occurred in the last century, in the case of L'Aquila the scale of the disaster and the previous demographic and economic trends that set the ground for the

reconstruction process were less severe. The choices, made for the emergency management, showed the will to create a new approach disregarding the good practices of the previous experiences. The first radical choice was to nominate the head of Protezione Civile as special commissioner for the reconstruction, undermining the established practice of giving the office to the president or a councillor of the regional government. The strategy of giving the full authority to a representative member of the central government left to the local authorities the role of the audience. The second main feature of the new approach was to shorten the transition of the inhabitants from the emergency shelter first, to the temporary housing unit (MAP: moduli abitativi provvisori) then to the recovered home place. The government made the decision to skip the temporary accommodation building new permanent settlements. The project C.A.S.E cannot be defined as an urban intervention as it takes into account only the housing function, nevertheless its impact on the territory has been indiscriminate. The outcome of this choice is a distortion of the urban patterns, with the "planned sprawl" of the new-towns and the abandon of the historic settlements. The third aspect of the reconstruction process is a non-choice represented by the lack of dispositions for the reconstruction of L'Aquila city centre, the words "historic city centre" are completely missing in the special laws (Di Ludovico *et al.*, 2017). If the disaster itself represent a direct shock for the single element of the city: the *civitas*, the *urbs* and the *polis*, this three driven of the reconstruction management led to the loss of the city balance threatening the links among the components in different ways. The first choice, abandoning the multilevel governance, broke apart the trust relationship between *civitas* and *polis*; taking over the regional and urban planning from the local authorities. Neglecting the restoration of the historic city centre meant to attack the real foundation of the local identity, not only the identity of the city inhabitants but of the entire region, weakening the relationship between *civitas* and *urbs*. While the second choice undermined the link between *polis* and *urbs.* In fact C.A.S.E project, essential choice in the post-disaster context, has been implemented ignoring pre-existing rules and pre-earthquake planning tool. After several years, the inconsistency of the solution with respect to the development strategies and the criticality, in terms of territorial planning, clearly emerged.

With these premises, it is necessary to highlight that the implemented radical transformation was carried out and wanted by supra-local actor who responded with definitive actions to temporary problems related to a transition-state of the city. Citizens, as well as local actors, have been excluded from the decision making process and have been considered passive observers of the change of their own places.

Table 1 – *Summary table of compared cases.*

	Fucino earthquake	*Belice earthquake*	*L'Aquila earthquake*
Period	1915	1968	2008
Context	Inner Appennine area Demographic stability (ISTAT)	Inner area Out-migration flows Agricultural vocation (Carta, 2009)	Inner Appennine area Positive or stationery trends (ISTAT)
Magnitude	7 - Richter scale XI - Mercalli scale (Oddone, 1915)	6.5 - Richter scale X - Mercalli scale (Ambraseys, 2009)	6.3 - Richter scale IX-X - Mercalli scale (Chiarabba *et al.,* 2009)
Damage	30519 victims 21 totally destroyed settlements (Itala Publishing Co., New York s.d., 1915)	400 victims 97.000 homeless 100.000 people with heavily damaged house (Scamporrino, 2013)	308 victims 27850 displaced 577 affected municipalities
Contextual factors	Abundant snowfall First world war (Oddone, 1915)	Negative socio-demographic trends (Carta, 2009)	Transition phase from agricultural to urban society
Policy	Temporary dislocation	Settlement dislocation Incentives for migration (Chubb, 2002)	Temporary settlements (Di Ludovico *et al.*, 2017)
Long-term impact	Repopulation (ongoing) of original sites	Abandoned territory	Sprawled community and sprawled settlements (Di Ludovico *et al.*, 2017)

4. Discussion. TM as disaster management strategy in Italian inner areas

Looking at post-disaster strategies applied in Italy from the first world war until today, and their effect in a long term perspective, it is clear how

the Central State has not yet found a replicable solution in damaged territories. Methods, techniques as well as tools of national procedures have not been implemented in order to prevent or manage a disaster and its effects (Nimis, 2009). Several post-disaster choices, that have been supported in order to answer to multilayer crisis and needs, have led to negative medium-long term impact. Moreover, those post-disaster choices have not taken in consideration the "inner" nature of these areas. On the contrary, TM can ensure a systemic approach based on the shared planning meetings (TA), the inclusion of all the local actor (AA) and takes in consideration both the pre-disaster context and the future strategy of evolution. Context and previous trends are central in TM as well as they are significant indicator for the planning, and the monitoring, of inner areas.

In this sense, looking at analysed case studies, the application of the TM would have allowed to take into account the previous demographic trend of Belice Valley, as well as its agricultural vocation, or the nature of *inner area* of central Italy settlements.

These cases, and in particular the correspondence between the exposition to seismic risk and the belonging to *inner area* context, show the presence of synergies and conflicts between long-term development strategies (typical of Inner Areas Strategy: SNAI) and measures related to emergency management.

Emerged conflicts about competences, school reorganization, regulation of land use and temporary accommodations, could be managed and reduced thanks to a pre-disaster strategy based on existing resources, problems and institutions.

In the Italian context, the post-disaster phase could be managed through the TM approach. TA could represent, in this sense, the tool to curb the risk of an exogenous governance through the involvement of local actors that will have the same weight of superordinate local actors, such as politician, technicians, representatives of superordinate bodies.

At the same time, the re-frame of those tactical and operational actions necessary during an emergency situation in a transition process can be the way to give a long term perspective to the reconstruction process.

The flexibility of TM approach is the characteristic that mainly makes TM ideal for an Italian application. Nevertheless, the analysis carried out allowed us to identify also some critical issues and challenges that the diversity of context inevitably entails. The limits of this study and of this hypothesis are related to the replicability of an approach whose success may have been influenced by the specificity of the Dutch context, in which it was tested. In particular, replicability issue could be related the political and geographical peculiarities.

About the political context, the debate on the relationship between the Dutch polder-model and TM (Kemp, Loorbach, 2003; Meadowcroft, 2007; Kemp *et al.*, 2007) does not allow to settle the question about the synergy or antagonism of different approaches, but allows to detect a close correlation between the two. The prevailing continuity in the political lines both on a national and on a local scale has favoured and made more effective the experimental applications of the method.

In relation to geographical peculiarities of the Dutch context, the TM application has been facilitated by exclusive Dutch characteristics such as the short extension of the National territory and the substantial morphological homogeneity. In this sense, the Italian context is characterized by a strong morphological heterogeneity and a pronounced cultural diversity.

An additional doubt about the TM replicability in Italy, is related to identification of a political framework in which the TM approach could be framed.

The identification of an institution able to promote the coordination of TM with ordinary planning needs to start from a review of existing planning bodies and their implications in relation to the different scale of application, competences and ability to dispose necessary resources.

The adoption of TM by local authority or municipality has the advantage of being able to rely on a strong relation with the territory, its knowledge and it will be reinforced by the thrust in local institutions and by the involvement of population. Moreover, the municipality has the right to follow all the planning process from the approval of the land use until the project.

In this sense, it is also reasonable to think that the municipality can not manage the disaster impact on the territorial structure alone. The scarcity of economic resources as well as the lack of external founds (European, state, regional, …) and of adequate technical skills would make the management of the TM process too complex for a municipality.

The idea to propose the Provincial authority as promoter of TM process, risks to find difficulties in term of administrative competences. In the same way, the Metropolitan City and the Unions of Municipalities offer optimal characteristics for the application and promotion of TM but, to date, they suffer from the same uncertainty of province authority.

Although not covering the entire national territory and being in a second level entity mostly limited to management, the Mountain Community offers the advantage of being recognized by the population that clearly perceives its limits and can rely on consolidated relationships between municipalities and administrators within a defined territorial unit. Finally, the Mountain

Community is a specialized administrative body, which deals today with the management of specific topics and services of the municipalities that are part of it, and for this reason it is not an integral part of the planning chain. If it will be proposed as promoter a transition process, it would be necessary to strengthen and broaden its competences.

The Regional body has a territorial extension often comparable to that of some European nations and has the resources, the skills and the competences to be able to successfully support the adoption of TM and it can play the role of coordination and promotion of TM in areas at risk. The civil protection with its dimensionless nature could be proposed as technical support body on issues related to the disaster (both as prevention and as reconstruction), but certainly can not act in tandem with a local actor or with competent local authorities in urban planning and planning such as the Region.

In this sense the Regional body should be the local responsible of TM application within the SNAI objective. This solution could ensure the respect of local needs and local peculiarities.

5. Conclusion

Starting with this assumption that the survival of a territory depends on the vitality of all of its components, the paper analysed the case of Fucino, Belice Valley and L'Aquila earthquakes and tried to identify the adopted process of recovery and their failure reason. This study has several outputs and sometimes they appeared strictly correlated one to each-other. Following a chronological approach, firstly we analyzed the case of Fucino (1915). Characterized by a demographic stability in a critical political period for the whole Country, the Fucino area has been impacted in an irreversible way. The entity of the disaster and dislocation choice have completely disrupted the territory. In addition, the inability to re-create the *urbs* spirit has led on the territory a lot of new and old urban corpses. The case of Belice Valley (1968), has led us to the conclusion that not all the reconstructions are necessary. By deeply analysing the territorial profile, it was indeed clear that the strong earthquake had just the capacity to accelerate an emigration process already active. The activated reconstruction process appears unable to reanimate an area already in a phase of coma.

The last case, L'Aquila (2009), put under the spotlight the issue of a poor management of the recovery process. The choice to nominate a (external) special commissioner for the reconstruction with a full authority had the

effect to leaving to local authorities the role of the audience. Furthermore, the "temporary" housing unit had further damaged (and it is still damaging) the *civitas* side. The interpretation of the city, defined as a balanced relation among *polis, civitas* and *urbs* should be extend to a broader context to understand the nature of the territory and of its polycentric structure. The survival of a territory depends on the vitality of all of its components, the failure of a single city/settlement has the power to material impact the whole system. The sample used for this analyses is made up of settlements located into what the National Strategy for Inner Areas (SNAI) define an inner region. The overlap of these two issue, such as the exposition to the seismic risk and the marginality, adds another level of complexity in planning the recovery process. According to the 2° objective of UN Plan of Action on DRR for Resilience (2013-15), the solution for an effective recovery process could be find, in the Italian context, in the SNAI. The SNAI team has the mandate to work on the study and the sustainable management of inner areas in Italy, that cover almost the ⅗ of the whole National territory. SNAI, in this sense, represents a strategic program for a kind of development based on multi-stakeholder national and local governance system and with a strong institutional capacity-building efforts. The exploitation of SNAI during a recovery phase can maximize the use of resources and of territorial knowledge, can reduce the recovery time and design a "customizable" and effective long-term plan for the full recovery of the impacted areas. Due to the fact that the largest part of the strategies for the pilot areas have been approved, the TM could be included in those areas that are still in a planning/programming phase. The inclusion of TM as tool to design a long-term perspective and its monitoring in time could be the base of a second phase of SNAI program.

The scientific debate on disaster and urban settlements is mainly focused on reconstruction models, while a second branch is focused on approaches and processes of reconstruction. Our aim is to contribute to the second debate proposing a new approach based on three emerged evidences:

1. The need to read the city as a living being keeping alive the interaction among its components.
2. The necessity to develop different approaches and strategies for different territorial contexts. Starting from the difference between demographic and socio-economic trends, geomorphological shapes, metropolitan/urban/inner areas, since accessibility is intimately correlated both to the development path and to the emergency and risk management.

3. The awareness that a reconstruction process need to start from a clear framework on development trajectory, such as previous socio-demographic trends or long-term development strategies.

The assumptions take us to consider Inner Areas Strategy as a perfect ground to develop a prevention culture both from the technical-constructive and from the operational-procedural point of view. In conclusion, a process based on (1) a clear and detailed knowledge of the region profile (2) a long term vision for the region development that draw the direction for the reconstruction path (3) an inter-municipal governance and cooperation, can find a ground floor on the SNAI. Thanks to the organization of permanent panel discussion (TA), the SNAI give us the opportunity to not have a duplication of agencies, public bodies or research or the addition of external actant during the disaster-recovery-phase. The strategy, based on a socioeconomic approach, is lacking in term of spatial sensibility, central aspect for the disaster management and in maintaining the regional and territorial structure (ISA). The original balance of *urbs-polis-civitas* of a whole region covers indeed a central role in the post-disaster management and in particular in the recovery process. The long-term vision, potentially given by the SNAI, is the only way to give to the disaster-affected region an effective development trajectory. In some cases, "the third way" could be an assisted deconstruction. According to the analysis of previous trends and of the level of previous abandonment, the assisted deconstruction could find a place in the SNAI as a process of territorial reorganisation, shifting from a negative post-disaster side effect to a non-emergency management phase. In the proposed approach the disaster is read not only as a phenomenon /trend accelerator, but also as a strategy accelerator. It appears as a real window of opportunity to catalyze the implementation of a long-term vision.

References

Ambraseys, N., 2009, *Earthquakes in the Mediterranean and Middle East: a multidisciplinary study of seismicity up to 1900*, Cambridge University Press, Cambridge.

Barca, F., Casavola, P. and Lucatelli, S., 2014, *Strategia nazionale per le aree interne: definizione, obiettivi, strumenti e governance*, Ministero dello Sviluppo Economico, Dipartimento per lo Sviluppo e la Coesione Economica, Unità di Valutazione degli Investimenti Pubblici.

Carta, M., 2009, "Belice, la resistenza dello statuto dei luoghi", *Urbanistica Informazioni*, pp. 13-15.

Chubb, J., 2002, "Three earthquakes: political response, reconstruction, and the institutions: Belice (1968), Friuli (1976), Campania (1980)", *Disastro*, pp. 186-233.

Chiarabba, C., Amato, A., Anselmi, M., Baccheschi, P., Bianchi, I., Cattaneo, M., Cecere, G., Chiaraluce, L., Ciaccio, M.G., De Gori, P. & De Luca, G., 2009, "The 2009 L'Aquila (central Italy) MW6. 3 earthquake: Main shock and aftershocks", *Geophysical Research Letters*, 36(18).

Dematteis, G., 2013, "La montagna nella strategia per le aree interne 2014-2020", *Agriregionieuropa*, anno 9, n. 34.

Di Ludovico, M., Prota, A., Moroni, C., Manfredi, G. and Dolce, M., 2017, "Reconstruction process of damaged residential buildings outside historical centres after the L'Aquila earthquake: part I - "light damage" reconstruction", *Bulletin of Earthquake Engineering*, *15*(2), pp. 667-692.

Edgington, D.W., 2010, *Reconstructing Kobe. The Geography of Crisis and Opportunity,* UBCPress, Vancouver, Toronto, Canada.

Fondazione, I.F.E.L. (2015), I Comuni della Strategia Nazionale Aree Interne. *Link: http://www.fondazioneifel.it/studi-ricerche-ifel/item/3110-i-comuni-dellastrategia-nazionale-aree-interne*.

Kemp, R. & Loorbach, D., 2003, November. Governance for sustainability through transition management. In: *Open Meeting of Human Dimensions of Global Environmental Change Research Community, Montreal, Canada* (Vol. 20).

Kemp, R., Loorbach, D. and Rotmans, J., 2007, "Transition management as a model for managing processes of co-evolution towards sustainable development", *The International Journal of Sustainable Development & World Ecology*, 14(1), pp. 78-91.

Loorbach, D., 2007, *Transition management: new mode of governance for sustainable development,* International books, Utrecht, The Netherlands.

L'orrendo terremoto del 13 gennaio 1915. Con illustrazioni originali e la lista dei morti e feriti, Itala Publishing Co., New York s.d. (1915).

May, P.J. and Williams, W., 2012, *Disaster policy implementation: Managing programs under shared governance,* Springer Science & Business Media.

Meadowcroft, J., 2007, "National sustainable development strategies: features, challenges and reflexivity", *European Environment*, 17(3), pp. 152-163.

Mercalli, G., 1902, *Sulle modificazioni proposte alla scala sismica De Rossi-Forel* (Vol. 8), Società tipografica modenese.

Nimis, G.P., 2009, *Terre mobili: dal Belice al Friuli, dall'Umbria all'Abruzzo,* Donzelli Editore, Roma.

Norberg-Schulz, C., 1979. *Genius loci: paesaggio ambiente architettura,* Mondadori, Milano.

Oddone, E., 1915*,* "Gli elementi fisici del grande terremoto marsicano-fucense del 13 gennaio 1915", *Boll. Soc. Sismol. Ital*, 19, pp. 71-215.

Roorda, C., Wittmayer, J., Henneman, P., van Steenbergen, F., Frantzeskaki, N. & Loorbach, D., 2014, "Transition management in the urban context", *Guidance manual. DRIFT,* Erasmus University Rotterdam, Rotterdam.

Rotmans, J., 1998, "Methods for IA: The challenges and opportunities ahead", *Environmental Modeling & Assessment*, *3*(3), pp.155-179.

Rotmans, J., Kemp, R. and Van Asselt, M., 2001, "More evolution than revolution: transition management in public policy", *Foresight*, *3*(1), pp.15-31.

Rotmans, J. & Loorbach, D., 2009, "Complexity and transition management", *Journal of Industrial Ecology*, 13(2), pp.184-196.

Salzano, E., 1998, *Fondamenti di urbanistica: la storia e la norma*, Laterza, Rome/Bari.

Scamporrino, 2013, M., *Governare la ricostruzione*, Università degli Studi di Firenze, Firenze.

Smith, K., 2003, *Environmental hazards: assessing risk and reducing disaster*. Routledge, London.

Solecki, W.D. & Michaels, S., 1994, "Looking through the post-disaster policy window", *Environmental Management*, 18(4), pp. 587-595.

United Nations (2013), Plan of Action on Disaster Risk Reduction for Resilience, New York, United Nations System — Chief Executives Board.

Van den Bosch, S., & Rotmans, J., 2008, *Deepening, broadening and scaling up: A framework for steering transition experiments*, Essay 02. Knowledge Centre for Sustainable System Innovations and Transitions (KCT): Delft and Rotterdam.

Wittmayer, J., Roorda, C. & van Steenbergen, F., Eds., 2014, "Governing urban sustainability transitions–inspiring examples", *International Journal of Sustainable Development*, 15(1), pp. 19-36.