



RISC-KIT

RESILIENCE-INCREASING
STRATEGIES FOR COASTS - TOOLKIT
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Outcomes of analysis of critical issues for Porto Garibaldi

General findings from interviews and background information

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1st Italian RISC-KIT Stakeholder's Day

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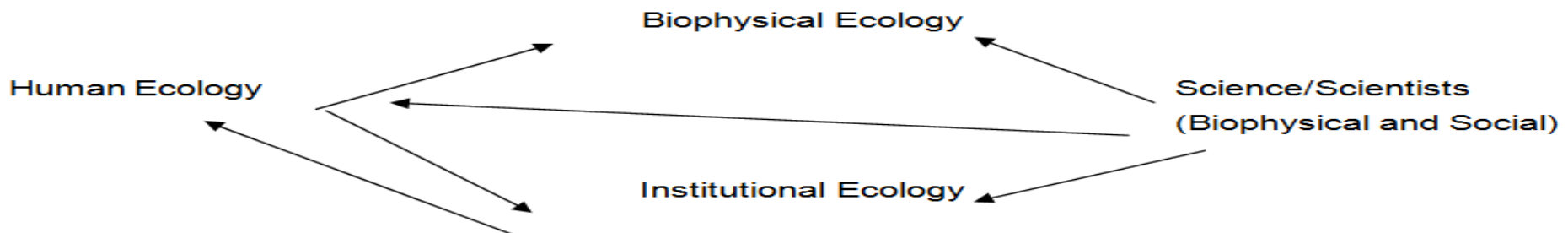
Methods

I Desk-research

- Archival material:
- Records of historic storm floods and eye witnesses reports
- Review of DRR policies and management plans national/local
- Academic and grey literature, raw data and surveys



II Qualitative (narrative) interviews to capture societal aspects (risk knowledge, perceptions, motivations and proposal for DRR measures...)

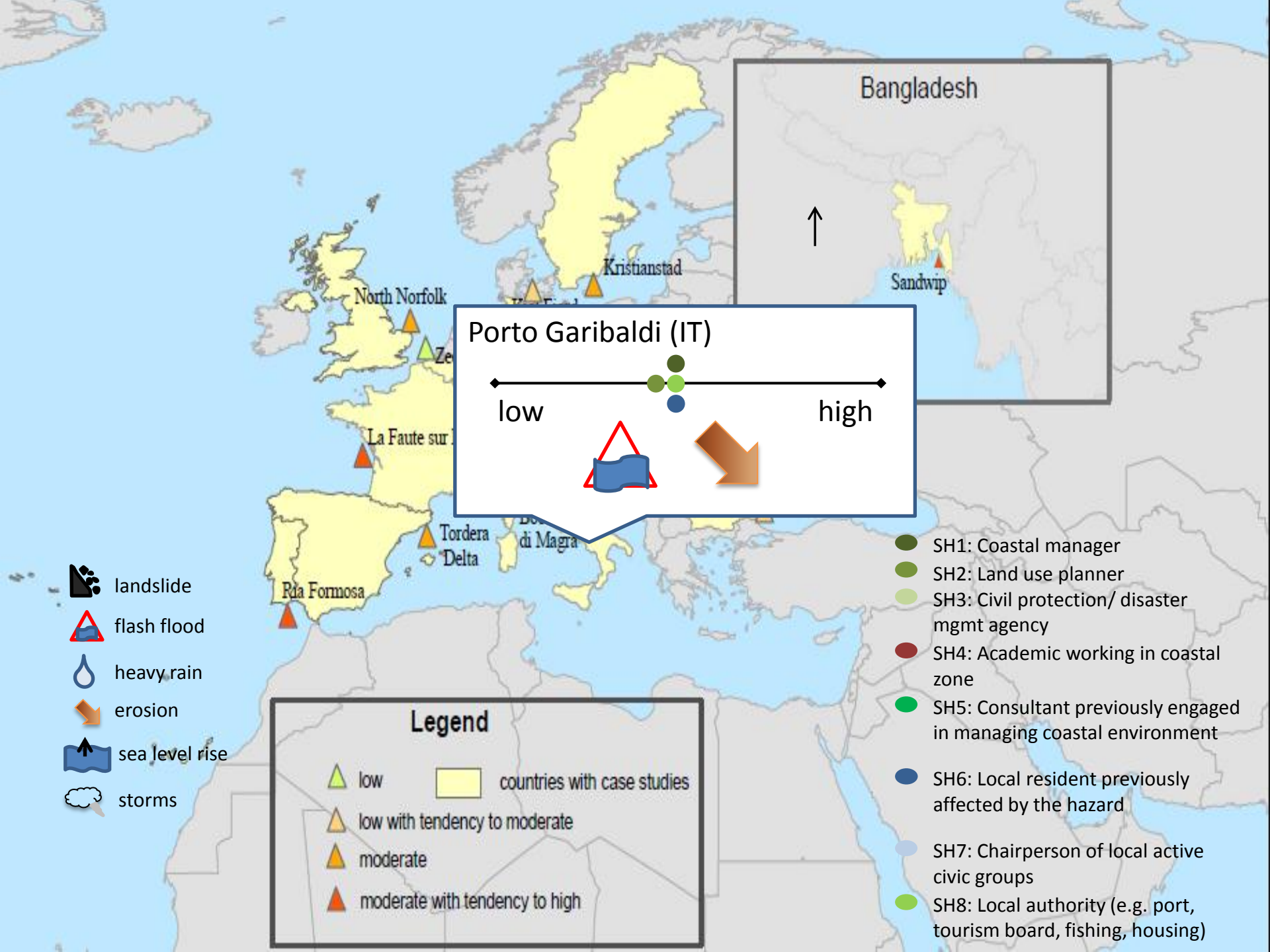


Analysis of Data obtained through Interviews

The screenshot displays the MAXQDA 10 software interface, which is used for qualitative data analysis. The interface is divided into several panes:

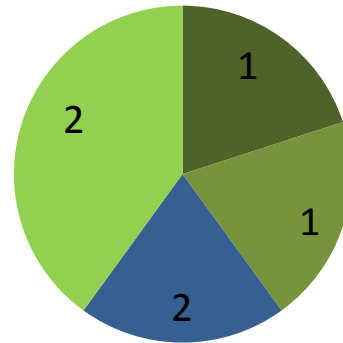
- Document System:** A tree view on the left showing the hierarchy of documents. The 'Documents' folder contains 193 items, including interviews from various locations like Varna, Bulgaria, and Ria Formosa, Portugal. The 'Rui Santos interview' is selected, showing details like 'Bytes: 25648', 'Creation date: 30.06.2014', and 'Number of coded segments: 18'.
- Code System:** A tree view below the Document System showing the hierarchy of codes. The 'Code System' folder contains 193 items, including codes for 'perception of the region', 'activities', 'culture/mentalities/traditions/informal norms, values', 'natural history', 'social history', 'economic and development activities (tourism, agriculture etc.)', 'important but outside core', 'measures', 'mode of governance', 'perceptions of risks (hazards and disasters)', 'physical infrastructure', 'policies, laws, regulations, plans, strategies', and 'recreational activities'.
- Document Browser:** A pane on the right showing the content of the selected document, 'Rui Santos interview'. It displays a list of segments with their corresponding codes. The segments are numbered 12 through 16, and the codes are 'economic and', 'economic and', 'economic and', 'economic and', and 'culture/mentalities/tr'. The text of the segments is visible on the right side of the browser.
- Retrieved Segments:** A pane at the bottom right showing a list of retrieved segments, currently empty.

The status bar at the bottom indicates the current analysis is 'OR combination (standard analysis)' and shows '1 / 1'.



Porto Garibaldi (IT)

Stakeholder Groups



- SH1: Coastal manager
- SH2: Land use planner
- SH3: Civil protection/ disaster mgmt agency
- SH4: Academic working in coastal zone
- SH5: Consultant previously engaged in managing coastal environment
- SH6: Local resident previously affected by the hazard
- SH7: Chairperson of local active civic groups
- SH8: Local authority (e.g. coast, port, tourism, fishing, housing)

Mode of Governance

centralized ————— participatory

low trust in authorities ————— high trust in authorities

unclear roles & responsibilities ————— clear roles & responsibilities

„No good level of sharing information between the local community, and the regional authorities” (SH 8/ local authority)

“So, I can say that the local community is very active and even proactive in undertaking actions to protect their own property and coastlines, as can be seen in the event of winter sea storms.” (SH 6/local resident)



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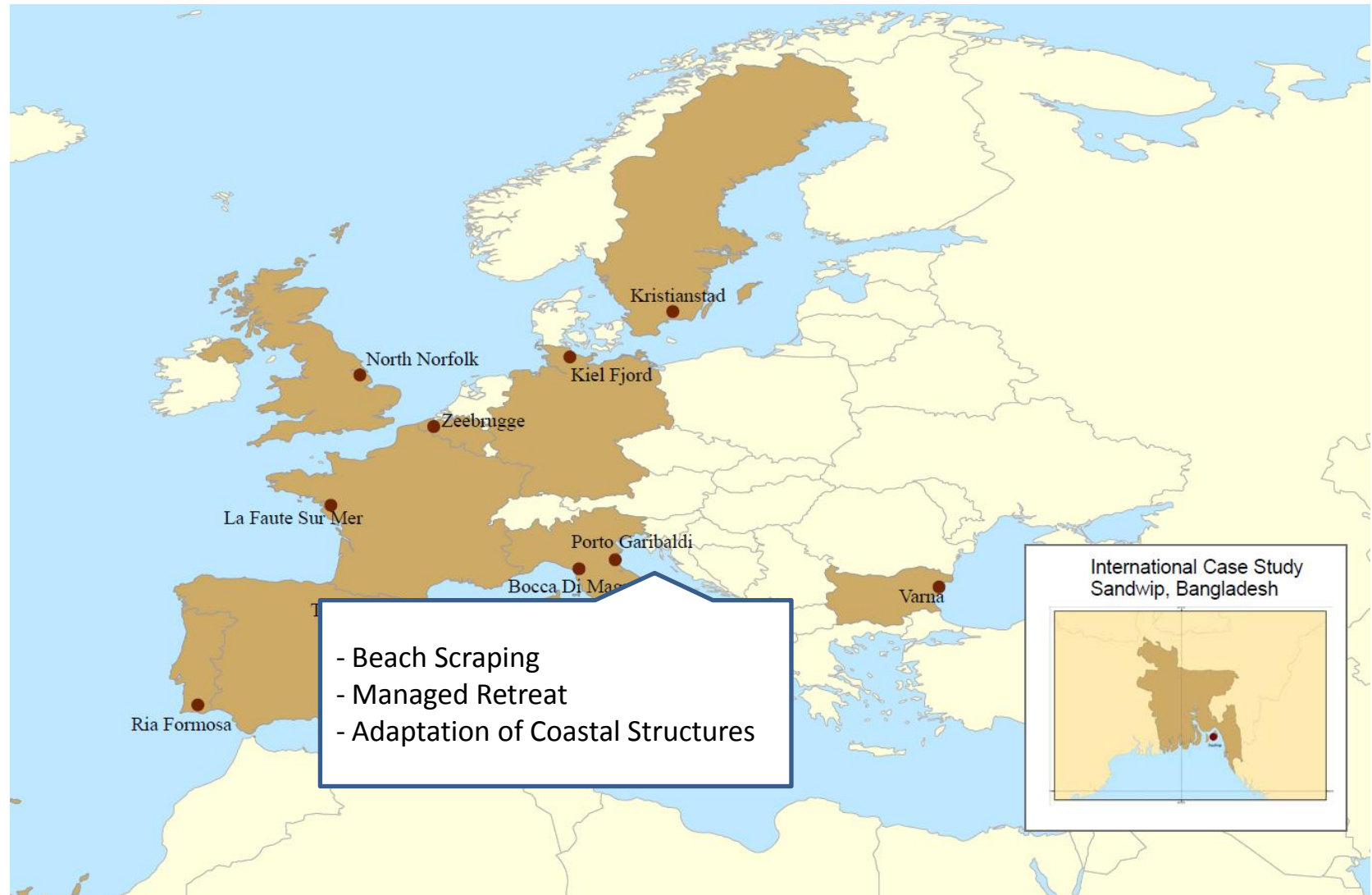
Assessment matrix – Porto Garibaldi

Objectives	Event	Measure	Nature of measure Article 17, Item 1: Either Prevention & Mitigation, Preparedness, Response, or Recovery 2. Other: Health, Exposure, or Vulnerability 3. Either Technical, Policy/Planning, Investigation/Research, or Capacity building/Information 4. Ecosystem based if the measure is of such nature											Benefits of measure (describe in a qualitative way)	Who is mainly responsible for implementing the measure (also mention if the mandate for action is with another actor)	Implementation status of the measure				Funding required (prior stage if possible, then the action, if not, then between high/medium/low)	Cost when public tax money is included (qualitative item)	Local acceptance / local & regional interests (how to measure success? what kind of acceptance (local, national etc.))	Barriers for implementation (e.g. lack of commitment, lack of financial, personnel resources, etc.)	Participatory approach (process forward to implement a measure)	Source						
			Prevention & Mitigation	Preparedness	Response	Recovery	Health	Exposure	Vulnerability	Nature of the measure	Technical	Policy/Planning	Investigation/Research			Capacity building/Information	Ecosystem based	Prevention	Response							Recovery	Investment				
Better protection against flooding	Flooding	Identify new ways of thinking about citizen safety and self-management	X					X	X			X	X							Measure implemented by citizens themselves, and not only by public authorities in charge of local safety	Local and Regional Authorities, NGOs	X			Low	no information	no information	no information	no information	SD 2	
Support the development of mitigation measures		Design structural and non-structural actions that are considered by citizens	X				X				X	X	X							Safe-guard lives and protect socioeconomic investments	Geological Service of the Emilia-Romagna Region, regional authorities	X		X	High/Medium	no information	no information	no information	no information	SD 2	
To improve protection systems		Encourage better building behaviour	X						X						X					Capacity building and awareness rising	Geological Service of the Emilia-Romagna Region, regional authorities	X			Low	no information	no information	no information	no information	SD 2	
To improve protection systems		Buildings located in highly vulnerable areas should adapt to and comply with urban specific safety rules that conform to the hazards that have occurred	X					X	X		X	X	X	X	X					Safe-guard lives and protect socioeconomic investments	Geological Service of the Emilia-Romagna Region, regional authorities	X	X		Low	no information	no information	no information	no information	SD 2	
To improve protection systems		Industries should make investments to build new systems, to improve their technology, to work on the particular coastal zone	X						X	X										Protect socioeconomic investments		X			High/Medium	no information	no information	no information	no information	SD 1	
To improve protection systems		“To operate on several fronts” (e.g. submergible barrier is perfectly fine, but only to be kept the swimming and not for other uses, or long submergible barrier is not suitable in this area)	X				X			X										To provide a holistic approach for improving protection systems	Local and regional authorities	X			High	no information	no information	no information	no information	SD 8	
Better protection against flooding		Create wetlands	X				X			X					X					Better and environmental friendly land planning (safe-guard lives and protect socioeconomic investments)	Local and regional authorities	X			High	no information	no information	no information	no information	SD 8	
Better protection against flooding		Build houses on poles	X					X	X						X					Safe-guard lives and protect socioeconomic investments	Local and regional authorities	X			High	no information	no information	no information	no information	SD 8	
Better protection against flooding		Demolish or retrofit and build raised (both pole and building both) above existing ones, demolish and reconstruct strategically important areas, with proper landscaping elements	X				X	X	X					X						Better and environmental friendly land planning (safe-guard lives and protect socioeconomic investments)	Local and regional authorities	X			Very high (1)	Require large amounts of money and could lead to many conflicts (e.g. citizens not willing to rebuild their houses)	Require large amounts of money and could lead to many conflicts (e.g. citizens not willing to rebuild their houses)	no information	no information	SD 8	
Better protection against flooding		Teach citizens of beach establishments to pull out the electrical cables of building at the risk of flooding and not towards the ground	X					X							X					Capacity building and awareness rising	Local and regional authorities	X			Low	no information	no information	no information	no information	SD 8	
Better protection against flooding		Relocate the down stream the existing (the raised and built) from electric to water supply and the water supply from built and not built from electric power of the city of the area	X				X			X				X						Safe-guard lives and protect socioeconomic investments	Local and regional authorities	X			High/Medium	no information	no information	no information	no information	SD 8	
To improve protection systems		Manage empty spaces	X				X			X				X						To provide an ecosystem based approach		X			Low	no information	no information	no information	no information	SD 8	
Developing municipalities and local authorities		Participatory process for the purposes of the Flood Directive	X						X					X						Capacity building and awareness rising	All regional authorities involved in the flood directive		X			Low	no information	no information	no information	no information	SD 8
Temporary flood protection		Build sand mounds on the beach by beach sweeping	X				X			X										Temporary flood protection for the winter	Owners of beach establishments and municipalities			X		Medium	Especially high impact on the environment (Lugger of the beach (Perry et al., 2012))	no information	no information	no information	SD 8
Improve knowledge on flood protection measures		Guidelines on self-protection measures (e.g. beach sweeping) so that impacts are not worsened	X	X			X					X	X							To avoid negative impacts	Regional and local authorities	X				Low	no information	no information	no information	no information	SD 8
Better protection against flooding		Quarry “regeneration” and ecological compensation in the urbanised areas, moving towards and relief from the coastline	X				X	X		X				X						Local community and the regional authorities	Local community and the regional authorities	X	X			Very high	no information	no information	no information	no information	SD 8
Better protection against flooding		Protect the mouth of the Porto Garibaldi navigation channel with hard defence structures to dissipate the wave energy	X				X	X		X										protect socioeconomic investments	Local and regional authorities	X				High	no information	no information	no information	no information	SD 8



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DRR Measures for Porto Garibaldi



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SH for planning/implementation

SH1: Coastal manager: Regional Coast and Land Protection Service, Po di Volano River Basin Technical Service, Regional Hydro-Meteorological Service, ARPA-SIMC

SH2: Land use planners: Regional Geological Service, SGSS

SH3: Civil protection agency/disaster management agency: Regional Civil Protection Office and Fire Brigade

SH5: Consultant previously engaged in managing the coastal environment: Po Delta Regional Park; Forest Rangers

SH6: Local residents previously affected by the hazard (several residents and entrepreneurs-residents of Porto Garibaldi)

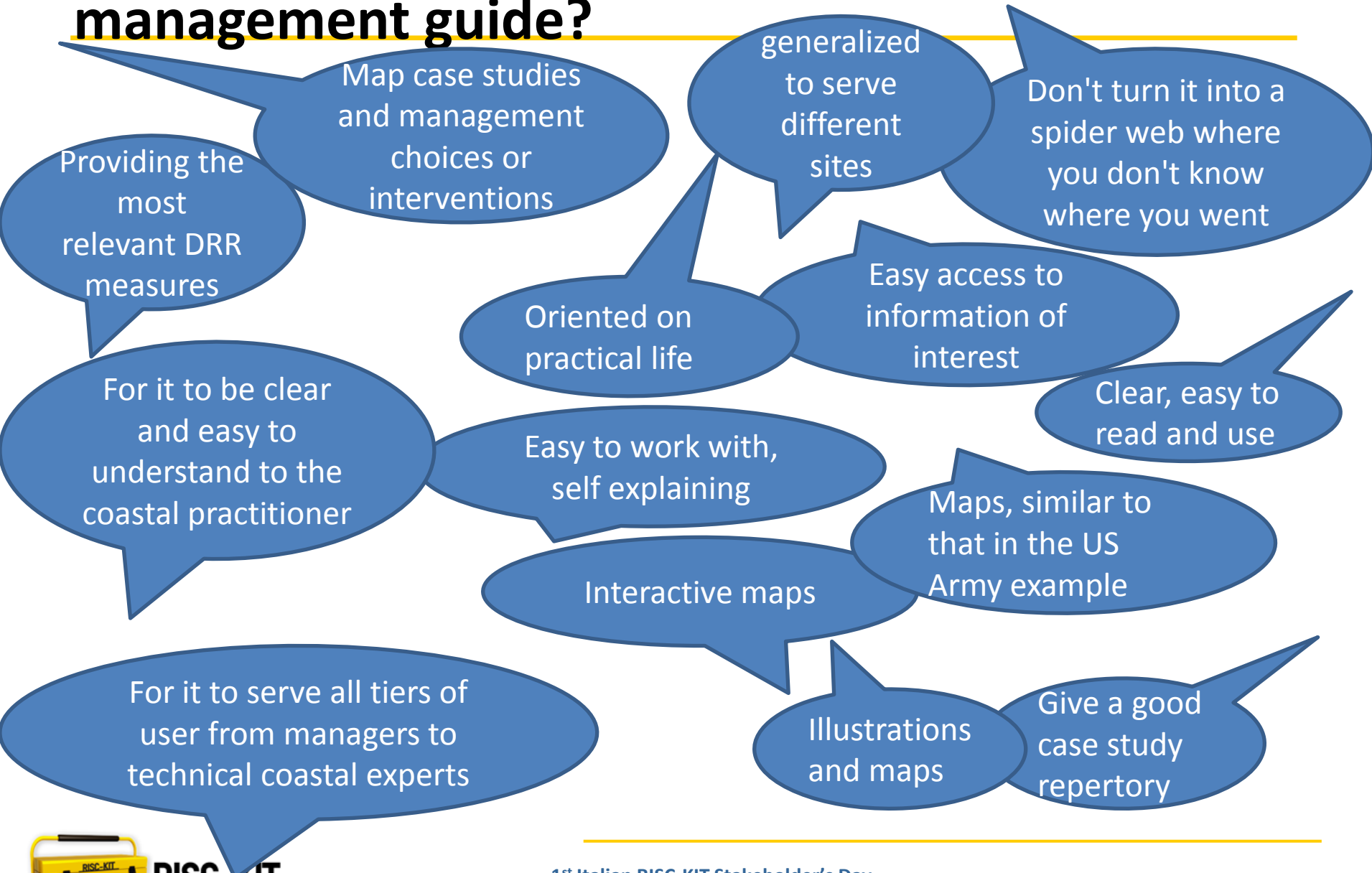
SH8 Local authority: Consortium of Economic Activities – Confesercenti

Web-based management guide

RISC-KIT Description of Work (DOW)

- Highlight key principles in design and implementation of DRR measures
- Provide practical illustrations and examples of prevention, mitigation, and preparedness measures
- Provide tools to aid the structural development of DRR plans

What is your personal wish for our management guide?



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Mille grazie per il Suo attenzione!

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