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Vulnerability conditions and risk representations in Latin-America: Framing the territorializing urban risk

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1. Introduction

The analysis of disasters as external events that societies must cope with and adjust to (White, 1945, 1958; Burton and Kates, 1964) is progressively giving way to the assessment of social and political contingencies that shape risk and vulnerability (Pelling, 2003, p. 46-65; Wisner *et al.*, 2004; Ribot, 2010, p. 47-59). Hazard-centered approaches and technical perspectives have been challenged by vulnerability-oriented research since the 1980s (see Sen and Drèze, 1989; Mitchell *et al.*, 1989; Wisner *et al.*, 2004; Bohle, 2007; Fabiani and Theys, 1987; Becerra and Peltier, 2009; Maskrey, 1993; and La Red - Latin American network since 1992¹).

Many theorists locate environmental risks, those associated with environmental variability or change, in hazards as external events and in the different ways societies face them (Burton *et al.*, 1993 [1978]). Other authors have considered environmental risks as contingent upon social structures and inequalities, locating them mainly within societies (Hewitt, 1983). The former theorists shed light on the impacts of and social reactions to hazards, whereas the latter focuses on socially rooted causal mechanisms that shape risk. From this latter perspective,

even if physical factors play critical roles in environmental risk, its framework and implications rely on social organization, power relations and inequalities. Hewitt's approach (1983) underlines the structural causes of environmental risk in different places and at different scales. Other authors draw on entitlement and livelihoods to explain the causes of vulnerability in the face of natural hazards (Sen, 1981; Chambers, 1989; Leach et al., 1999). From a political and economic perspective, Wisner et al.'s (2004) theory, drawing on Watts' and Bohle's (1993) ideas, defines a set of conditions that make people vulnerable; from broad structural factors to more conjunctural drivers, giving room to a more dynamic and contextualized understanding of risk causation.

In contrast to hazard or social and political-economic approaches that locate risk either within hazard itself or in social organization – critical distinction that Füssel and Klein (2006) or O'Brien et al. (2007) already addressed – a systemic and resilience viewpoint place risk in both hazard and society, thus weakening the social explanation of risk construction (Walker and Salt, 2006). By taking the system as a whole, and as a given, a systemic approach focuses on resilience, observing the different ways through which a system can maintain its structure and continue functioning in the face of any kind of disturbance, whether from the environment (Zhou et al., 2010) or from oil market prices (Newman, 2009). This approach avoids addressing root causes, reifying risk by de-socializing its meaning.

This article takes a social and political economic approach to risk that combines a material basis of risk with a discursive analysis of its generation and reproduction. Following the review of the Mexican anthropologist García Acosta (2005), when faced with a hazard, risk is a combination of concrete and tangible circumstances on the one hand, and of representations and discourses on the other. Risk is defined as a social construction that involves a large scope of variables that depend on a moment, a place and a society. Nevertheless, it is not only an outcome, or something that is produced. In a period of critical concerns and hegemonic

discourses on environmental risk and climate change, it is also worth considering the performative and instrumental dimension of risk policy as it implies significant consequences for the understanding and use of space and the organization of society. Scholarship considers risk as a benchmark for reflexivity and the critique of modern societies (Beck, 2003), or as a socially and culturally driven outcome that accounts for, and acknowledges, social reproduction (Douglas, 1985). This article assumes that risk is a situated production (in time, space and society) in both material and discursive terms as it contributes to the shaping of societies by physically transforming the landscape, by giving sense to things and by legitimizing actions.

This article outlines an integrative framework, which is termed the ‘territorialization of risk’, to assess the interactions among multiple (material and discursive) risk factors, highlighting the role of power relationships and inequalities in risk production. The process of territorialization gives rise to different forms and contents of territories that depend on moments, places and actors. It refers to the making of territories – the social construction of space that makes sense in a context. Territories are identified both materially and discursively. They are characterized by practices, representations and discourses as well as by broader narratives (Jean, 2002; Di Méo and Buléon, 2005). In this article, the understanding of territory goes far beyond the Weberian notion of a mere bounded space where an authority operates (Sack, 1986). It is related to Lefebvre’s idea of the production of space (1974) with power- and culture-rooted dimensions. Territory is a matter of power and sovereignty (Scott, 1998), but at the same time it concerns belonging, identity and practices since they affect power and control (Vandergeest and Peluso, 1995). Territories are spaces in which meanings are inscribed, and in addition to the physical transformation of territories that risk may imply, risk is itself one of the meanings inscribed within these spaces, shaping the relationships as well as the actions carried out by their occupants, including those who govern.

A holistic view of risk must bridge the gap between material facts and representations, the range between international discourses and the politics of local or individual choices, and draw from a combination of toolboxes (from structural and institutional analysis to ethnological fieldwork), as is being done in political ecology (Biersack and Greenberg, 2004). By assessing risk through the territorialization framework, the politicizing of risk becomes a necessary part of the analysis. Indeed, differing actors or interest groups in similar contexts give different boundaries, meanings and contents to the territories of risk. Such differences need to be addressed as political issues. In relation to risk, “politicizing” refers to: making risk contingency and its multiple socio-political causes visible, showing how representational and discursive dimensions can shape risk and potentially empower the voices of affected populations by shedding light on these otherwise hidden mechanisms. The politicization of risk is important since understanding its causality automatically attributes responsibility and blame (Douglas, 2001). Moreover, understanding its meanings to different social groupings highlights the differences in interest that are part of the struggle to claim rights and resources within the very territories at risk (Peluso and Watts, 2001; Peet and Watts, 2004).

By establishing links between territory and risk, this article politicizes risk since territoriality is about the struggle to inscribe meaning and claims in shared spaces. The article develops a dynamic framework for investigating risk and the ways it is territorialized. More broadly, it contributes to the efforts to contextualize and politicize nature that have been undertaken through the political economy of the environment and its resources from the 1970s onwards as an alternative to a hazard and impact-centered research. The territorialization framework is a conceptual tool to help reveal the political conditions that make and keep people vulnerable. It is designed to make visible how inequalities are mediated by risk, meanings of risk, risk situations or risk management, and to enable thinking beyond fragmentary risk assessment by articulating different methods and fields of research that usually remain separate.

Over the last decades, in a context of fast growing urbanization and changing environmental conditions, urban risk has become a key issue (Pelling, 2003; Bicknell et al., 2009). Urban growth has been almost exclusively occurring in developing countries, and environmental consequences of such dense and rapid development is unprecedented in history. This article focuses on urban contexts as the relationship between cities and risk or disasters has not yet been thoroughly explored in comparison with works on resources and the environment in rural areas from the 1970s onwards (Pelling and Wisner, 2008). Because of the extreme disparity of social stratification due to colonial inheritances, and in particular, in terms of environmental conditions, Latin American cities provide a good set of case studies with regard to urban risk assessment. Moreover, since the mid-1990s, Latin-American cities have been highly active with political commitments and participatory initiatives although structural inequalities are still extremely conspicuous (Portes and Hoffman, 2003). Urban fieldwork in Latin America shows how the uneven exposure of people to risk stressors also relies on social status. In addition, the distribution and intensity of risk appears to be influenced by the ways risk is represented. Risk representations have become more concrete in Latin American cities, not only through discourses, but also through risk-related actions and initiatives undertaken by governments, NGOs, and international organizations. Fieldwork has brought to light cases of the differing, and often contentious, territorialization of risk (Revet, 2007; Hardy, 2008; Rebotier, 2008).

The first section of this article is dedicated to the politicizing of the different views of risk and its implications in highly unequal urban contexts. It draws on case studies from previous fieldwork in Caracas between 2002 and 2009 on urban risk (Rebotier, 2008) as well as the METRALJEUX (*Enjeux de gouvernance métropolitaine dans quatre ville d'Amérique latine* – Metropolitan governance issues in four Latin-American cities) Comparative Research Program² on urban governance. The METRALJEUX program examines cases in Buenos-

Aires, Argentina, Mexico City, Mexico and São Paulo, Brazil that reflect the significant and diverse dynamics of Latin-American urbanization, governance, and risk construction. This section also draws on other research addressing urban risk and territory issues by emphasizing inequalities, power and representations (D'Ercole, 1994; Sierra, 2000; Hardy, 2003; López, 2008; D'Ercole et al., 2009). Section two addresses the epistemological and methodological aspects of the territorialization of this risk, drawing on the case studies developed in the previous section and on the broader literature. It will also outline the proposed territorialization of risk framework. The main epistemological and operational contributions of analyzing risk through territorialization will then be discussed before a brief synthesis of the conceptual proposal.

2. Politicizing risk assessment in Latin American cities

Different views of risk will be assessed according to the varied actors, interests and potential instrumentalizations or uses of risk. Sub-section 2.1 examines how the representations and definitions of risk, its management and the implications of its policies are useful to address such different views. In sub-section 2.2, fieldwork in Latin American cities shows how risk definition can be driven by social discourses and representations. Strikingly, risk is not only an outcome, it is also a critical driver of social conditions, a lever for legitimate action on people and places, as is illustrated in sub-section 2.3. In a period of hegemonic (hazard-oriented) discourses on environmental risk and security, risk narratives turn into self-fulfilling scenarios that are 'performative' in the sense that they are not just words that are pronounced or images created in the mind. Instead, they operate on the world and have concrete consequences for societies (Butler, 1997). They participate in giving the world forms and meanings (Oliver-Smith, 2002; Coanus and Pérouse, 2006). Hence, the material dimension of environmental risk as well as the way to view it, define it, and talk about it, must be part of a politicized assessment framework.

2.1 Hazard-centered approaches disregard the social construction of risk

In Caracas, the Japan International Cooperation Agency (JICA) was contracted to assess the risk – as a probability of occurrence – of landslides, flash floods and earthquakes in the capital city due to a major disaster that occurred in 1999 in Vargas, a coastal state 15km north of Caracas. The study only dealt with part of the agglomeration – those municipalities situated on the left bank of the Guaire River that drains the Caracas valley – and focused on hazard mechanisms and occurrences. JICA subcontracted NGOs afterwards in order to assess the vulnerability, a problematic issue that had not been initially integrated into the survey. An NGO called SOCSAL (*Servicio de Apoyo Local*, Local Support Services), carried out demographic and socio-economic diagnostics, evaluated the legal and institutional framework of risk management, and collected data on people's representations and experiences in the study area (SOCSAL, 2003). SOCSAL was limited to undertaking the vulnerability survey within the boundaries that had been defined for hazard assessment. Its work was added as one of twelve chapters of JICA's report (JICA, 2004). The vulnerability assessment did not account for the broader political economy outside of the specified biophysical risk zone and was not integrated into the overarching analysis, but served as an add-on or overlay.

The JICA assessment illustrates epistemological divergences in risk framing. On the one hand, risk is assessed as mere facts outside the social sphere, being addressed as biophysical or technical hazards, as the JICA initially did. On the other, risk can be considered as a social construction, embedded in symbolic and power relationships, cultural hierarchies, recognition issues, or economic and political interests. From a hazard-centered approach, it is difficult to link material or biophysical factors with sociopolitical, symbolic or cultural contingencies that necessarily contribute to framing risk and its assessment. Given JICA's expertise, the JICA report did not address the highly contentious politico-institutional context in Caracas from 2002 onwards (Compagnon et al., 2009). The polarization between the two main political

camps (followers and opponents of President Chavez) could be seen in the diversity of municipal risk policies that followed the municipalities' political lines. Risk policies were neither given equal priority nor equal resources by the municipalities, and analysis of such discrepancies should have been integrated into the JICA risk assessment of Caracas since they accounted for the fragmentation of risk understanding and management at a municipal level. Moreover, the municipal framing of risk management contributed to the fragmentation of risk assessment as JICA's expertise showed. By only considering hazard as the critical event and by paying little – if any – attention to the spatial and political framework of risk assessment, socially and politically rooted drivers of risk definition are hidden.

Risk relies on physical conditions of hazard and vulnerability as well as on discourses, narratives, representations and epistemologies (García Acosta, 2005). People do not live in places with risk as they *are*, but in places as they are *represented* and *appropriated* (Frémont, 1976). It is important to start from a grounded analysis of how risk is lived, experienced, and given meaning by the different actors involved. It is on the basis of this subjectivity that these actors respond and act. Similar risk conditions are not identified equally by different people, and they occur at different moments. It is well known how public authorities paid visible attention to the coastal settlements and the risk of landslides just after the 1999 tragedy in the Vargas coastal state in Venezuela, and how time has undermined such interest (Revet, 2007). Fieldwork has also been carried out on how people who share the same appalling housing conditions in Caracas shantytowns have different risk perceptions according to whether they have already suffered damage from any natural events or not (Rebotier, 2008, p. 270–292). Obviously, individual, collective or institutional coping capacities vary across society, but beyond material and distributional inequalities, discrepancies in terms of representations of risk also unevenly shape risk. Indeed, as García Acosta states (2005), material conditions as

well as discursive, representational or epistemological aspects are the very basis of the social production of risk situations that are not solely ideal social constructions.

“What is risk, what is not and for whom?” are key questions, contingent on physical conditions as well as on social inequalities and differing representations. Therefore, risk assessment must be context sensitive. It is essential to situate the conditions in which people face risk in space, over time and across society (Wisner *et al.*, 2004, p. 10). Politicizing risk assessment leads to taking material as well as ideal conditions into account and to address the ways they interact.

2.2 Representations and discourses as critical drivers of risk construction

Caracas and Venezuela, as a whole, were on the margins of the Spanish empire until the end of the 18th century. Caracas was chosen by the Spanish to make land exploitation easier for colonizers, with a view to protection and accessibility. Like many other Hispanic American cities, hierarchies and social status are part of the production of urban space: the closer to the center, the richer and more powerful the people. Spatial hierarchies are related to socio-economic and ethnic dimensions (Lefebvre, 1974, p. 177; Cutter, 2006). Ideas about risk in Caracas are shaped by inherited conceptions ranging from superstition to the will to master nature. Different conceptions of risk co-exist and compete (Musset, 2002, p. 51–77; Rebotier, 2008, p. 178–202).

For example, history shows how the recognition of a disaster – and the search for the culprits – is politically motivated. In 1641, a major earthquake almost destroyed the whole city of Caracas. Crown authorities considered rebuilding five kilometers east in supposedly safer areas of the valley. In fact, the assumption that the eastern part of the valley was safer was wrong. Nevertheless, the reasons of the contentious understanding of risk and the policy to adopt were contingent on critical tensions between two dominating social sectors. The strong competition between the royal authority and the Church led the bishop of Caracas to

categorically refuse to displace the city as the representative of the Crown had suggested. Again, the reasons for the Church's refusal did not draw on undeniable physical criteria. Rather, they stemmed from the many buildings and strategic positions that belonged to the Church at that time (Diaz, 1956, p. 36-38). For the bishop, the location of the city was not in question in the risk policy. Instead, the immorality of certain inhabitants was denounced as the main cause of the disaster, allowing the Church to reinforce a dominant position by designating selected scapegoats (Rebotier, 2008).

By drawing on historical determinants, it is clear that socio-economic and racial discrepancies highlight the differences in Venezuelan society, as they do in the production of risk. In 1999, during the very first moments after the catastrophic flash floods and landslides in Vargas, the main determinants of the organization of rescuing were twofold. On the one hand, it followed the unequal ability of affected people to turn their own sector into a priority sector for rescuing, thanks to acquaintances. On the other, dominating representations of risk and its consequences on socially and racially differentiated sectors governed the order of interventions in affected coastal settlements (Rebotier, 2006). Regarding the latter, it is worth citing Alejandro Liñayo, a direct witness of the operations, who became one of the leaders of the national strategy for risk management:

“Direct consequences of the 1999 tragedy have been really different at the east and west of the airport. In the eastern part, where you find most of the highest incomes on the coast, we had strong anti-social behaviors [...]. Inhabitants armed with guns hijacked helicopters to get them out of the damaged zone whereas supplying isolated sectors with fresh water was a crucial work that helicopters had to achieve in priority [...]. Actually, we expected to face anarchy and broken rules in the west [where poor and darker-skinned people were concentrated]. Here is one of the reasons why rescue interventions first concerned the east of

the airport [...]. Ultimately, some [of the poorest] sectors were left alone for more than three days.” (Cited in Rebotier, 2006, p. 120).

In addition to the socio-economic and racial drivers of risk and crisis management, public authorities often instrumentalize dominating conceptions, such as engineering solutions to a hazard, to make their action more visible. When choices are being made, political representatives are reluctant to consider solutions to social or representational causes that shape risk situations as they are less obvious and more difficult to communicate. In 2005, the metropolitan services for risk prevention and rescue in Caracas recommended that the *Plan de Manzano* sector was qualified as “at risk”, forbidding any construction on it on the basis of a geophysical assessment of the slope. Simultaneously, the Venezuelan Ministry of Housing decided to build collective housing units in the *Plan de Manzano* sector as part of the highly political national plan for housing solutions. As for the Ministry of Housing, some embankments and equipment to evacuate rainwater were enough to undermine the conclusions that led metropolitan services to recommend not building anything in the sector (Rebotier, 2011).

Environmental risk is critically shaped by differing representations and discourses that account for contentious and competitive rationality, or ways of viewing the world. Conceptions and explanations that are mobilized to view and define risk, in short, epistemologies, matter, since they have concrete implications for society. In line with what Bankoff (2001) shows on the global scale, the strengthening of a dominant discourse on climate change has elevated the need and legitimacy for control and environmental risk reduction in Caracas. At the same time, a much broader scope of risk characterizes the lives of millions of *caraqueños*. Thus, it is worth wondering why risk is represented in certain ways. Who decides risk management priorities? What are the differentiated implications of such decisions and other risk-related interventions for people?

In deeply unequal and strongly conflicting Latin-American cities, the performativity of the discursive and representational dimensions of risk production requires as much attention as do the material and physical conditions that engineer-oriented solutions are used to address exclusively.

2.3 Risk definition and the management framework of social conditions

This section draws on the fact that environmental risk is not only a result of social production, but also a driver, a lever, or even an instrument that interferes in social reproduction. The performative dimension of risk definition and policy is of the greatest importance. By performativity, we understand that merely naming, identifying or managing risk is enough to establish its existence as a social fact or as a meaning, thereby having consequences on societies. Here is a way to assess, using empirical support, what Beck states regarding reflexivity that risk discourses, narratives and management bring to modern societies (2003).

Risk is one of the buzzwords of current international discourses and practices. On political agendas as well as in the media, risk shows the characteristics of a hegemonic category (Laclau and Mouffe, 1985). It stands as a meta-narrative in most of the public debates and is often presented on a basis of rigid dualism. Who could be against risk assessment? The unquestioned narrative of risk characterizes a hegemonic notion. Such legitimacy makes it hard to criticize the way risk is institutionally addressed and often hides underlying issues at stake. Just taking for granted a certain way of thinking about risk already shapes causes and consequences for affected people and places. In Brazil, researchers from the State University of São Paulo are questioning the logic of risk reduction. They show there are plenty of opportunities to study the impacts of climate change on Brazilian megacities whereas other kinds of risk are barely considered by public authorities, and broader urban concerns such as social inequalities, transportation or housing issues, are critical topics that do not appear as priorities (Lima and Nobre, 2009).

Naming or identifying risk in different places is having power over them, but it also concerns the people who live there (Douglas, 1992). The discursive dimension of risk appears to be as significant as its material characteristics. A critical example of this stems from a recent landslide crisis that caused several deaths in Caracas in December 2010. Risk can be used, particularly in times of crisis, as a hegemonic category that shapes urbanization, enforces both political choices and public policies, and leads to defending particular interests. Different conceptions of landslides do not only highlight social groupings and discrepancies that give rise to differing risk frameworks, but they are also performative and have contributed to shaping Caracas' urbanization. The landslide crisis has been an opportunity for President Chavez to strengthen the new orientations of the government's housing policy. For President Chavez, poor people stricken by landslides should find shelter, and then permanent housing among the many vacant houses and apartments in the city, particularly in wealthy sectors. The crisis laid the groundwork for a law on vacant lands and buildings. Indeed, since the adoption of an emergency law for lands and housing at the end of January 2011, public authorities have been able to take over private housing units under specific circumstances, buy them and reassign them according to diverse priorities, a state of emergency due to so-called natural hazards being one of them (Rebotier, 2011). Of course, there is nothing new in instrumentalizing either risk or environmental issues. In Managua, Somoza authorities advocated humanitarian reasons after the 1972 earthquake to socially clean up the city center by evacuating and relocating poor people outside the city. The eviction of politically sensitive inhabitants from the Managua territory to semi-urban margins was acknowledged as an opportunistic recovery policy, and as Hardy states: "political disaster management [...] is used [...] as a territorial policy" (2008, p. 87).

In addition to the control over territories and people, defining and managing risk is performative as; on one hand, it shapes hierarchies and status by allowing some groups to

decide for others what is good and what is not, and on the other, it reinforces domination mechanisms. Being a victim due to the impact of a hazard can be considered as a stigma as it imparts social status and implies the specific behaviors of victims who have no choice, as well as for the rest of the society that takes care of them (Revet, 2009). Ultimately, victimization urges action. It legitimates different kinds of initiatives where state intervention or humanitarian aid cannot be denied and is barely questioned, no matter whether it goes against the victims' will or interests beyond the sole emergency. The understanding of causality and social responsibilities has consequences on risk situations. With regards to domination mechanisms and drawing on the notion of a scapegoat as in Douglas' work (1992, 2001) it is clear that the Church targeted political enemies and reinforced its domination by denouncing culprits and immoral behaviors in the 17th century. Equally, in 1999, the rescue manager's representations of the crisis relied on a pervasive and discriminating view of society that created the belief that emergency operations would become more complicated or even more dangerous to handle in poorer sectors. Therefore, by shaping the discourse on risk, different types of solutions can be provided.

The next section presents an integrative framework for assessing risk and addressing its politicization. Here, the contested material and subjective productions of risk and space are intertwined through what we call the territorialization of risk.

3. Towards an integrative framework for politicizing risk assessment

Risk definition and management are context sensitive. The construction of risk as well as the making of territories appears to be plural, depending on the actors, interests and circumstances. Territorialization and risk construction are interwoven processes. Territory and risk deserve a common assessment since they are mutually constituted. The notion of territorialization provides a framework enabling one to understand how risk is socially driven. The idea of social construction accounts for both tangible and intangible aspects of risk and

territory, putting the stress on power relationships and inequalities. Therefore, the first part of this section offers a socially and politically oriented definition of territory, while the second part links territory and risk constructions in the same model. Guidelines for the territorialization of risk framework will be outlined, and by way of conclusion, we will show what the proposed framework contributes by politicizing risk.

3.1 Conceptualizing risk through a territorialization framework

Even if there is no consensus on the definition of territory (Antonsich, 2011), the notion can be considered as one of the three main geographical paradigm along with the physical environment (earth science), and space (quantitative revolution). For some researchers, territories become concrete through situated practices. According to Yves Jean (2002, p. 11), they are “social [and material] constructions, consolidated over time. They are objects of identification, and they are characterized by practices and representations.” Spaces become places in different ways according to the people, the moment and the spatial context at issue (Pred, 1984). Beyond material aspects, territorial characteristics rely on social relations and values, as described in the model that Di Méo and Buléon (2005) developed and on which our understanding of territorial logic of risk relies (Figure 1).

Figure 1: Territorial components

(Source: inspired from Di Méo and Buléon, 2005).

Like risk, territories rely on both tangible and intangible aspects, with the material realities of territories being shaped by the natural environment and physical mechanisms (bio-physical fields). In a less physical and more social way, they also depend on economic structures of production and exchange (economic fields), with immaterial dimensions, such as power and values or ethics, complementing them. Territories are spaces with identified boundaries and

authorities (political fields), although such identification can be contested. Finally, notions of identity, appropriation and recognition also frame territories (ideological fields).

Much beyond a sole boundary and power-oriented perspective, the conception of territory that is used here puts forward people's perceptions and representations of the spaces they occupy. It is striking to see in the different case studies how the diverse ties that people develop with the place they live in and with the community they belong to are crucial in the framing of risk (Langumier, 2008). The notion of territorialization highlights the idea of dynamics and contested processes of construction, that is to say, the social processes of making and attributing meaning. Finally, the notion of territoriality refers to the characteristics of territory and to a kind of territorialization that is specific to particular actors' perspectives. Different territorialities correspond to different actors' interests, priorities and strategies that intervene in the shaping of territories. Therefore, territoriality puts the stress on highly political contents and potential performative aspects of territory and territorialization. Through the different examples of case studies above, it has been shown how differing territorialities influence the classification of space (both in safe and unsafe neighborhoods in Caracas in spite of duly identified threats, as was observed in the *Plan de Manzano* case study), how a sense of place and community sharing is communicated, demonstrated by the poor people in the Vargas state who organized themselves in order to cope with the 1999 emergency, declaring, "we do not rob our people" (Alejandro Liñayo, cited in Rebotier, 2006, p. 120) as opposed to the individualism in wealthier sectors, and finally, how space is controlled, when risk policy turns into a territorial policy, as in the Managua case in 1972.

Three different kinds of interaction between risk and territorialization can be identified (Rebotier, 2008). Firstly, from a hazard-centered perspective, territories can be considered as a geometrical dimension in which risk takes place. This is territory that is affected by hazards such as floods or earthquakes. Secondly, considering causal mechanisms instead of focusing

on impacts, risk is a result of urbanization that is a type of territorialization, for when people, goods and wealth are concentrated in cities, vulnerability increases with exposure, or when particular interests in unequal and conflicting urban contexts interfere in risk construction. This way territorialization contributes to creating risk. Finally, this risk affects territorial practices, landscapes, laws and representations and economic land values such as when risk is instrumentalized in the making of territories. Here risk shapes territory. As the second and third interactions demonstrate, risk and territories are interlinked; they are the results and drivers of each other.

The territorialization of risk framework works in two ways: it puts forward contested interpretations into risk assessment (contested construction), and it makes the performative dimensions of risk construction that results from differing interpretations visible (discriminated implications). On the one hand, the politics of risk are present in analyzing the causal structure of vulnerability, while on the other, they concern the choices, responses and strategies of societies in the face of risk, showing differentiated consequences on society. This article presents an integrative way to assess this twofold risk policy through the territorialization framework.

3.2 Guidelines of the territorialization of risk framework

Assessing risk through the notion of territorialization allows the two aspects of risk production, that of its material and discursive dimensions, to be addressed. This framework requires a two-step approach that deals simultaneously with both dimensions in each of the two steps.

The first step consists of setting the context that shape territory and risk. This can be done by assessing the four territorial components shown in figure 2, whereby the most significant causal factors are identified and prioritized. For urban risk, as in Caracas, the contextual step consists of assessing demographic, economic, physical, political and ideological dimensions

of risk (Rebotier, 2008, p. 123–248). The following step consists of accounting for the production of territories at risk. In short, step two addresses the two kinds of relationships between risk and territories, (the making of territories shapes risk and risk influences the making of territories) by articulating both material and discursive aspects. Part 1 showed the importance of the discursive dimension's performativity of the territorialization of risk framework and how critical its politicizing is. A crucial element in step two relies on interpreting socially rooted causal mechanisms and intentionalities in the plural understanding of risk on the ground. In the assessment of urban risk in Caracas, fieldwork made sense then by situating it, which then led to addressing socially rooted causes and hidden logic that were influencing risk definition, management and policy in urban territories. Assessing the rationality, interests and objectives of the diverse actors and putting forward the implications of their acts and discourses regarding risk were of the greatest importance (Rebotier, 2008, p. 335–358).

This two-step approach can be narrowed down to research questions and particular field research conditions. In previous research in Caracas, the focus was on urban risk, power-relationships and inequalities. Three elements contained in step-one were prioritized and addressed as follows (Rebotier, 2008):

- *Socio-spatial inequalities and hierarchies*: how segregated is urban society? On what scale? What explains the production and distribution of wealth? How do inequalities such as economic distribution or cultural recognition shape urban spaces?
- *Institutional urban management*: What authorities are present in the given urban space? Which authorities are the most powerful and what powers do they hold? What is the source of their power (money and resources)? What is the relationship between themselves and the inhabitants – is it through accountability and responsiveness? How do they rule the city? What are the scales of power and urban sectors at stake?

- *Risk management and policy*: What are the principles that drive risk management? What are the institutions involved? What are the relationships with urban management? Do grassroots initiatives focus on risk management?

Once the context and key factors “that shape the way actors operate and interact” have been characterized (Pelling, 2003, p. 68), the second step consists of addressing the reasoning and mechanisms of risk territorialization, looking for socially rooted drivers like inequalities, power-relationships, instrumentalization, diverging interests or differing conceptions of risk. From local actors to international institutions or private entities, multiple actors show multiple reasoning and strategies in territorializing risk. Data collection includes observing and participating in risk situations as well as analyzing practices and discourses related with risk. Ethnographic fieldwork, direct interviews or press articles as well as gray literature are important sources at the time to characterize the diversity of risk territorialization.

On the ground, many entry points to characterizing risk territorialization can be chosen. As illustrated by the case studies, territories at risk can be situated, given sense to and physically assessed from different perspectives. For instance, they become concrete through infrastructures such as dams, protective walls, cameras, etc.; through urban policies like the regulation of real estate or the construction market; through territorial practices such as the adaptation of mobility patterns or specific land use; through discourses and representations stemming from the media, political representatives or inhabitants, and even through scientific assessment, demonstrated by the JICA’s study that acknowledged a situated understanding of risk, but was in no way a definitive definition of risk in Caracas. All of the above social circumstances and configurations contribute to shaping territories of risk. In the second step of the two-step approach, and on the basis of step one’s information, any kind of choices (the instruments and thresholds for measurement, the location of equipment and infrastructures, the main narratives or conceptions of risk), priorities (the assessed kinds of risk, the sectors of

intervention, the type of causal factors addressed) and objectives (risk definition, risk management and risk policies) must be questioned. The territorialization of risk is strongly contingent on socially rooted determinants. Thus, it needs to be politicized in a place and in a set of social settings so that its assessment is closer to the empirics of experience and the basis of action.

The territorialization of risk provides methodological innovations that can also contribute to practical initiatives on the ground. The territorialization framework allows different data, methods and disciplines to characterize the territories of risk and their underlying and competing social reasoning and implications to be articulated. Any entry points can be chosen to carry out fieldwork, depending on both the sensitivity and the skills of the researcher and the focus of the research question. In this way, different kinds of assessments, from cultural geographies to engineer-oriented understanding, can be combined without undermining the critical point of the integrative territorialization of risk framework: its ability to efficiently address the diverse reasoning methods of both the material and the discursive production of risk and territories.

Action on the ground relies on the recognition of the significant capacity of the different actors, even marginalized people, to be part of the territorialization of environmental risk today. In spite of its critical objective, the proposed framework should not be reduced to describing domination strategies or to denouncing risk discourses, management or policies as new environmental-driven colonialisms. As Pelling (2010) stresses, the opportunity for societies to improve unequal and unjust situations is in the burning context of environmental debate. Such opportunity starts from the questions we ask. In addition to seeking to promote environmental change, societies could also look for transformative ways of living with the environment, our different, and often contentious, territorializations of risk, which necessarily imply addressing the ways we live together. Beyond identifying the risk-producing

inequalities and hierarchies, risk analysis can also be a lever for social change. The territorialization of risk framework shapes political debate by considering risk as a driver for social transformation, an opportunity for different social groupings to make things change, and not only to follow or reproduce inequalities. Deepening such understanding can help bridge the gap between research and development strategies.

4. Conclusion

The territorialization of risk framework recognizes discourses and representations as critical drivers of risk production. It simultaneously sheds light on both material and subjective determinants of risk situations. The ways we think of or interrogate risk do matter as they define our understanding of it and the options we see as viable risk-reduction strategies. Such performativity of risk discourses and representations requires consideration. The proposed framework also highlights the analysis of the potential instrumental dimension of risk, with its globally accepted discourses that are hard to question. By denaturalizing risk situations, and by highlighting contingencies on diverse ways of reasoning and contexts, the territorialization of risk strongly politicizes risk assessment.

Social theory over the past 30 years has brought three new transformative areas into risk assessment: First, it has brought attention to the social causal structures of vulnerability. Second, it focuses on the close relationship between power and symbols. Third, it has generated an effort to establish immaterial and discursive aspects as critical determinants of social reality (Lefebvre, 1974; Sen, 1981; Watts and Bohle, 1993; Fraser, 1995; Latham and McCormack, 2004; Pain and Bailey, 2007). The territorialization of risk framework aims to assess the socially rooted causal structure of risk by making links with the territorialization policies. Potentially, it brings two slight, though significant, improvements to risk assessment. By allowing for different entry points to characterize territories and territorialities, the proposed framework makes the combination of various methods and fields of research for

data collection and interpretation easier. It enables a grounded and situated assessment against a fragmented, partial and sometimes a-political understanding of risk. By making policies explicit, it also may set the groundwork for empowering marginalized actors to productively engage in contentious risk definition and management.

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¹ <http://www.desenredando.org/>

² <http://www.iheal.univ-paris3.fr/spip.php?rubrique574>