



Cross-Cultural Methodology

TASK 11: RISK PERCEPTION, COMMUNITY BEHAVIOUR AND SOCIAL RESILIENCE

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1. Introduction

1.1 *Background*

Task 11 aims, among others, to investigate risk perception and coping behaviour of so-called lay-people with respect to flooding and how this relates to the vulnerability/resilience of communities. This Milestone (M11.2) is the result of an intensive discussion process between the involved project partners and describes the cross-cultural methodology developed so far (by June 2005) which was agreed upon by the collaborators of ISIG (partner 33) and UFZ (partner 44), who will carry out primary investigations, as well as the colleagues from FHRC (partner 10), who will base their research mainly on re-analyses of existing data sets. Therefore the paper focuses on the German and Italian case studies in the river basins of the Mulde and Adige Rivers.

2. Cross-Cultural Methodology

2.1 *Site selection criteria*

Before regarding the question of methods, the spatial level of investigation will be clarified. Task 11 will primarily focus on specific local communities (villages, towns, cities). Therefore local communities were selected in Italy (Adige region) and Germany (Mulde region).

Much time was spent in defining the criteria for selecting the communities and visiting the candidate ones, before taking a final decision. This was done as we interpret “comparison” in a broad sense, not as mere production of numerical data amenable to statistical treatment. The selection must produce communities whose characteristics are valuable in terms of local needs for knowledge and understanding. Also it must allow meaningful comparisons within and between countries and provide input for the preparation of useful recommendations in terms of policy.

The following criteria, agreed upon at the FLOODsite Workshop for Subtheme 1.3 (Task 9 to 11) at the Flood Hazard Research Centre (11. and 12.10.2004) are the basis of the selection process. The main variables for the selection of communities are flood type, flood recurrence, and community size.

- Flood type: Both Flash floods and plain floods will be considered in Italy and Germany.
- Flood recurrence: Flooding occurred in both the Adige and the Mulde region in recent years.
- Community size: There will be small villages and larger towns considered.

The first step of the data analysis will be a comparison at the regional level (intra-Mulde, intra-Adige), but also an analysis on the local level is intended. The second step and “added value” of the project will be the intercultural comparison between the German and the Italian case studies. Here, some crucial flood-related variables are kept equal, as far as this is possible in an intercultural comparison. However, differences between the communities are present and should not be masked. Consequently, some differences in research protocols (questionnaire and other) and strategies are inevitable and necessary.

Italy: The Adige region was visited repeatedly and exploratory qualitative investigations were conducted that led to the identification of a number of sites larger than the ones which will be the objectives of the analysis. This was done with the support of FLOODsite partner 16, the Department of Land and Agroforest Environments of the University of Padua, in order to achieve a better integration between project tasks and to profit from knowledge from previous work and already established connections with local stakeholders. Partner 16 is involved in several tasks of Theme 1, 2, 4 and 5. The final decision is being taken also in consideration of comparative needs with the Mulde region, which has been recently visited by ISIG researchers.

Germany: The Mulde region was also visited repeatedly and explorative interviews have been conducted, both with mayors of potential field sites and experts knowing important details about the region and the most recent major flood in 2002. Additionally, there exists a strong collaboration with FLOODsite partner 4 (IÖR Dresden) working, among others, on Task 13, since it is planned to incorporate the selected communities in the research of Task 13 (pre-flood risk management). Based on the discussion within Task 11, the adjustment with the colleagues from the IÖR and interviews with experts, three communities were chosen.

Beside intensive visits of the respective field-sites in Italy and Germany, UFZ members have visited the Adige region just like ISIG members became more acquainted with the Mulde region.

2.2 Qualitative and quantitative methods

The research design foresees the triangulation of standard and non-standard methods and techniques. Different data gathering will include different complementary strategies and techniques:

1. Use and revision of existing data from secondary sources, such as census and municipal data;
2. Production of data amenable to statistical treatment (e.g. survey with standardised questionnaire);
3. Gathering of qualitative information (e.g. via in-depth or semi-structured interviews and focus groups) to be treated with other than statistical techniques (e.g. content analysis).

Another distinction is the one between so-called “qualitative” and “quantitative” methods which will be explained in the following in more detail.

2.2.1 Qualitative Methods

Semi-structured and/or in-depth interviews: In our research, a number of preliminary interviews (either semi-structured or in-depth) have already been performed with “qualified or privileged informers”, i.e. people who, due their status, role or experience, have a deep knowledge of the subject under investigation and/or the relevant social context. Such informers include local authorities, civil servants, community leaders, politicians, scientific and technical experts, NGOs (non-governmental organizations) and others.

Such interviews allow to obtain first-hand knowledge of those socio-cultural aspects which are relevant for (and condition of) emergency planning and management. They also allow investigating the perception and awareness of risk from the part of “certified experts”. They are very useful for establishing stable links with local stakeholders, who can provide continuous input and feedback to the research work. Interviews may be used again in the following of the research, according to the necessity of getting further input and/or providing feedback to research work and findings.

Focus group: From a methodological viewpoint, focus groups (FG) are not intended to be statistically representative. Rather, their use allows to explore and clarify a set of issues and to ascertain the positions of different participants, as well as interactions among them. Also, face-to-face discussion involving a number of stakeholders helps bringing in the open different motives and justifications, which normally remain unspoken.

In our research design, FGs are planned (and some already done) as preliminary to the quantitative survey phase, in order to better define key research themes, profiting also from insiders’ knowledge and perspectives. In the FG held in Italy, a number of people were contacted: civil servants, regulators and technicians involved in flood prevention and management, etc. In Germany FG interviews have not yet been held, but are planned to be conducted within the next months (cf. Appendix).

Focus groups may be used again in the following of the research, according to the necessity of getting further input and/or providing feedback to research work and findings.

2.2.2 Quantitative methods: Questionnaire survey

Questionnaire: Partners are presently preparing a questionnaire to be administered to local residents in the selected communities both in Germany and in Italy. The questionnaire will be largely pre-structured, with some open questions. It will contain in both countries a core of similar questions, plus other site-specific and event-specific ones. Consideration of differences between local and cultural contexts, as well as flood events, is essential in order to produce articulated comparisons, generating useful knowledge and understanding to be used also for policy recommendations and guidelines.

Sampling: Some 600 to 800 questionnaires will be submitted in each region. The idea of using a statistical random sample drawn from residents lists was abandoned as it will not respond to research needs. Indeed we want to capture those most exposed to the risk; therefore we will rely on risk maps or other documents identifying risk prone areas and/or consider recent flood events. We will interview people exposed and, as far as possible, we will try to match the distribution of demographic variables in the sample with those in the population. The numbers of questionnaires to be collected in each community of the areas of investigations in Italy and Germany will be finalised after further visits, and collection of socio-demographic data and technical risk information

Data collection procedures: The distribution procedure will be adapted to the respective cultural settings. In Italy, trained interviewers will submit the questionnaires face-to-face. In Germany, trained interviewers will distribute questionnaires in the community and collect them a few days later. ISIG and UFZ agreed on using different strategies of administering questionnaires in order to obtain the best results in the respective areas of investigation. The selected strategies are based on long-standing experience of data collection in the respective countries. The UFZ approach results from the post-socialist transition after the 1990s and a long experience in doing empirical field work on site.

3. Appendix

ISIG, partner 33: Work done from project start until mid-June 2005

Our work at ISIG consisted mainly in the collection of some preliminary data and information for sites selection, refinement of themes and concepts as well as quantitative research design. In the following, we describe the main activities already done:

- 1) Various meetings addressed to:
 - selection of sites (partners from the University of Padova);
 - sampling rationale and technical procedures (with colleagues from the University of Trieste);
 - theoretical background and questionnaire preparation (with colleagues from the University of Trieste).
- 2) Exchange of information with statistical offices of the provinces of Trento and Bolzano.
- 3) Data collection for the preliminary description of some candidate sites.
- 4) Focus groups with:
 - officers from provincial services and agencies for civil protection, water resources, and demography: Trento, August 2004;
 - officers from provincial services and agencies for civil protection, water resources and demography: Bolzano, March 2005;
 - officers from provincial services and agencies for civil protection, risk prevention, water resources, hydrology: Trento, April 2005.
- 5) In-depth interviews with the provincial officer in charge of communication activities (Trento, April 2005).
- 6) Colloquium with the head of the association “Psychologists for the people” working in the field of disaster; Trento, June 2005.
- 7) Various visits to different candidate sites.
- 8) Finalisation of site selection criteria and procedures.
- 9) Semi-structured and in-depth interviews with qualified informers in the communities of Vermiglio-Rio Cortina, Ravina, Romagnano, Roverè della Luna (6 – 11 June 2005), including:
 - mayors;
 - parish priests;
 - local experts (in geology, hydrogeology, ...);
 - local civil protection and fireman organizations (in Trentino Alto Adige every community has its own local fireman organization);
 - voluntary organizations working in the field of civil protection.
- 10) Exploratory talks with the municipal offices of Ossana (Cusiano community)
- 11) Informal colloquia with residents in some of the candidate sites (Vermiglio-Rio Cortina, Ravina, Romagnano, Roverè della Luna; 6 – 11 June 2005).

UFZ, project partner 44: Work done from project start until mid-June 2005

Our work at UFZ consisted mainly in the collection of some preliminary data and information. Furthermore, we conducted interviews for selecting the sites and to gather more background information about the potential sites and the most recent flood (2002). Additionally, the relevant literature was reviewed and possible concepts for the questionnaire developed and refined. In the following, we describe the main activities already done:

- 1) Various meetings and interviews to address the following topics:
 - Selection of sites: Interview with representatives of the Staatsministerium für Umwelt und Landesentwicklung and of the Umweltministerium of Saxony;
 - Background information on the site: Interviews with the mayors of Eilenburg, Zschadraß (Erlin) and Großbothen (Sermuth), interviews with representatives of the Landestalsperrenmeisterei (responsible for technical flood protection);
 - Background information on the 2002 flood: Interviews with representatives of the City of Eilenburg, Fachbereich Sicherheit und Ordnung (responsible for disaster protection and management),¹ interview with the chairwoman of the Bürgerverein Karl-Marx-Siedlung (a local community group founded after the 2002 flood).
- 2) Meeting at ISIG to discuss the central concepts and visit potential field sites in the Adige area.
- 3) Data collection for the preliminary description of sites in Germany.
- 4) Finalization of site selection criteria and procedures.
- 5) Additionally, one member of Task 11 will move to Eilenburg for approximately one year to develop stronger ties with local stakeholder allowing analysing more thoroughly the daily interactions there.

¹ As a result of this meeting a strong cooperation between UFZ and the City of Eilenburg was agreed upon. The City of Eilenburg will try to employ a person, who will be solely responsible for collecting documents, maps and protocols of the 2002 flood, and also documents about the local flood protection and mitigation efforts (fire department, disaster protection, Technischen Hilfswerk, spatial planning etc).

Main characteristics	Italy: Adige sites						Germany: Mulde sites		
	Roverè della Luna (TN)	Vermiglio-Rio Cortina (TN)	Romagnano (TN)	Ravina (TN)*	Ossana-Cusiano (TN)*	Vipiteno area (BZ)	Eilenburg	ErlIn	Sermuth
(a) Flood type	Flash flood	Flash flood, debris flow	Flash flood	Flash flood	Flash flood	Plain flood	Plain flood	Plain to flash flood	Plain to flash flood
(b) Flood frequency (rarely = less than once in ten years, sometimes = up to once in ten years)	Rarely (previous floods-major events: in 1774, 1868, 1882, 1945, 1966)	Rarely (previous flood: 1883, 1888, 1917, 1962, 1983)	Rarely-sometimes (previous flood - major events: 1882, 1904, 1942, 1951, 1966)	Rarely	Rarely (1966, 1983, 2000, 2002)	Sometimes (recurrence of 2-5 years)	Rarely – sometimes (Flood frequency 25-50 years floods or extreme floods such as 1771, 1954, 1974, 2002)	Rarely – sometimes (Flood frequency 25-50 years floods or extreme floods such as 1771, 1954, 1974, 2002)	Rarely – sometimes (Flood frequency 25-50 years floods or extreme floods such as 1771, 1954, 1974, 2002)
(c) Community size (population at risk)	1,472	1,583 (Rio Cortina- small fraction of the village: 367)	1,272	2,704	725 (Cusiano – fraction of the village: c.a. 250 inhab./149 families)	5,700 (municipality of Vipiteno) ca. 10,000 inhab. (whole area)	18,000 inhabitants, apprx. 7,500 affected by 2002 flood	About 250	About 500
(d) Existence of technical protection structures	Recent construction	Under construction (high visibility and impact)	Under construction (low visibility)	Under construction (high visibility)	Currently constructed	Currently constructed	Partly protected, currently constructed
(e) Type of community	Village (municipality)	Village (municipality)	Village (district of Trento)	Village (district of Trento)	Village (municipality)	small town	Town	Small village	Small village

Main characteristics	Italy: Adige sites						Germany: Mulde sites		
	Roverè della Luna (TN)	Vermiglio-Rio Cortina (TN)	Romagnano (TN)	Ravina (TN)*	Ossana-Cusiano (TN)*	Vipiteno area (BZ)	Eilenburg	Erlin	Sermuth
(f) last major flood event	2000	2000 (2002: minor event)	2000	1942 (1980: minor event)	2002	2000	2002	2002	2002
(g) mean annual rainfall	Between 700 and 900 (to be specified)	Between 700 and 900 (to be specified)	Between 700 and 900 (to be specified)	Between 700 and 900 (to be specified)	Between 700 and 900 (to be specified)	850 mm	Ca. 700 mm	Ca. 700 mm	Ca. 700 mm
(h) Previous investigations/ interest of media	Investigations on debris flow/flash flood risks. Spotted media interest (only after major events).	Investigations on debris flow/flash flood risks. Spotted media interest (only after major events).	Investigations on debris flow/flash flood risks. Media interest: medium.	Investigations on debris flow/flash flood risks. Media interest: low.	Investigations on debris flow/flash flood risks.	Several previous investigations on hydraulic risks. Great media interest.	Media interest: medium	Media interest: low	Media interest: low
Further information	Main economic activities: agriculture, third sector, craft. Evacuation of the village/no heavy damages.	Main economic activities: agriculture, tourism, building. Evacuation (17 families).	Main economic activities: agriculture, craft, the majority active population works in Trento. Evacuation (500 inhab.)/ several damages after the event.	Main economic activities: agriculture, craft, the majority of the active population works in Trento.	Main economic activities: agriculture, tourism.	Flood risk: important political issue. Bilingual area (c.a. 75% German, 25% Italian)	Most Severely affected locality in the 2002 flood	Heavy damages – some houses demolished after 2002 flood	Heavy damages – some houses demolished after 2002 flood