DRAFT

Politicizing risk assessment on vulnerability conditions

Towards a counter-hegemonic approach of risks in a "world at risk"

From the 1970s, hazard-centered approaches have been hugely criticized and challenged by vulnerability-oriented research. Some "critical" English-speaking researchers (like Wisner, Hewitt, Watts or Blaikie), some French sociologist or geographers (Fabiani and Theys, at Mid-1980s, publishing Mary Douglas in French) or Latin-American social scientists, in the La Red network, have contributed to consolidate a social science approach of risks.

Of course, social responsibilities had already been commented a very long time ago. Let's think about Gilbert White's work on adaptation in the 1930s as a planner; about the controversy of the Lisboan earthquake between Rousseau and Voltaire, in 1755; or even about colonial archives in Latin America during the late 16th century.

Though today risk is defined as a combination of hazard and vulnerability, it is worth wondering how important social determination in risk definition and assessment is. Adaptation corresponds to the "adjustment in natural or human systems to a new or changing environment". And I will focus on adjustment of human systems and the consequences on natural systems. But on a theoretical perspective, such an adjustment can be defined either **facing an "external" event** that societies have to cope with, or as **a social contingency which is socially constructed**.

Problematic: In front of such a dilemma I want to ask the question of the social sciences' objectives and functions in risk assessment:

- Are social sciences dedicated to explain any residual irrationality? The reasons why hazard assessment is not completely efficient?
- Or are they contributing to a better understanding of the multi-causality of risks? Of a social and performative phenomena?

In spite of significant successes in economy for instance, the explanation grounded on psychological frameworks under-estimates collective and structural drivers that are rooted in social relations (in power and culture over time and space).

My hypothesis states that social sciences must highlight political and social implications related with risk and its assessment. Risk and climate change are hegemonic categories that are self-legitimating. They are sufficient to justify actions, initiatives, decisions, evictions, preservations and so on… Nobody can openly talk against climate change mitigation. The fact that the consequences of human actions on physical dynamics **must be addressed** and the fact that risk assessment **must be criticized** are different matters.

Social sciences ought to deal with the "**how**" in addressing such consequences, and with the "**what**" is really at stake when **defining and addressing** risks, in our case, to climate change.

My points consist in three main ideas:

- Figure out a **theoretical framework** for research on risk as a social construction that does not marginalize bio-physical aspects;
- Organize such an integrated framework **around the notion of territorialization** of risks;
- **Politicize** the territorialization of risks regarding climate change so that risks can be analyzed as a product and as a determinant.

As for **methods and references**, I ground my statements on my PhD research in the field of risk, between 2002 and 2009, mainly in Venezuela (Caracas and Mérida), and in Brazil (Recife). I also base my ideas on the research of French colleagues in Quito, La Paz and Lima. In terms of risks, the critical – and sometimes radical – research of Hewitt, Blaikie, Wisner…, as well as the social scientists' work of La Red have been very helpful.

To support my statements of politicizing adaptation assessment and territorializing risks, my contribution will deal with different scales (Caracas; the European Union and United Nations institutions). And it unfolds in three parts:

- The first one is dedicated to the hardly questionable categories of risk and climate change, and on the different consequences of such hegemony.
- I will then focus on what is really at stake when assessing risks, and in which way human adaptation to risks and climate change has consequences on the socio-spatial order.
- Finally, I will try to show that the territorial dimension of risks could bring together the traditionally fragmented perspectives on risks (the realistic and the constructivist one). In other words, I will argue that territories of risks could account for materiality and objectivity without ignoring "hidden mechanisms" that are concrete – though intangible – drivers of risk situations.

I. Risk and climate change as hegemonic categories. How practical are fears?

I.1. The emergence of environmental concerns and risks as meta-narratives.

In the western world, in the late 1960s, **environmental concerns rise** and question productivism and the model of development. Grassroots claims are institutionalizing since early 1970s (Meadows report, 1972; Brundtland report, 1986; Earth Summit in Rio, 1992).

The notion of "risk" rises in the 1970s while the world is being reshaped: crisis of capitalism and the idea of progress, "end of History" and the cold war, the withdrawal of the state… Risks and security become pervasive and define a "dangerous world". "Risk societies" are emerging while risks are turned into a new kind of social interactions.

Nowadays, risk and climate change are among the "buzzwords" of international discourses and political practices. They are showing the hegemonic characteristics (Laclau and Mouffe, 1985):

- They stand as a meta-narrative in public debates.
- They are often presented on a basis of dualism and Manichaeism.
- They appear as a necessity to be addressed.

And who could be against risk assessment? Who could rise against the improvement of adaptive capacity and resiliency of society?

An example in Brazil, some colleagues from the State University of São Paolo wonder about the political logics of the distribution of public funds. They say that today, there are plenty of opportunities to lead research on the impacts of climate change on Brazilian megacities whereas other kinds of risks are hardly considered by public authorities, and broader urban concerns, like inequalities, transportation or housing issues, are definitely not assessed in the same way.

What is driving such options? The next point highlights the necessity of political reaction to accidents.

I.2. Events that trigger off public intervention.

Although risks are objective realities that must be addressed, hazard and vulnerability are not the only factors at stake when scientists collect data, or when public authority prioritizes interventions. Here comes an example from the 1999 Vargas Tragedy in Caracas:

The coast of the northern central region in Venezuela has been badly stricken by hard rains, flash floods and landslides in December 1999. The "Vargas Tragedy" triggered off public reactions to improve risk management beyond the crisis period, and prevent further damages and losses of life. Among institutional initiatives that have been adopted at different scales, it has been decided to accept the proposal of the Japanese cooperation to assess risks of landslides, flash-floods and earthquake in Caracas which stands a few kilometers away from the Vargas coast.
The research has been done, **but** it only dealt with **part of the agglomeration** – the municipalities situated on the left shore of the Guaire river that drains the Caracas valley –, and **without questioning** the kind of hazards at stake. NGOs have been subcontracted to achieve vulnerability assessment.

The **necessity of making decisions** and the **specific conditions** of the Japanese cooperation had much more weight than objective conditions of risks in defining the logics of risk assessment.

I.3. Risk, environment and hegemony. Towards a self-justification for action.

Regarding the hegemony of socio-environmental challenges, I'd like to make two comments:

- On the one hand it appears that in spite of similar objective conditions of risks, responses to risk situations might be different. Risks are not an "absolute" justification for action. They must be **situated**.
- On the other hand, in spite of a material and realistic identification of risks, individual or collective responses might seem "irrational". After the Vargas Tragedy, people came back quickly to unstable shelters and exposed terrains. Risks must be **embodied** in social and political commitments, values, principles…

In the case of climate change, the point is that we are dealing with a hegemonic context. Pervasive risks are turned into a discursive justification for decision-making, undermining critical perspectives. Social sciences must give tools to analyze the **situatedness** and **embeddedness** of risks to climate change, for instance, by asking two main questions:

- **Adaptation to what**? And **what for**? In an instrumental perspective: Is adaptation reproducing structural drivers based on income, education, gender, race, urbanism principles or unequal decision-making features?

And in addition to the "what" question, the "how" question also needs to be asked in 2 ways:

- **As societies**, how do we adapt to climate change? How do we do that?
- **As scientists**, how do we assess adaptation to climate change? How do we measure?

Answers to these questions rely on the kind of theoretical approaches of risks in social sciences.

II. Considering risk as an outcome, or as a driver: what are the implications for adaptation?

On the one hand, risks can be assessed as an objective reality, as a biophysical or technical issue.
On the other hand, they can be addressed as a social construction, embedded in social and power relations, cultural hierarchies, recognition issues, or economic and political interests.

II.1. The realistic approach. The necessity to deal with the drama.

Basically defined, risks are a combination of hazard and vulnerability.

"'Hazards relate to the physical processes and the spatial and temporal likelihood of an event occurring. This is the area that physical science addresses" (Leahy, 2006: 83). Hazards are what physical science addresses. In an analytical way, vulnerability is made of exposure and susceptibility of acquired values in front of a hazard. Some authors speak about biophysical vulnerability.
But a social approach of vulnerability puts forward multiple factors, from structural to conjectural ones. "Social vulnerability to disasters refers to the inability of people, societies, and organizations to withstand adverse impacts from multiple stressors to which they are exposed. Social vulnerability is due in part to characteristics inherent in social interactions, institutions, and systems of cultural values. The multidisciplinary field of social vulnerability research has emerged to address these complexities" (Warner, 2007: 9).
In spite of the materiality of the realistic approach of vulnerability, the weight of culture, representation, faith, relations, hierarchies, status, and so, matters. Research on vulnerability is an opportunity to question the hegemony of exclusively-material, hazard-centred and technical approaches in assessing risk situations.

II.2. The constructivist approach. The ability to take performative dimension of risk into account.

Constructivism states that categories are pre-existing to the apprehension of the world. As social constructions risks are defined by objective conditions of vulnerability **and** its representations. Regarding risk components, 2 comments:

- On the one hand, vulnerability is socially defined (exposure is increased). But hazards as well can be human-induced (heat urban islands).
- On the other hand, representations of risks are also social constructions. Representations as regards what **is socially identified** as a risk (it may change according to urban sectors and priorities). But also as regards the way **scientific objectivity is constructed**, the way risks are monitored, measured and represented.

Risks can be considered as a **result** of social (re)production. But they are also **drivers** of socio-spatial forms, by influencing territorial practices, rules of urbanism or urban landscapes. They are performative. Risks are both **material** and **intangible** constructions. Intangible aspects have concrete and sometimes material consequences.

Adaptation assessment ought to consider these performative / material – intangible aspects.

II. 3. Between realism and constructivism. Some consequences on risk assessment.

The opposition between realism and constructivism is a misleading debate. A social scientist cannot fix weak shelters. As well, a geophysical engineer cannot say why his objective work is not applied on the same way in different places, in spite of similar risk conditions. Power, domination, or equity concerns are fundamental in a social science perspective.
Let's reconsider some examples and sketch out potential interpretations or key questions through this double theoretical lens which try to conciliate fragmented approaches.

In the case of Caracas and the Japanese cooperation, we should question the choice of risks, and of locations at stake. For instance, why are landslides unevenly addressed by public authorities and the inhabitants, according to urban sectors?

In the case of the European Union, central-European countries had to deal with important floods in Danube and Rhin watersheds in 2002. The German chancellor asked the President of the European Commission for monitoring and assessing risk of flooding at the regional scale.

Since 2002, European Union is developing EFAS (European Flood Alert System), a kind of early warning system. The EFAS is based on probabilistic models whereas deterministic ones were more likely to be used until 2000s. What is such a shift in monitoring corresponding to? What are the practical consequences of such a change? Sébastien Nobert states that probabilistic models are a way to transfer responsibilities from scientists to decision-makers and at last to individuals, accountable of their own decision.

The ways risks are measured are never "neutral". They influence risk representations.

Academic efforts on vulnerability assessment and the International Decade for Natural Disaster Reduction have made possible the constitution of a trans-UN institutional and collaborative platform in 2001: the International Strategy for Disaster Reduction (ISDR). The tsunami in the Indian Ocean in 2004 brought even more attention to environmental risk issues. But it also showed that most of the UN risk programs for more than 20 years have been mainly reactive. UN institutions and initiatives were aiming at improving **crisis management** and **hazard monitoring**. The debate between reaction to catastrophes and the conception of risks as development features is still producing critical tensions in (and between) UN institutions.
Some academic institutions related with development programs and UN agencies like the World Meteorological Organization are pushing forward to promote early warning systems and technical solutions. In this way, root causes and risk issues to climate change – that have been politicized for more than 30 years (Wisner, 1976; Pelling, 2003) – remain under-considered.

As social scientists, how could we take into account the competition between a reactive and a pro-active perspective? How could we intertwine the two conceptions? How could we consider adaptation as an agency of a socio-spatial order?
A critical approach questions limits, categories, boundaries and what appears to be necessary. The **notion of territory** and its construction processes acknowledges an integrated approach of risks. It helps asking more accurate questions.

III. Adaptation assessment to climate change through a territorialized approach.

III.1. Socio-spatial consequences of adaptation to climate change. Some examples.

Adaptation is not only a social reaction. It also shapes territories. That is what some territorial consequences of risk assessment are showing. 3 points:

- The modification of socio-spatial forms or built environment might resolve some risk situations. But it brings also new exposures (when people feel safer).
- In a climate change perspective, risks are hardly calculable. Physical mechanisms of extreme events do not correspond to average mechanisms. Statistical averages based on recurrent events are not accurate if biophysical mechanisms are different.
- Finally, social standards of acceptability are shifting over time. Needs, norms, values or risk recognition are not essential categories. They are shifting as society does.

For all these reasons, adaptation **cannot be normative**. Risk and adaptation designate things and dynamics, but they also contribute to create them. They have concrete consequences on territories, and they can be **instrumentliazed**. Because of that, they ought to be **politicized** in order to get all their implications.

III.2. Politicizing risk assessment to achieve accurate adaptation (in both material and intangible ways).

Regarding adaptation assessment, three main objectives should be achieved through politicization:

- The research framework articulates risk situations to a set of **multiple causes**, to structural, organizational and conjectural ones.
- Risks are intertwined with – and sometimes are part of – social dynamics that (re)produce socio-spatial structures. They are a matter of **power, control, democracy and justice**. Adaptation assessment must account for such political dimensions.
- Adaptation to climate change must account for **time and space dimensions**. At the 2002 Johannesburg conference on sustainable development, Mexican government was ensuring that the Mexican exportation sectors were not contaminating. While southern countries' economies rely on northern localization strategies of production and manufactures units, the definition of environmental problems is not only a local matter. Scaling risk situations is critical to achieve accurate adaptive strategies.

An encompassing approach is required to politicize risk and its assessment. As a geographer, I argue that it leads to consider territorial dimensions that allow integrating **scale**, **power** and **intangible** issues.

III.3. Towards the territorialization of risks. A theoretical sketch.
Methodological aspects are not detailed here.

But as well as risks, territories are both **material** and **intangible** social constructions. They are consolidated over time. Territories are **identified** and characterized by **practices** and **representations**.

Territories and risks are **narrowly related**. Urbanization, for instance, contributes to the construction of risk conditions, and risks – and its representations – shape territorial dimensions, by influencing landscape, practices, laws or economical values.
Both categories are **interacting and mutually determined**.

I define **territories of risk** as a combination of objective conditions of risks and representations. They correspond to a construction that is grounded on socio-spatial order.

The researcher must be aware of the way risks are handled, and the way they are grounded on social and power relations, values, subjectivity and status. Territories of risk are simultaneously a **consequence**, a **driver**, and an **instrument** of a situated socio-spatial order. They allow taking into account the two main ideas of my statement:
- Risks are social constructions
- Adaptation strategies to climate change are performative.

It could be a way to organize risk assessment on critical basis:
- By questioning naturalized categories (adaptation to what?)
- By considering adaptation to climate change as an agency (territorialization can be considered as an outcome and as a process: the how-question of adaptation).