17th International Summer School 2011

European Ph.D. on
Social Representations and Communication
At the Multimedia LAB & Research Center, Rome-Italy

"Social Representations of Urban Places
and Environment: Images, Memory and Identity"

8th - 20th July 2011
http://www.europhd.eu/html/ onda02/07/18.00.00.00.shtml

Key Lecture

European Ph.D

on Social Representations and Communication

www.europhd.eu

Environment and risk: psychosocial aspects of coping and communicative strategies

Karine Weiss

Université de Nîmes
Laboratoire de Psychologie Sociale
d'Aix-Marseille Université
karine.weiss@unimes.fr

17th European PhD on Social Representation Summer School: « Social Representations of Urban Places and Environment: Images, Memory and Identity » - Rome, July 2011

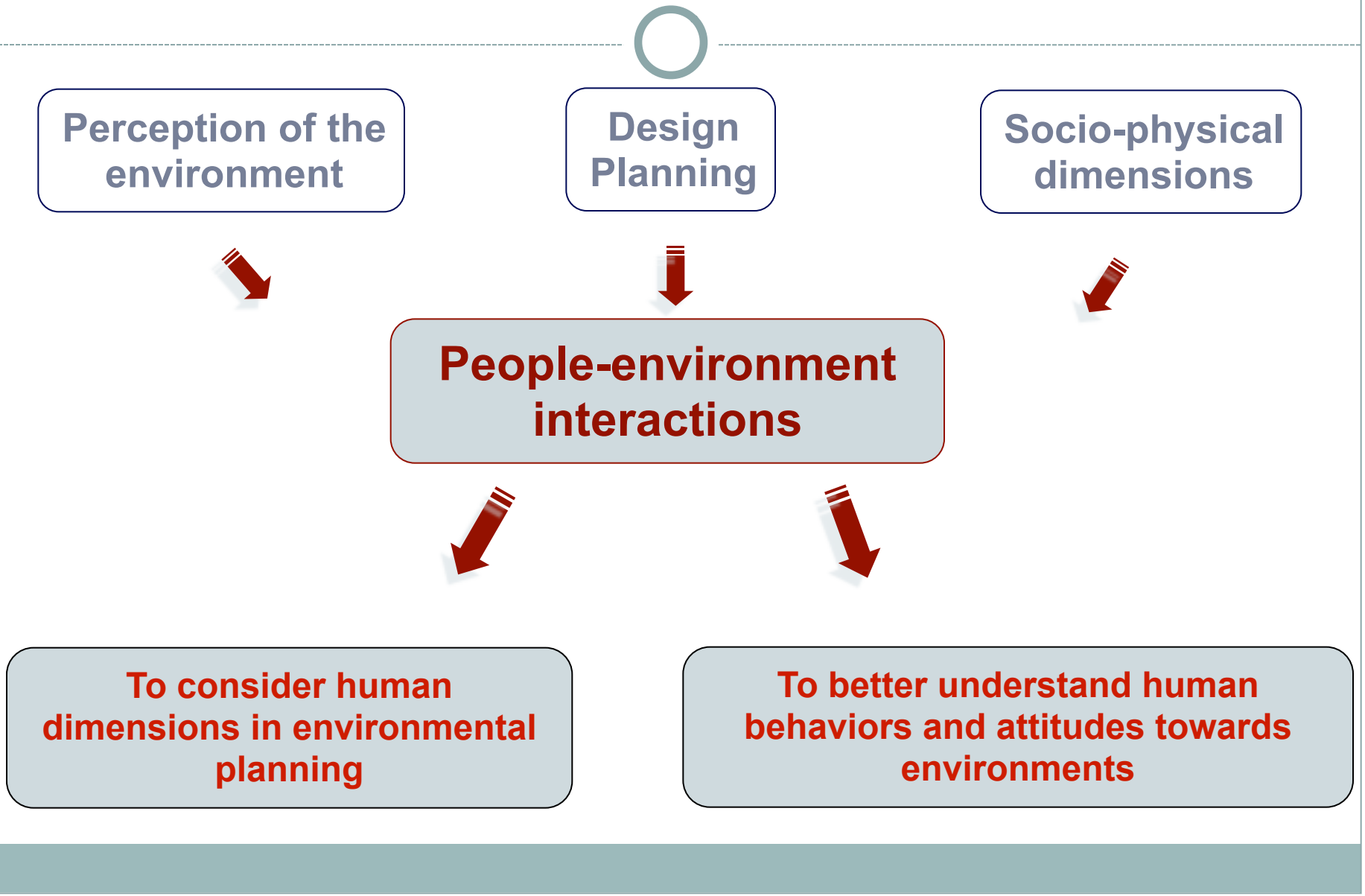
Different conceptions of environmental questions

- **Environmental determinism:** behavioral heritage

- **Interactionnist approach:**
  . Behavioural geography
  . Analysis of people-environment relationships (adaptability, modification…)

- **Transactional approach**
  . Ittelson & Prochansky, 1973: people and their environment are forming a system which is continuously evolving

Interactionnist approach



Interactionnist approach

Focus on the complexity of people-environment relationships, and on the diversity of fatcors implied in this relationship:

- Individual specificities (physical and psychological)
- Social and cultural framework
- Termporal perspective
- Normative processes…

Environment: places to live

Places to live and environmental hazards?

- What are the representations of risks in our daily environment?
- How can people accept the idea of living in a risky area?
- What can people do to be prepared face to disasters?
- Who is responsible for the protection of people, goods, and logistics networks?

Environmental hazards

Personal vulnerability

Social vulnerability

- **Dislocation of people-environment relationships**
- **Uncertainty (cf. Geller, 2002)**
- **Complexity of decision process**

Vulnerability

People and material vulnerability :

- **Economical**
- **Building**
- **Networks (energy, water, transport)**
- **Healthy/ sanitary**
- **Security**
- **Social and individual :** in psychology, the probability for an individual to see his situation and his condition of life to be reduce after a disaster (Colbeau-Justin, 2010)

Environment: places for action

What kind of action is possible?

- **Before a disaster:** protection and prevention behaviors
- **During the crisis:** how to behave the right way?
- **After the crisis:** reconstruction (technical, social, individual)

→ *How to make people adopting prevention and protection behaviors?*

→*References to social psychology theories (e.g.: attitudes, communication…)*

Why people at risk don't protect themselves?

- Young < old
- Women centered on home protection (inside)
- Men centered on outside
- Fear, anxiety?
- Individual responsibility

Environment: places for adaptation

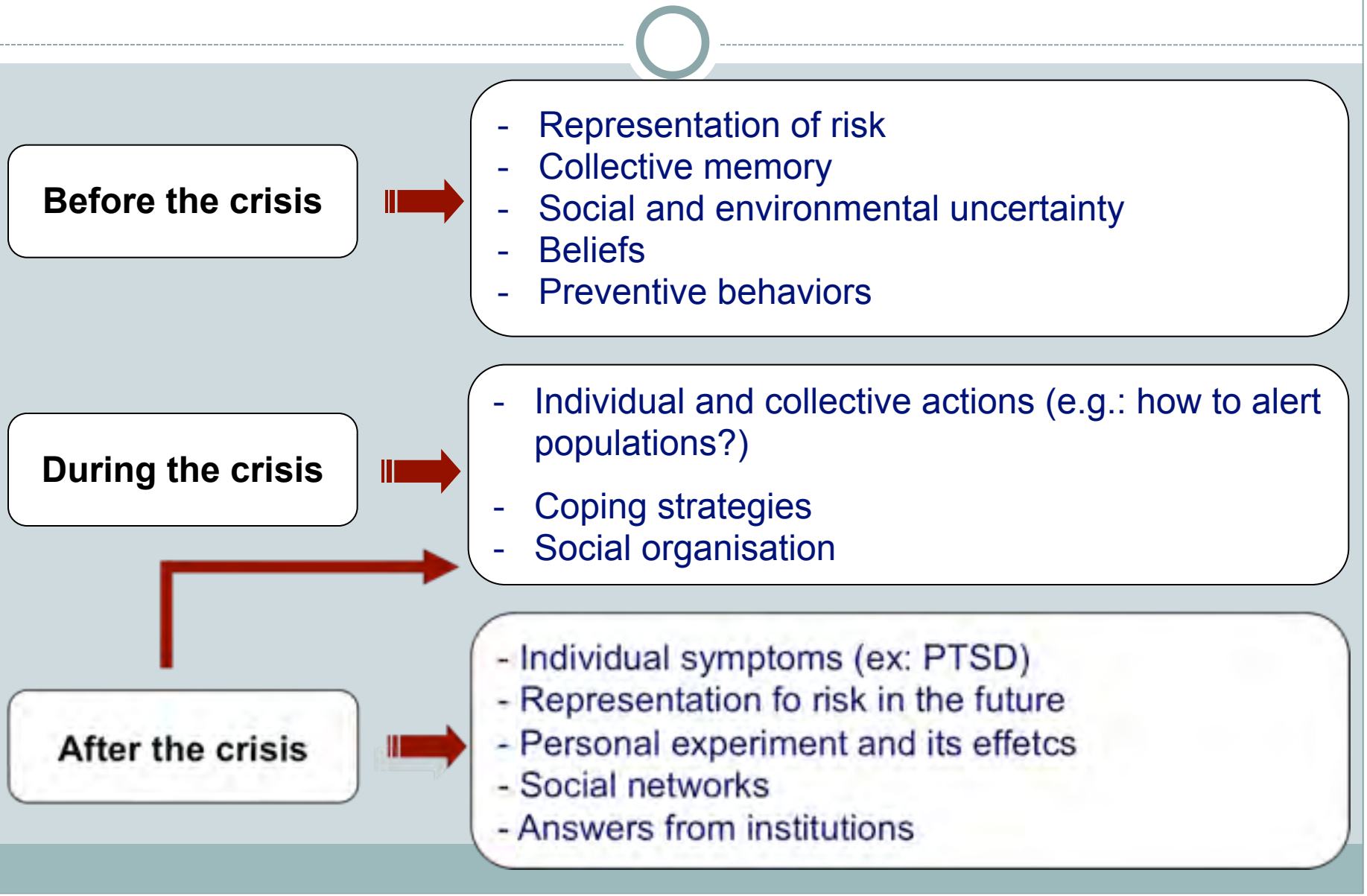
Adaptation and resilience

- Face to repeated disasters: can people learn how to cope?
- How can behaviors be generalized (prevention, protection)?
- What are the consequences of the adaptation to important constraints? Can we speak about resilience?

→Reconstruction

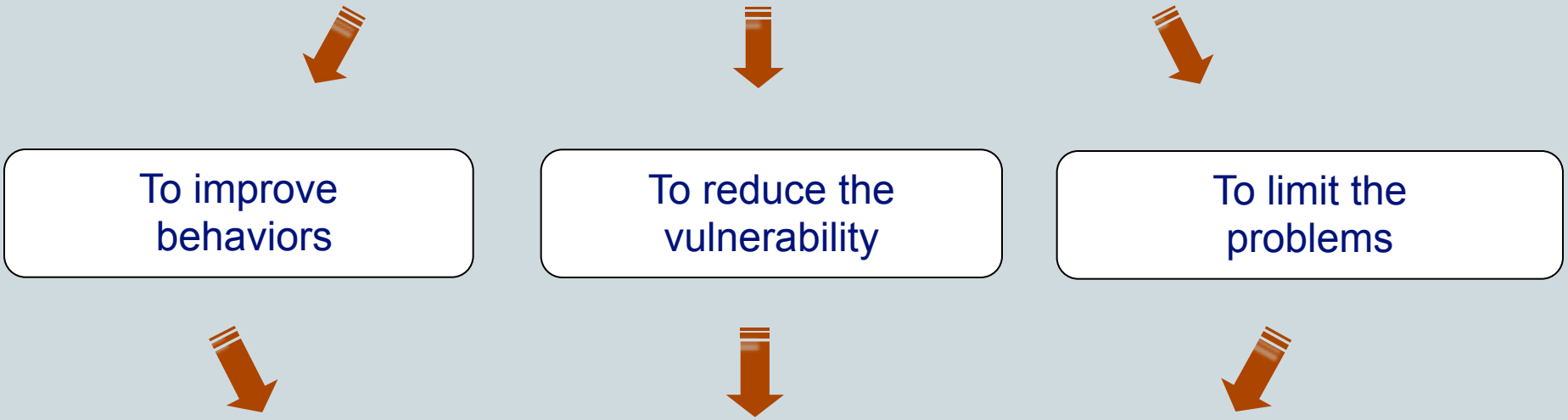
→Social reorganization

3 key moments to study disasters



Why human factors are crucial in the risk management?

Prevention and risk management



- To facilitate risk acceptation
- To favorise the « risk culture » (risk appropriation) linked to local specificities
- To encourage preventive measures

Integration of psychosocial factors in risk management

Meteorological and geological Hazards
volcanos, earthquakes, floods, hurricanes, tsunamis

. Interactions between skateholders
. Representations of risk in the environment
. Communication
. Cultural aspects
etc…

Reduction of social vulnerability
Sharing responsibilities // Institutions, population
Sustainable protection

Perceived risk and personal experience

Sociometric paradigm (Slovic & Fischoff)

- **Perceived risk:** highly different for the population and for the scientific community
- **Strong shift** between the knowledge about risk and the evaluation of its probability

Personal experience is crucial

Représentations

- Personal knowledge (e.g. visual references)
- Collective memory; references to past major events
- Communication from local institutions

How to be involved in protection behaviors?

Knowledge of risk

#

Adaptive behaviors

Examples:

. Lenny (people were spectators)

. Montserrat

. Protection against floods in France

. Behaviors face to earthquakes

- Need for changing personal projects

- Necessity for changing representations of risk in order to change behaviors?

Représentations, perceptions and behaviors

Representation of the environment

Representation of the risk

Perception of coping possibilities

Perception of institutional answers

Subjectivity / bias
(cf. sociometric paradigm)
Cultural factors (values)

Difficult to predict
Future occurrences?
→ When, where, how strong?

Various answers: denial, alarmism, comparative optimism… (cf. Sjöberg)

Consequences of an incorrect representation of risk

Alarmism

Disbelief

Risk denial

Lack of individual responsabilities

Important reaction times

Difficulties in crisis management

Heaviness of procedures

Non adoption of preventive behaviors

Misunderstandings

Rumors…

Human dimension: from representation to action…

Influence of the representation of risks

Possible control ?

What kind of ressources?

Efficacy of answers?

→ **Protection behaviors ?**

Importance of social factors

Interactions between skatehoders

Positive or negative factors for the action

Need for the implication of the population

Vulnerability of the territories

Experts' knowledge

Risks' mitigation (legal, technical solutions)

Communication

Non efficient if the population is not implied

How to adopt protective behaviors?

- **The communication has limited effects (recommendations not suitable)**
- **What kind of protective behaviors?**

People have to consider that:

- A disaster may occur
- It can impact personal valuable things (souvenirs, attachement, goods)
- Effective means exist for protection of people and goods
- These means are known, accessible, and people can use them

→ **Evaluation of the risk**

What are the conditions

Dimensions linked to the willing and the need for protecting goods; refusal of negative consequences:
Confidence in people's own capacities of protection

Knowledge or use of individual protection techniques
Sometimes already used by persons
people can be confident in

Quelques recherches

French West Indies, Volcano 1976	1st sociological research - France Social organisation
Montserrat, Volcano 1995-1998	Crisis management Political management Coping Place attachement
Hurricane Lenny, 1999	Analysis of different kinds of management Needs, representations and actions
Somme, Gard Floods 2000,2002	Post-crisis missions Psychological impact (victims)
Future historical floods France 2005, 2011	Before a disaster Analysis of representations

Example: Montserrat (1995-1998)

Example: Montserrat (1995-1998)

Geoclimatic, socio-cultural, and political context
Size of the island
Conflict linked to social identity
Economical dependency
Level of education …

Uncertainties
social &
environmental

Adaptive strategies
Différent attitudes
Rumor (fear & uncertainty)
Social support

People refused to evacuate
Political, historical, environmental, social explanations


DANGER
NO UNAUTHORISED ENTRY
PLYMOUTH IS STILL DANGEROUS
AND THE FOLLOWING HAZARDS
ARE LIKELY TO OCCUR WITHOUT WARNING
A PYROCLASTIC FLOWS
B MUD FLOWS
E ASH FALLS
D BUILDING COLLAPSE
PERSONS ENTERING DO SO AT THEIR OWN
RISK

Montserrat 10 years after: a place to live

Risk perception and incredulity: Future floods in the Loire area

- 60 subjects (all house-owners)
- 30 men and 30 women
- Between 20 and 60 years old
- In the same area between 6 months and 30 years

- 2 small cities near the Loire river
- Both cities highly at risk :
  - Les Ponts de Cé (last major flood: 1982)
  - Saint-Pryvé (last flood: 1907)

Method: 3 sets of data

Semi-directive interviews

- Risk perception
- Representations of the environment
- Personal perceived risk
- Protection/prevention strategies
- Evaluation of coping strategies

Cartographic method

- Representation of the environment
- Representation of the risk

Focus groups

Validation of the results

Risk knowledge and institutional information

- A specific relationship with the river (Ponts-de-Cé): Hedonism, valorization of the water; good knowledge of the past floods; non formal information

- Institutional and formal (legal) information towards the flood risk in St-Pryvé, where the risk is less perceived/known by the population

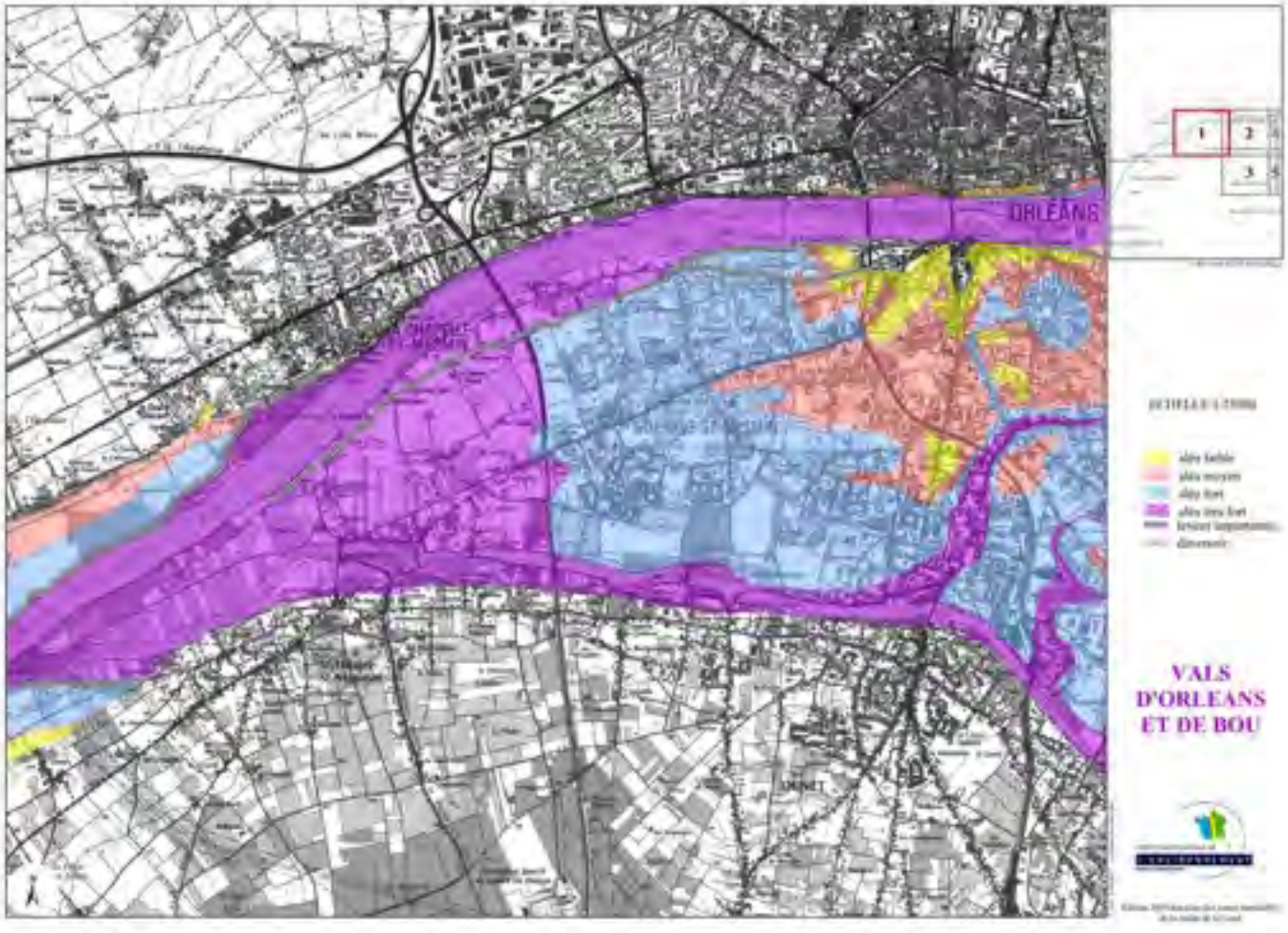
Interviews: General perceived risk and personal perceived risk

Good general Knowledge of the risk

Minimization of the personal risk

- References to collective memory and personal experience ("we have never seen the water here")
- Confidence in technology and laws ("with the flood barriers, the river has been regulated")
- Difficulties to evaluate the danger ("we guess that it won't be so high")
- The unknown of the evacuation ("I would have to leave, but where?")
- Personal prejudice (personal loss)
- Economical consequences (fall of the price of the real estate)

Cartographic method



Map used in
St Pryvé ("Atlas of the areas liable to flooding in the Loire valley", 2003)

Information of both:
- Population
- Institutions

- A tool which is not understood by the population
- The colors are not meaningful
- The words also (« aléa »; « PHEC »)

Risk perception and possible actions

Lack of references
- Collective memory
- Local information

→

- Individual and official references to past floods
- Areas liable to flooding (maps?)
- When will the newt flood arrive???

Place attachment

→

- Can be used to implicate the population
- Individual resources could also be used

↓

- Local authorities may have benefit in using and developing local resources
- Heritage can be used in communication actions
- Proximity actions are needed in order to make people more aware about the personal risk
- Information about floods must be more pragmatic

Towards a “risk culture”?

- Territoriality
- Place attachment
- Acceptation of an individual responsability

→ Acceptation of personal risk

↓

Individual self-protection measures

Lack of risk culture

People are not prepared

Resistance face to protective behaviors

→Unrealistic optimism
→Risk under-estimation
→Risk denial

Individual differences linked to protective behaviors

Collective memory: differences between newcomers and former occupants
(Weiss et al. , 2006)

- → **Place attachment**
- → **Acceptance of the characteristics of the environment**

Place attachment

- Acceptance of risk
- Acceptance of personal responsibility
- Protective behaviors

But:

- Illusion of predictibility
- Illusion of stability

How to improve protection / preventive behaviors?

« Classical » Persuasive communication

- Importance of a comprehensive, realistic and pragmatic information
- Changes on attitudes and knowledge
- Cognitive but not behavioral efficiency

(cf. Lindell & Perry, 2004, 2006)

What about « real » behaviors?

Inadaptation of official tools of communication

Marchand & Salagnac (2009):

-Inadaptation of tools in the local context

-Tools are too complex, too technical, too longs

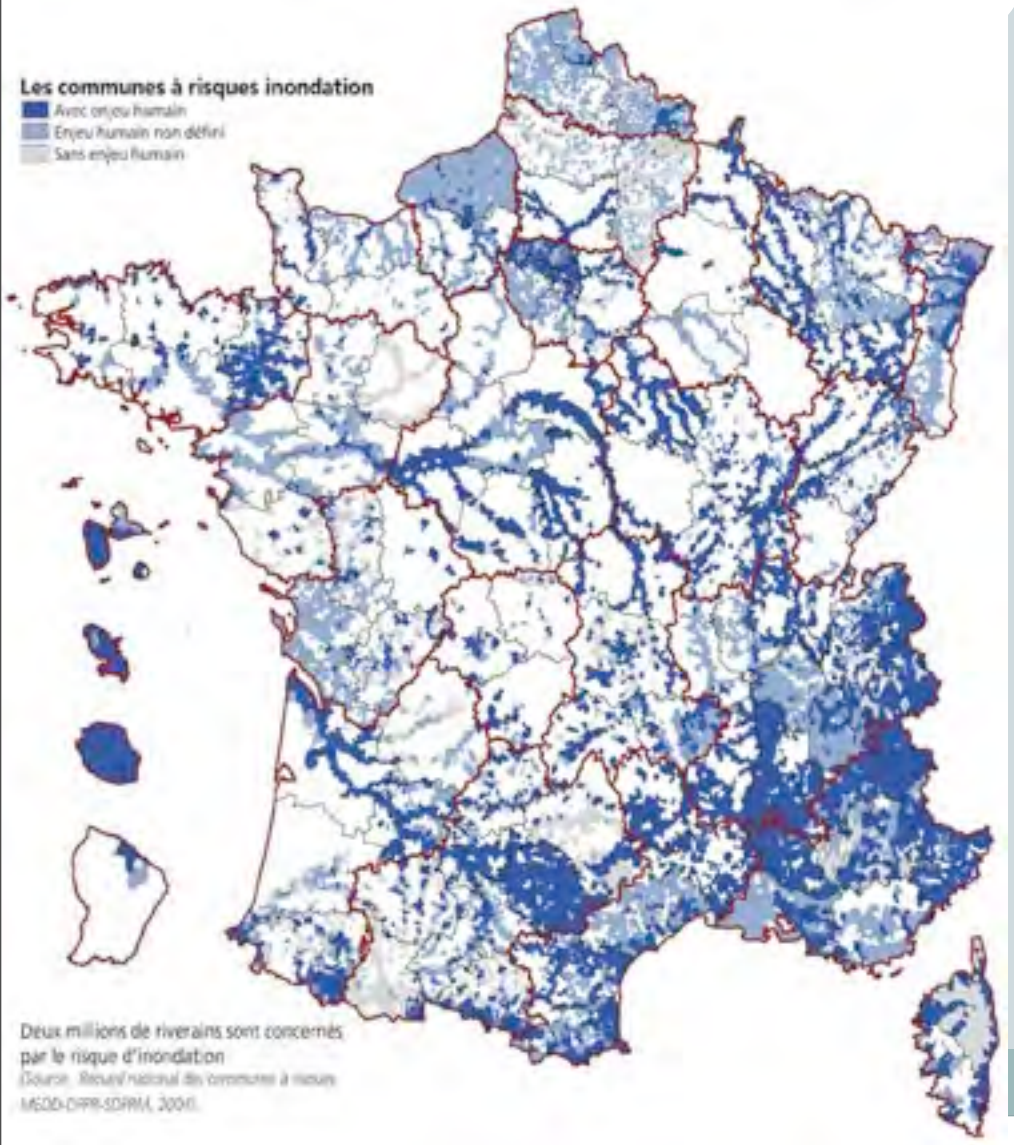
-Lack of political support at a national level (clear objectives, financial incitations …)

Inadaptation of official tools of communication

Marchand & Salagnac, 2009

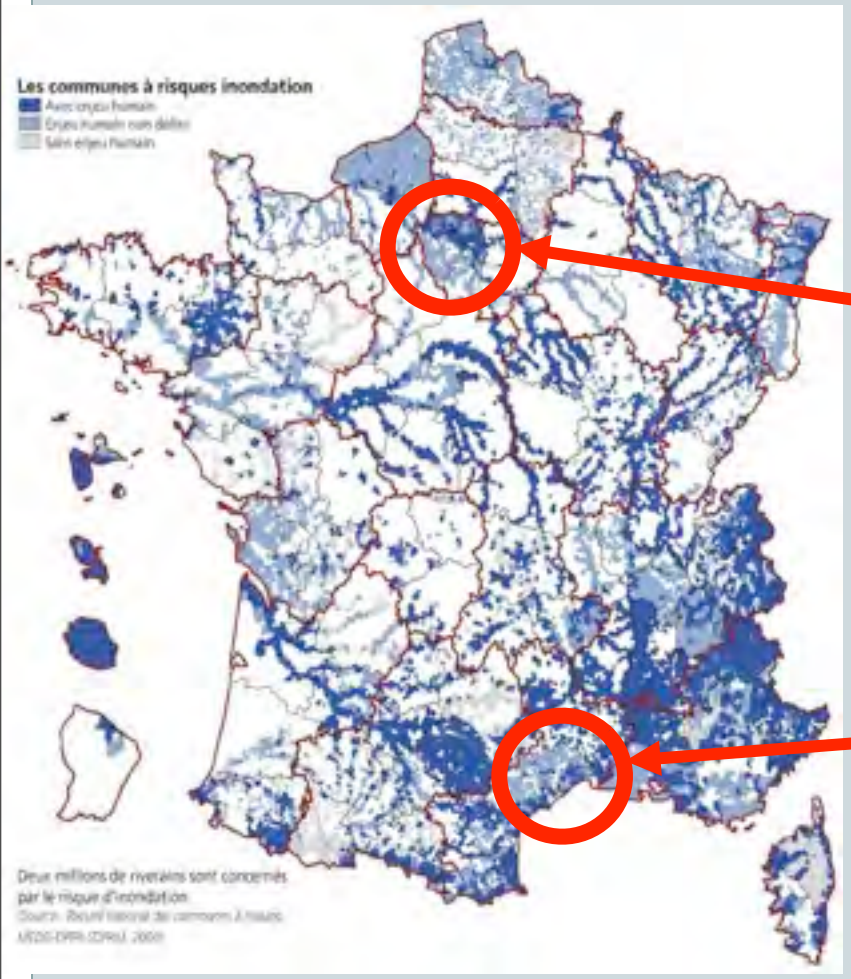
- Do these documents reach their target population?
- How are they assessed?
- Are they used : how, by whom?
- Does the content of these documents meet the expectations of readers?
- Which improvements would be necessary?

French Context



- Vulnerability of French territory
  - Flood: N1 natural risk
  - 2 Millions of people at risk
- Many available documents (electronic, printed) to disseminate recommendations, actions lists, explanations, etc.
- Many different actors produce such documents : central administration, local authorities, associations, insurers, manufacturers, resources centres, …
- Problematic of the inadequacy between the proposed tools and the local needs to reduce the vulnerability of territory

Survey



Two areas according to their relation to flood risk :

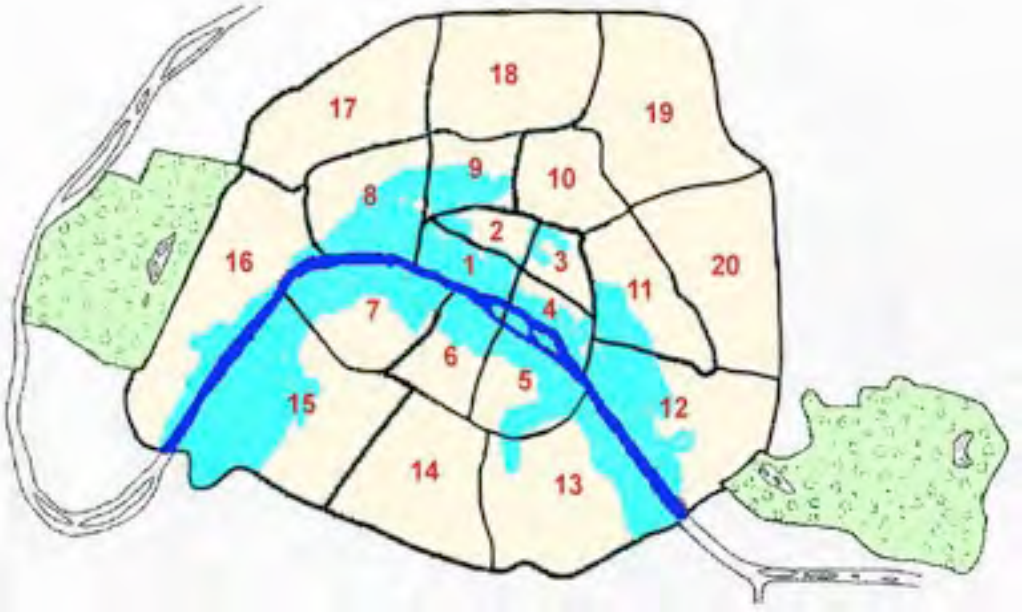
Ile-de-France

- ✓ No memory of flood risk (population)
- ✓ 2.000.000 citizens live with flood risk without awareness of risk
- ✓ High level of economic vulnerability

Languedoc-Roussillon

- ✓ **Very present flood hazard :** frequent, sudden, dangerous, important human and economic impacts

Method



Paris (Source : *City Hall of Paris)*

- 27 national & local stakeholders (administration representatives, politicians, construction professional & syndicates, insurers)
- Qualitative research:
  - Semi-directive interviews
  - Content analyses

Results: Ile-de-France

- High awareness on flood risk among the stakeholders
- Strong disparities in local politics
- Economic & political difficulties:
  - the market pressure on land is so high that the flood question is a political issue
  - other urgent choices : housing, employment, waste water treatment, etc.

Results : Languedoc-Roussillon

Sommières (Source : *CCR)*

- **Strong involvement of local administration actors**

- **Distance from central administration:**
  - creates a feeling of being “abandoned” by the national administration.
  - distance also happens to be a source of creativity
  - local actors, have the feeling of being far more advanced on vulnerability reduction than at the national level.

- **Surprisingly, the context does not support the emergence of a flood risk culture.**

Results : barriers to the appropriation of tools

- The stakeholders only **use the tools to prepare their own communication tools**
- Inadequacy with local contexts
- Too complex, too technical, too long
- They are not conceived according to targets
- Lack of national policy

(with objectives, incentive financing, etc.)

Nîmes

(Source : *Météo France*)

Results : barriers to the adoption of vulnerability reduction measure

Nîmes (Source: *Météo France*) :

- Lack of memory
- Lack of awareness
- Denial
- Lack of urban space
- Feeling to be protected
- Lack of prevention
- Lack of financing
- Lack of coordination between national and local administrative level

For a better communication about risk…

- Culture of risk requires to work at different scales and with different actors.
- To be appropriated, the tools have to inform, raise awareness and promote prevention attitude
- The tools must take into account the different phases of a flood event: before/during/after.

→ Implication of the population when installing flood landmarks
(Colbeau-Justin et al., 2003)

→ Individual identification of dangers at home
(Denis-Remis, 2007: « binding formation »)