



# ACOMODAÇÃO, APEGO OU EVITAMENTO?

## RISCO SÍSMICO PERCEPCIONADO POR AÇOREANOS E GOVERNANCE DO RISCO EM FASES DE PRÉ-OCORRÊNCIA

ACCOMODATION, ATTACHMENT, OR AVOIDANCE?

SEISMIC RISK PERCEIVED BY AZOREANS AND RISK GOVERNANCE DURING THE PRE-OCCURRENCE PHASE OF DISASTERS

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### Background:

The Azores are located over a triple junction of three large tectonic plates; the North American Plate, the Eurasian Plate and the African Plate.

What is the scenario of knowledge on seismic and volcanic risks in the islands?  
 Lack of information regarding the social dimension of situations – How people perceive and deal with situations

Management of risks has not taken into consideration the analysis of the social and cultural factors which frame people's perceived risks, their perceptions, and their behavior in those risk situations

Why do people living in vulnerable areas insist in staying there, even when they are aware of its dangerousness?

Why people who are exposed to seismic/volcanic risk are frequently less equipped to deal with those events than they should be?

#### Earthquakes & Volcanic Eruptions



1957-1958 - Capelinhos Eruption, Faial Island

- More than 700 low intensity earthquakes preceded the submarine eruption 1 Km away from the Faial island; the eruption was active for over a year
- Another island was formed and later connected to Faial
- An emigration flow to the United States, who had created specific legislation to help the victims, started to take place

Recent events in the memory of Azoreans

#### Earthquakes & Volcanic Eruptions



1980 - Earthquake in Terceira, S. Jorge, Graciosa

- Intensity 7.0 Richter, epicenter in the sea, 35 km from Terceira island
- Mass destruction of buildings in several villages in the three islands (>15.500 houses)
- 71 deaths and over 400 wounded
- 15.000 homeless

Recent events in the memory of Azoreans

#### Earthquakes & Volcanic Eruptions



1996 - Earthquake in Faial

- Intensity 5.6 Richter, epicenter in the sea, north of Faial island
- Mass destruction in many villages in Faial, some damages in the islands of Pico and São Jorge (>15.500 houses)
- Big landslides on the coastal areas
- 8 deaths and over 400 wounded
- 1700 homeless

Recent events in the memory of Azoreans

### Preliminary results:

#### Risk characterization

	Earthquake	Volcanoes
Descriptions	Diverse sensational, emotional, physical, cognitive,	Simplistic spectacular events
Emotions associated	Fear	
Evidence (warnings):	weather (spat, sunless, warm, 'sear'); animal behaviour	

#### Risk profile evaluation

- Differences in exposure to seismic/volcanic risk across the islands are not reported
- Earthquakes are the most serious natural hazard in the Azores;
- Other significant hazards: tornados, climate change, global warming, floods, land sliding, termite plague... (volcanoes not mentioned);

Events of reference associated to their own life

#### Systems' vulnerability

##### - 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
- Patrimony
- Psychological/emotional

##### - Who benefited with earthquakes?

- Nobody
- Construction companies; people who get improvements in their property, people who get a new house; the most disadvantaged to the most well-off, official and non-official intermediaries, the Government.
- Everybody

#### Risk management

##### - What impressed/'touched' interviewees the most?

Solidarity among people  
Interpersonal conflicts resolution

##### - What is done by authorities/entities (≠ Government, Civil Protection, experts, schools)?

- Before a crisis, to prepare citizens. **Nothing.**
- During and after a crisis: Ok; The Government does its share; things work because people help each other (reunite).

##### - 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'

#### The study

##### TOPOI METUS



Social topographies of danger  
Risk perception of natural disasters

#### Goals

- To explore personal narratives of natural disaster situations.
- To construct and validate an instrument to characterize risk perception,
  1. sensitive to
    - the Azorean context;
    - the practices historically embedded in natural disasters;
    - the people's identification and emotional relationship with the place
  2. to characterize risk management issues such as
    - Lack of information;
    - Risk behaviours;
    - Public evaluation of the social response to these situations;
    - People's commitment to a "precautionary culture"
  3. to clarify communication aspects such as
    - Strategies and means of communication people use; the more;
    - Public trust;
    - What functions should risk management have?



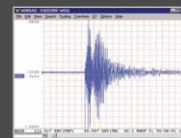
#### METHODS AND PHASES

- Phase 1 - Exploratory study
  - Participants - 30
    - 5 islands: S. Miguel, S. Maria, Terceira, Faial, Flores;
    - 3 age groups: 15-25 (N=10), 26-50 (N=10), >50 (N=10), gender parity (N=15)
  - Data production:
    - An unstructured interview - ave. duration 60 minutes
    - Individual
    - Category system - 6 dimensions / 14 sub-dimensions
- Phase 2 - Construction and validation of the questionnaire
  - Construction and facial validation
  - Distribution and psychometric study of the questionnaire

#### CONCEPTUAL DIMENSIONS

- Risk characterization
  - ex: What causes earthquakes/volcanoes 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/volcanoes? Has anyone benefited with those events?
- Risk management (before, during, and after the crisis)
  - ex: What should people do to prepare themselves for earthquakes/volcanoes?
- 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?

#### Public Trust



People do trust others...

... official and non official entities, regarding:

- Risk/crisis communication
- Risk/crisis management

#### Place attachment



Strong attachment to the living place

- Social - Emotional Reasons:
  - birth place;
  - life history;
  - interpersonal relationships;
  - beauty;
  - knowing the place;
- Material/Quality of Life Reasons:
  - owning a house;
  - having facilities near the house;

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