

URBAN POLITICAL APPROACH OF HAZARD PLANNING

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Abstract

The examples of three French cities (Lyon, Nantes and Le Havre) illustrate how the ends of urban public policies generate huge contradictions in risk reduction strategy. I will explain my point by two outlines.

First, those examples show how urban development objectives can create “urban risks”. Risk -seen as social construction- highlights contemporary ambiguities between the historical reasons of urban settlement and the goals of recent urban development.

Then, drawing on theories of political agenda setting, I will study both hazard mapping and urban planning as specific public policy. In those examples, hazard identification in urban planning appears as a complex public policy hold by various stakeholders and crossed by different interests, i.e. not only by security concern.

Introduction

Since the 1980’s in France, natural or industrial hazard is defined as a scientific probability by the way of a long-time engineering culture in urban planning. Today, governments still base their action of hazard identification and assessment on a strong belief in uncertainty reduction and disaster control. Recently, a French minister has even underlined that it is irresponsible to stand the impossibility to reach a “zero-risk” society. So, this point of view is on the opposite side of the recent discourse of the United Nation International Strategy for Disaster Reduction (ISDR, 2004) that claims a “living with risk” society.

City of risks?

The need to reduce the rise of disasters in cities is a priority for governments (United Nation Strategy for Disaster Reduction, 2007). Natural or industrial disasters produce huge collective damages in cities. Recently, many cities do not succeeded to cope with unforeseen events due to natural or industrial hazard. Do urban spaces still carry an image of collective protection from fate catastrophes? Or are they the heart of the risk society?

First, we must state that growing urban spaces concentrate high stakes such as economical, social and patrimonial *values*. Then, cities are nods of several

networks either political, informational or urban infrastructure networks. In recent times, this pileup of stakes and values, in a delimited area, makes western cities more vulnerable to natural or industrial hazards. Scientific and political communities begin to elaborate a specific thought on urban risk prevention and urban crises management.

In France, concerning urban public policy, technical and scientific schools of thought argue for a “principle of distance” between the spring of hazards and human activities. When an effective risk occurs, this “no man’s land” is due to prevent from casualties and damages. To stop urbanisation in this part of land, the Central State Government has passed land-use planning laws -since the end of the 1990’s, and recently in a recent law in 2003- which permit to local authorities to intervene in land-owner properties.

So, the questions are : how urban public policies define the risk and delimitate hazard zone in land-use planning? What kind of technical and scientific measures do they use? And if urban public policies do not exclusively use technical and scientific measures, what are the others criteria?

On a first part, the state of the art about social construction of risks and agenda-building theory will show how hazard identification and risk assessment public policies have to be integrated in a social and spatial study (1).

On a second part, I try to describe how the political and institutional relationship between Central State regional services and local authorities are in conflict to delimitate hazard zone in land-use planning (2).

1. DEFINITION OF RISK IS BOTH AN EFFECTIVE DISASTER PROBABILITY AND A SOCIAL CONSTRUCTION

Even if sociological and ethnological studies have confirmed the various kinds of hazard perceptions in a same context, public policies of risk assessment hardly take them into account. First, I will ask how urban public policies define natural or industrial hazard (1.1). Then, I highlight the gap between the measure of probability of risk and the complex and even chaotic process of labelling the risk in the public policies agenda building (1.2).

1.1. From forecasted hazard to spatial and social risk

How are defined natural or industrial hazard?

The state of the art of French literature about risk public policies shows that urban public policies largely define hazard above all like a probability (Lagadec, 1982).

Today, western countries mainly agree with scientific evaluations of frequency, gravity and speed of hazards (European research on natural hazards, 2008). Since the 1970's, measures of hazard identification and reduction believe in scientific capacity to anticipate uncertainty. European countries look for technical structures –for example, control barriers for flood, retaining structures for landslide or containment from dangerous industries-, or they develop “software” aspects of risk identification for example: imagery models, multisensor algorithms, urban zoning. In those two cases, governments ask for a scientific assessment and a technical response to risk. For the matter, in international hazard research academics network, most of funded European studies are selected on their scientific achievements more than socio-economic or social anthropology relevance.

Nevertheless, social sciences such as sociology or political science try to show the difference between a scientific phenomenon like hazard and a social perception like risk.

What is the difference with risk?

If hazard is a so-call logical and rational probability, risk is the result of a social equation made of three elements: hazard probability + state of economic and urban development + vulnerability. In this equation, a little attention is given to the social comprehension of spatial vulnerability.

The sentence “there is no storm disaster in the desert” well illustrates this three levels equation. The question is: will a storm in the middle of the desert be considered as a risk? Surely not, unless the storm is foreseen close from economic goals, old preserved monuments or urban places. The answer will be certainly affirmative if those economical, patrimonial and urban targets are unprotected. But risk perception is linked to social perceptions of economical or patrimonial values. The differences in risk perception can be lay out by this question: What worth to be protected in certain place, at certain time, by certain communities? Maybe a storm in the desert is a risk for some people. But on a mathematic measure, there is no acceptable risk.

It can be hard to believe that major hazards, such as floods, are not dangerous in themselves, especially today in the current feeling of an increase of disasters. But, there are many examples. Hazards were not always seen as disasters: flood could be a natural irrigation? A fire can be stubble-burning or a new step in urbanisation (see the construction of Chicago in 1871)? In the past, technological hazards were the necessary dark face of industrial development. Even today, some engineers imagine that industrial risks permit to improve technical process in plants.

Drawing from social construction of realities theory (*constructivism*), Hazards have to be understood in a social and spatial configuration. Risk occurrence is spatially located. As Valérie November (2004) says “*risk can be viewed as a projection into the future of signs within a contemporary situation that effectively endanger the space in question*”. Risk is a social and spatial construction which depends from what worth to be protected in a state of urban and economic development (Berger & Luckmann, 1966).

1.2. Risk as a result of a process of labeling by public policies

Who build public agendas?

Risk is a social construction that has to be translated -with an institutional stability- in the field of public policies concerning hazard identification, risk assessment, vulnerability reduction and crises management. It is very accurate to study those policies with a pragmatic agenda-building theory and methods. The state of the art about public issues demonstrates how some topics are transformed into public problems and how some others are hidden from public awareness (Baumgartner & Jones, 1991). The “public issue construction” literature studies how a simple topic can move (or not) from private apprehension to a priority in public agendas of national or local governments. As sum up in this extract from ‘Participation in American Politics’, the process of agenda setting explains how « *a general set of political controversies [is] viewed as falling within the range of legitimate concerns meriting the attention* » (Cobb & Elder, 1971).

According to authors, most of public agendas are built by the media, the representatives, social protests or lobbies. They use means of dramatisation -or even fear- to legitimate their construction of what is the priority in agenda (Hilgartner & Bosk, 1988). Literature points the essential step of mobilisation in political arena or campaign (Favre, 1992). But a little attention is paid for civil servants, above all on the local institutional level.

Roger Cobb, Jennie Ross and Marc Ross (1976) detailed the situation in which decisions are taken by restricted groups of people working in the public institution. There is a « mobilization model » when inside actors share and network their definition as a mean of justification and legitimisation. Also, the authors distinguished an « inside access model » when inside actors have no interest to enlarge their definition because they have a privileged access to decision-makers.

I will try to show with cases studies that, in the field of hazard identification and land-use planning, civil servants largely take the responsibility of making-process decision.

Labeling the risk

At first sight, public policies for risk assessment and reduction put the definition of risk and the arguments for its legitimacy into a strictly delimited frame.

Indeed, from the 1980's, French government has laid down a limited number of major risks from natural hazards such as floods, avalanches, some others landslides or forest fires. Government also has included a certain number of industrial risks, such as explosions or toxic releases. In addition, there are a specified number of health risks (air pollution, legionellosis, heatwave). If we categorise different risks by frequency, gravity and speed criteria, some phenomenon are excluded by the fact that they are under the measure of degree, amount or level.

Governments mainly describe hazard identification and crises management as a field of scientifically decision and lead by civil protection. As for other fields of security (road safety, health administration, domestic security, nuclear security), the political discourse focus on concepts like rationality, evidence, common sense, i.e. arguments that force to agree.

But, with a long-time view, we can see that risk prevention public policy is built by a complex process of labelling. It's very difficult for an issue to be labelled as 'risk' in public agendas. The rise of specific issues identified as 'risks' can be related to polity competition, lobby attention or carrying capacity of a specific arena. Public agendas are full from a long time. So, there are so many public problems that could be labelled as collective risks. For example, the so-call "whistleblowers" who want to see asbestos cement or glycol ether recognized as risks have waited a long time before being set in public agendas.

So, public policies currently make choices between what is relevant to be labelled as a risk and what is not. And urban policies do much. Choices concerning city planning, urban redevelopment or land permit directly build what is considered as a risk or not. In crossed-field study between urban planning and risk identification, I would like to explain contemporary contradictions between the importance of security, the feeling of vulnerability in cities (Beck, 1992) and the interests of urban development.

2. HAZARD IDENTIFICATION IN URBAN PLANNING: A PUBLIC POLICY CROSSED BY CONTRADICTORY INTERESTS

In urban planning, land-use plan can ban some spaces from any construction which concentrate high-level risks. Before describing the characteristics of risk zoning policy in France, I will set similarities and differences of the three French cities.

Case studies presentation

The story of cities who want to become metropolis

The three cities are middle range cities: Lyon (470.000 inhabitants), Nantes (280.000 inhabitants) and Le Havre (180.000 inhabitants) where the harbor influence has built a history of exchanges. Each fluvial harbor is characterised by a different degree of commercial and industrial activity. Lyon and Le Havre keep a chemical and petrochemical activity. In Nantes, industries have mainly disappeared in the economical crisis in the 1980's. Today its development is based on services, knowledge economy but most of all on an attractive urban way of life. It is explained by the quality of environment and the proximity of a preserved sea-coast. Lyon and Le Havre make profits with their industrial sector but they want to decrease the impact of industrial pollutions and risks. Today, Lyon and Le Havre also put forward the quality of their natural and patrimonial landscape.

Even if the size of Lyon, Nantes and Le Havre cannot be compared to European metropolis, their urban development policies chose to collect "metropolitan symbols". Those ones refer to the elements of contemporary urban model of development in Europe such as postmodern glass architecture and energies saving. French urban policy is looking for achieving this model, but it assumes to collect industrial dynamism with environment quality, innovation and tradition, international hub of transport and local sustainable public transports (Tannery & Boïno, 2007). According to me, this wish of "local metropolis" leads to confusions in urban policy priorities. Furthermore, it creates contradictions for risk identification in city planning.

How does French land-use planning policy integrate collective risks in urban development?

From the 1980's, urban planning has tried to manage major natural and industrial risks by mapping spaces of hazards occurrence. Then, land-use laws forbid building permits in those major hazards areas. Far from the principles of "living with risk", France government chooses to remove economical activities and housing from the spaces of risks. This legal principle concerns only major hazards defined -as seen above- by the Central State services.

Besides the Government's rules of major hazards integration, local urban planning policy has its own process of selecting major risks. Clearly, some major risks are integrated in and some are not. How does this selection operate and how is it also justified?

Based on the urban public policies of three French cities (Lyon, Nantes and Le Havre) in 1990-2005, I want to show that risk identification, hazard mapping and zoning are all except an objective process of civil protection. Risk

identification and planning is the result of a complex public decision-making process in those three cities.

First, risk identification defines hazard areas in urban plans. I want to show that it is mainly a deal of risk acceptance between actors of civil security and urban development (2.1). Secondly, risk planning determines how the land-use rules in risk areas are incorporated in urban plan. I want to make clear that it is also the result of a struggle for responsibilities between public actors. It is also a conflict of interests between Central State and local institutions. (2.2)

2.1. Risk identification: conflicts of interests between civil security and urban development

In France, urban planning belongs to local authorities. Civil servants have a key role to identify risks areas in land-use plans. Local elected members get involved in decisions but after many negotiations between civil servants. I will first explain how the conflict of interests between civil servants from civil security and from urban development contributes to build political decisions.

Endless conflict between civil security and urban development

On one hand, civil servants in charge of security preach for a large definition of risks. They want to forbid any kind of building where a risk can be identified, even if it is less considerable than a major natural or industrial hazard. On the other hand, civil servants in charge of urban planning advocate the impossibility to prepare land-use plan that take all probabilities of danger into account. They argue for a minimal interdiction of building permits in risk areas.

For example, in Nantes, this debate has frozen the legal application of land-use plan during one year. The risk identification in question was a flood area along the Loire River. Civil servants in charge of civil security argued an extension of flood area thanks to new pieces of information recently produced by hydraulic models. But this flood forecasting data was not officially integrated in local urban rules. So, immediately, civil servants in charge of urban planning denied the legal acceptability of an expansion of flood area.

Inn my study cases, this kind of controversy is strictly discussed among local civil servants.

- On one hand, civil servants of civil security tell that they can not put population consciously in danger. They remind representatives of their legal responsibility in building permit on a known flood area if an owner turn on local authority.

- On the other hand, civil servants of urban planning argue that representatives can not stop urban development for few probabilities. Actually, they get the end words. They explain local elected members will be responsible for any modification on past legal flood plan, which was realised and approved earlier by national State service.

The elected members were too torn between security and development. In fact, they need to choose which side of their responsibility (penal or administrative) they accept to be at issue.

The walkaway of urban development on risk protection

The case of landslide risks in Lyon will be my second illustration of conflicts between civil security and urban development. The city of Lyon is surrounded by little mountains with old roman water springs all inside. This area has been urbanised for centuries for its lovely landscape. Today, contemporary water supply and urbanisation increase the risk of landslide. Nevertheless, the area still represents a lot of land available and attractive for people.

For years, there were no official reports on landslides produced by national State services. Consequently, civil servants of security used to decide to allow permits or no with hydro-geological studies produced by themselves or by engineering offices. They know that their documents have no legal validity and that the strategies of urban development will be matchless. Effectively, urban planning recently decide to provide those plots of land in this supposed landslide area. They even uphold that buildings create retaining effects on mountains. Nevertheless, civil servants responsible for security keep arguing it will be irresponsible to allow building permits in scientifically known landslide areas, even not officially attested. They try -without success- to catch representatives' awareness of their accrued liability.

In the endless fight of “development versus prevention”, those two French cases demonstrate how urbanisation gains over civil security.

The first conclusion points out that it is more important to control rules than to have hydraulic models. Civil servants in charge of urban development have power in risk identification because they manage the application and also the circumvention of the Law. Generally, public policies are half built with legal conventions and half built with the capacity to public actors to shift them on their profit (Lascoumes, 1990).

The second conclusion indicates the paradoxical situation between, on one hand, the technical debate hold by civil servants and, on the other hand, the political responsibilities of representatives. Experts have a powerful position in risk identification. On the contrary, elected members make decision under the fear of blame.

The third conclusion illustrates that civil servants of urban development have been particularly bitter in struggle when risk identification impacts urban projects of development. I also highlight that point in my thesis with others examples in Nantes and Le Havre (Gralepois, 2008). When risk mapping concerns a future urban plan, civil servants in charge of urban development do their best to cancel risk identification or to avoid their legal effects.

It is also a confrontation between past urban policy and contemporary metropolitan system. In the 1960-1980's, French urban zoning policy was less severe about banning urban development from risk spaces. With urban spreading, some areas of cities have grown very closely from natural or industrial risks. But nowadays, urbanisation and networks pileup create forms of urban vulnerability. The concept of metropolitan vulnerability means that urban space -as a nod of flux of goods, services, people or information- "*reinforces the probability of all kinds of disaster occurring*" (November, 2004). Urban large technical systems (electricity, gas, waste, water, etc.) enhanced in the city created a complex network for risk dissemination.

2.2. Risk planning: a negotiation between national and local authorities

The complexity of the decision making process is also due to the institutional conflicts between Central State and local authorities. In France, in the 1980's, the Decentralization Law has delivered autonomy to local authorities but Central national State has kept regional services. Also Central State services are separated from local authorities' competencies, their legitimacy often gets into conflict. In particular, concerning hazard identification and risk prevention, the responsibilities of national State and local authorities are enhanced: Central State regional services define what major risks are and where they occur. Because of civil security role, national State keeps "tools of government" (Hood, 1983) to decide how to prevent major hazards in local authorities' urban planning. But local authorities are in charge of elaborating urban planning.

Conflict of legitimacy between Central State regional services and local authorities

National State services are supposed to provide an objective position in risk planning, holding by general interest. They create models of major risks measure. They impose "methodological how-to plan risks" guide. They also check if urban rules, linked to risk identification, are respected in local authorities' urban plan. On the other hand, local authorities are in charge of local land-use policy and building permits. Given this legal urban responsibility, they deny the right for national State to interfere in local urban planning policy through risk modeling and planning.

For example, in the city of Lyon, a very conflicted situation has emerged in risk flood planning of the Saône River. National State regional service is in charge of flood mapping. According to some elected members of cities -especially the majors-, national State services draw risk area lines in total ignorance of economic and social realities.

Both sides try to install an arena of mediation between majors and national State services, but it fails.

- National services maintain their expertise on risk planning and confirm the legitimacy of their flood mapping draw. They also expose as unreasonable the majors' defence of local interest in spite of national protection. National services offer proves that local authorities disputed flood mapping where urban projects of development are expected in years coming.
- For their part, majors keep refusing to approve the flood mapping. They go directly to see the Minister to negotiate the draw of the flood mapping line. They rally political network to build advocacy coalitions (Sabatier & Jenkins-Smith, 1993). Then, they succeed to put pressure on Minister by returns of their political agreement in others decisions, on totally different public polices. Actually, local authorities have succeeded to manage to move the flood mapping draw far from their future urban projects.

Risk mapping: from probability to political negotiation

This local political trauma in the flood mapping in Saône Rive in the city of Lyon is not an "isolated syndrome". It also happened in Nantes and Le Havre. Since those conflicts around natural risk mapping have taken place between the 1990's, local negotiations about recent reforms of industrial risk planning are very tense. National State services adopt a very rigid position on their industrial risk expertise in modeling and mapping.

Le Havre is a city enhanced in many dangerous industrial and petrochemical plants. National State services impose a complex process of modeling industrial risks. The methodological and institutional complexity of the decision process is a barrier to debate about industrial risk plans. Above all, many local authorities -involved in industrial risk planning- lack technical and human resources to debate. Hence, it is impossible for the local authorities of Le Havre to talk with National State services about the consequences of industrial risks areas in urban planning.

As a consequence, local authorities chose to avoid debates with national State services about industrial risk mapping. They escape conflicts by elaborating

other strategies. First, local authorities bargain directly with industrial owners to reduce dangerous products. They expect toxicity reduce will diminish the risk area. Then, local authorities negotiate the building permits in industrial risk areas, that they call “no man’s land”. In facts, they move the discussion from the arena of modeling and drawing risk area to the arena of building rules. In a way, they also slightly move from the French principle “distance from the risk” to the “living with risk” principle.

To sum up, risk mapping and planning take place in multi-level governance context where discussions are progressively banned. Beyond official positions, nor national State services, nor local authorities are ready to make a step forwards new conditions of negotiation. Situations are particularly tense since the recent application of industrial risk planning Law. It has been approved in 2003 and not a complete industrial risks map has emerged yet. How to explain? The first explanation is the ambiguity of national State role in local urbanism. On a hand, Central State pushes officially principles of Decentralization. On the other hand, national services keep “tools of government” by imposing process of modeling or by editing methodological guidelines (Hood, 1983). The second explanation is the paradoxical position of local authorities. On one side, they pretend to have more local knowledge and accurate information to realize risk mapping. On the other side, local authorities often give priorities to urban development instead of risk planning.

Can we make propositions to rise above those perpetual conflicts?

Risk planning transactions between Central State regional services and local authorities break down around the draw of risk area mapping. This line is nothing but a draw of risk possibility. Often there is a margin of error. Once translated in legal terms, the line divides area where building permits are allowed or forbidden. To rise above conflict, urban and risk planning should work closely with emergency management sectors. For example, in some cases, risk occurrence is very slow. We can imagine cooperation between civil security and urban planning around conditions of rescue for people and activities.

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