AFRICA ANNES' SUB-PROJECT

Creating emergency plans

Risk Communication and Families' Preparedness for Seismic Events in the Azores

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Earthquakes & Volcanic Eruptions

Recent events in the memory of Azoreans

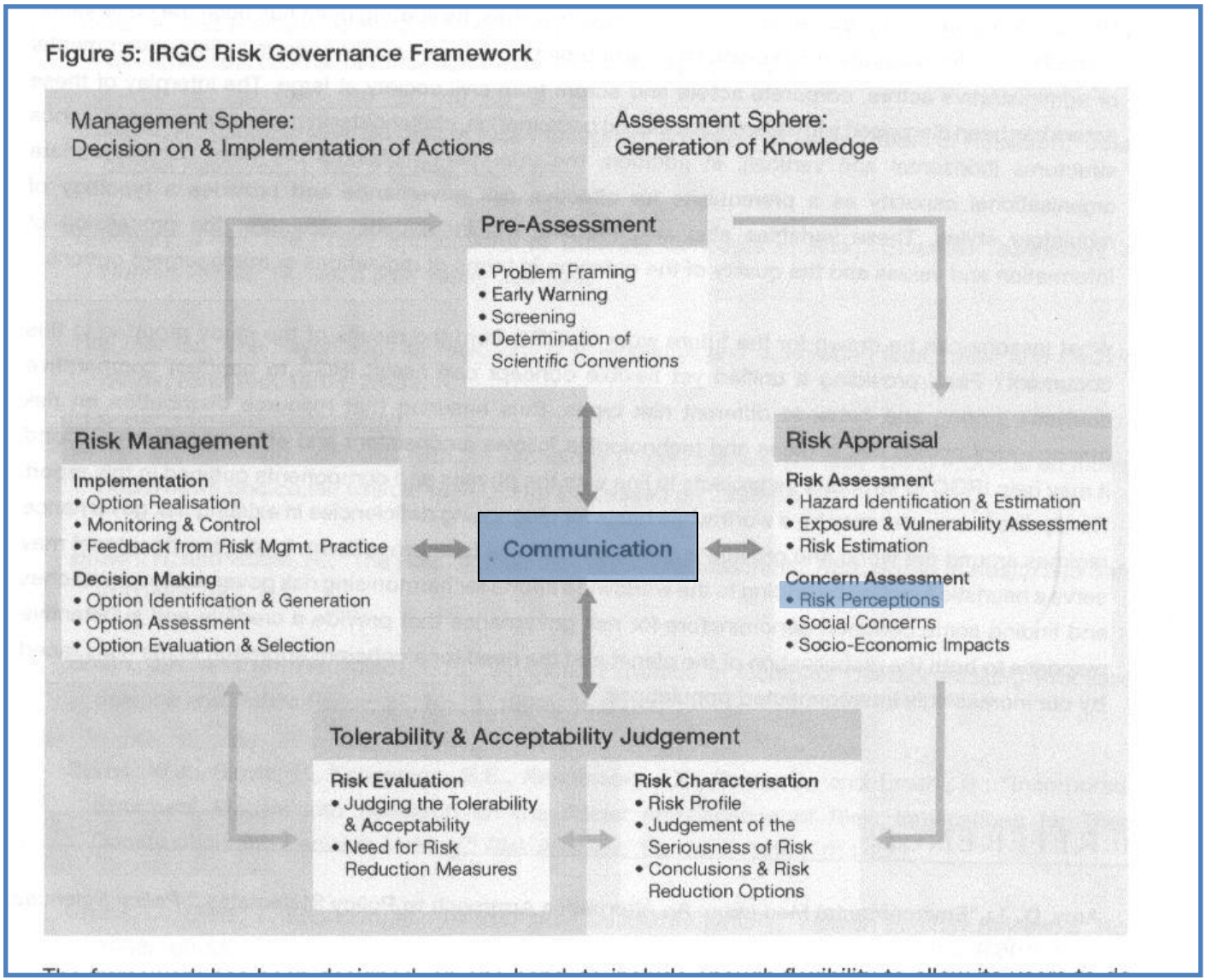
1957-1958 - Capelinhos Eruption, Faial island

1980- Earthquake - Terceira, S. Jorge, Graciosa

1998- Earthquake - Faial, Pico e São Jorge

- 1957-1958: A submarine eruption 1Km away from the Faial island
- 1980: 71 deaths, over 400 wounded and 15 000 homeless
- 1998: 8 deaths and over 400 wounded and 1700 homeless

IRGC – International Risk Governance Council (2005)



Uma proposta de modelo integrador

http://www.irgc.org/

IRGC – International Risk Governance Council (2005)

1. **Risk assessment –** Simple - Complexity – Uncertainty - Ambiguity

   ⇨ identification of specific safety principles

   ⇨ design a risk management strategy

[Many natural disasters, such as earthquakes, are examples of high uncertainty risk situations]

Knowledge Characterization	Management strategy	Appropriate Instruments	Stakeholder participation
3. Uncertainty-induced risk problems	Precaution-based (risk agent)	➔Using hazard characteristics such as persistence, ubiquity etc. as proxies for risk estimates Tools include: * Containment * ALARA (as low as reasonably achievable) and ALARP (as low as reasonably possible) * BACT (best available control technology)	Reflective discourse
	Resilience-focused (risk absorbing system)	➔Improving capability to cope with surprises *Diversity of means to accomplish desired benefits *Avoiding high vulnerability *Allowing for flexible responses *Preparedness for adaptation	

IRGC – International Risk Governance Council (2005)

2. Risk Perception

- Risk is a mental construct;
- Citizens respond to risks according to their own constructs and images;
- Risk perceptions belong to contextual aspects that risk managers need to take into consideration.

3. Risk Communication

- to educate / to persuade / two-way communication process

↓

- help stakeholders to make informed choices
- help stakeholdrs to build mutual trust

What do we know about Azoreans preparedness to deal with seismic events?

Results from a previous study (1) - Risk profile evaluation

(*TOPOI METUS,* 2006-2009)

- Uncontrollability
- Earthquakes are the most serious natural hazard in the Azores

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Result from a previous study (2) - System' s vulnerability

(*TOPOI METUS, 2006-2009)*

- Who was more negatively affected?
  - the most socially disadvantaged: aged and psychologically vulnerable persons
  - the owners of vulnerable houses

- Major losses:
  - Lives
  - Material - houses and property
  - Psychological/emotional

Results from a previous study (3) – Preparedness

(*TOPOI METUS,* 2006-2009)

- What is done by authorities/entities (*e.g.* Government, Civil Protection, experts, schools)?

  During and **after** a crisis: Ok; The Government does its share; things work because **people help each other**

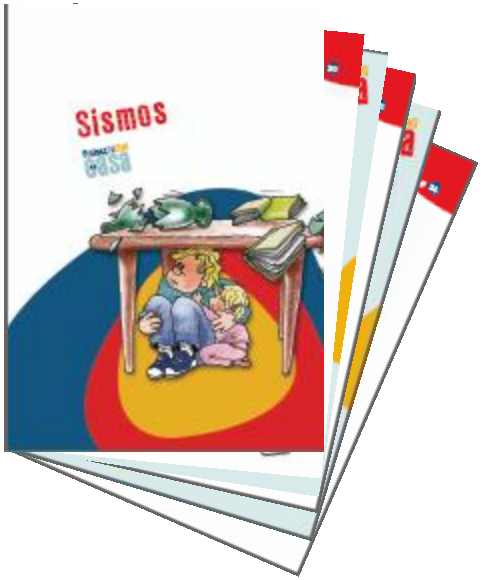
  Before a crisis, to prepare citizens: **Nothing**

- What is done by the person him/herself?

  A sense of not needing more information to be better prepared, to become more resilient to crisis and crisis impacts

There is not a 'culture of precaution'

There are pamphlets and a chapter in a manual available on the internet about preparing to and dealing with earthquakes.



Literature Review (1)

perceived and actual preparedness

(e.g. Basolo et al., 2009)

- Individuals have an high level of confidence in local government to manage a disaster;
- Exposure to more preparedness information sources were associated with a higher level of perceived preparedness;

Literature Review (2)

psychological predictors of preparedness for an earthquake (Spittall et al., 2008)

- People (in general) take more survival actions than mitigation actions
- Individuals who are more risk-taking tend to take more survival actions, and individuals psychologically categorized as having an internal locus of control make more mitigation actions.
- Home ownership influence preparedness- individuals - who own a home take more mitigation actions.

Literature Review (3)

high-school students motivation for preparedness (Shawn, 2003)

- students learn about earthquakes in school and seem to be aware of its risks.
- However, only 25% performs risk reduction actions.

Literature Review (4)

variables influencing risk perception

(Wachtendorf & Sheng, 2002).

- Women are more likely to perceive risks (with serious physical injuries) than man
- Older people are more vulnerable to disasters impacts, however, as age increases, serious risk perception decreases
- Emotional distress was the most consistent predictor of risk perception for earthquake outcomes (individuals who had earthquake experiences)

Literature Review (5)

- Difficult to deal with and openly communicate about frightening issues such as **anticipatory loss** - the possibility, probability or inevitably of coming to lose something in the future (e.g. dealing with genetic information concerning illnesses in a family), even though these issues might represent situations of permanent and/or serious risk for individuals and communities. (Miller, McDaniel, Rolland, & Feetham, 2006)

Project:

Creating emergency plans - Families' preparedness for seismic events in the Azores

Underlying ideas:

- Difficult to openly communicate about frightening issues, even when they represent serious risk for individuals and communities.
- Such difficulty may persist, or increase, in situations where children are involved.
- Incapacity to talk about potential harmful events may affect the way people anticipate and prepare for those situations
- Perceived seismic vulnerability of the building may affect preparedness

Project:

Creating emergency plans - Families' preparedness for seismic events in the Azores

Major Goal

To understand how families create an emergency plan to face an earthquake

(preparedness)

STUDY'S SPECIFIC OBJECTIVES:

1st
- To identify the perceptions of seismic risk and vulnerability held by families

2nd
- To know the content and the process of developing Family Emergency Plans

3rd
- To understand the communicational patterns involved in crisis preparedness at intrapersonal, interpersonal and sociocultural levels

4th
- To identify intervention measures to facilitate preparedness to be tested and implemented in the future

Project's Phases

- Selection of families
- First Interview
- Family Emergency Plan Development
- Second Interview
- Third Interview
- Publicizing the Emergency Plans

Selection of families

Criteria to select families

- Inclusion criteria:

  Existing dependent individuals in the family (*i.e.* children, elderly, handicapped);

- Other criteria:

  Perceived seismic vulnerability of the building (safe; not safe; unknown);

  Previous experience concerning seismic events (sensed the event but did not suffer damages; went through one or more events with serious effects; never experienced a seismic event)

First Interview

- Semi-structured
- Introductory

    goals of the study

    general instructions for Family Emergency Plan Development

Family Emergency Plan Development

Second Interview

- Semi-structured
- The Emergency Plan - How the Plan was develop:
  (Objectivos específicos) what was done, how, and why
  who headed the process, who was involved, what kind of communication took place
- Dimensions of risk perception previously studied – knowledge, beliefs, affect and actions/routines concerning
- - risk characteristics,
- - risk profile evaluation,
- - systems' vulnerability
- - risk management
- - trust

THE INTERVIEW

Dimensions

- Risk characterization

  ex: *What causes earthquakes in the Azores?*

- Risk profile evaluation

  ex: *Have all the islands been equally affected by those natural events?*

- Systems' vulnerability evaluation

  ex: *Who has been more affected by earthquakes? Has anyone benefited with those events?*

- Risk management (before, during, and after the crisis)

  ex: *What should people do to prepare themselves for earthquakes?*

- Trust – in information processes; in risk management processes

  ex: *How much do you trust the entities involved in crisis management? How much do you trust in the crisis information that is given to citizens?*

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Third Interview

- Feedback of data collected to families
- Safety measures recommendations and counseling

Publicizing the Emergency Plans

(not determined yet)

References

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