

Common template for risk assessment and management operational tools and best practices identification (Action B1)

Title: Operational Tools and Best Practices for Risk Assessment and Management

The identification of tools and best practices on risk assessment and management helps providing an idea of the state of the art in the field. By completing this form, the best practice will be included in the knowledge repository platforms and available for the practitioner community to use. We encourage the user to complete as many fields as possible from the template in order to provide the most relevant information needed to apply the best practice to other practitioners. Instructions:

- Blue boxes are mandatory fields
- More than one item can be selected in multiple choice boxes

Document classification

Title	Multiplatform alert system
Description <i>[1 sentence]</i>	Multiplatform alert system to deliver bulletins of meteorological and hydro-hydrogeological risk.
Country, location	Italy, Sardinia
Date	2015 ongoing
Contact e-mail	protciv.pianificazionegestioneemergenze@regione.sardegna.it
Institution	Regione Autonoma della Sardegna - DG Civil Protection
Net Risk Work Partner	DGPC RAS
Document type	Website or portal
Language	<input type="checkbox"/> Catalan <input type="checkbox"/> English <input type="checkbox"/> French <input type="checkbox"/> German <input checked="" type="checkbox"/> Italian <input type="checkbox"/> Spanish <input type="checkbox"/> Other
Source/origin	<input checked="" type="checkbox"/> Partner's expertise <input type="checkbox"/> Expertise from the network <input type="checkbox"/> Other (internet)

Topic

Area	<input type="checkbox"/> Risk assessment	<input type="checkbox"/> Risk Planning	<input checked="" type="checkbox"/> Risk Management
Risk	<input checked="" type="checkbox"/> Wildfires	<input type="checkbox"/> Fire behaviour patterns and typologies <input type="checkbox"/> Fire ignition and spread models <input type="checkbox"/> Wildland urban interface	<input type="checkbox"/> Fuel management <input type="checkbox"/> Fire service needs <input type="checkbox"/> Prescribed burning <input checked="" type="checkbox"/> Other <i>[Perception, culture of risk and communication]</i>
	<input type="checkbox"/> Storms	<input type="checkbox"/> First measures after storm <input type="checkbox"/> Work safety during salvage logging <input type="checkbox"/> Timber storage and cost containment <input type="checkbox"/> Forest protection and pest control	<input type="checkbox"/> Regeneration and afforestation <input type="checkbox"/> Preventive silvicultural measures <input checked="" type="checkbox"/> Other <i>[Perception, culture of risk and communication]</i>
	<input type="checkbox"/> Avalanches	<input type="checkbox"/> Technical protective measures <input type="checkbox"/> Maintenance of protection forests	<input type="checkbox"/> Other <i>[Introduce which ones]</i>
	<input checked="" type="checkbox"/> Floods	<input type="checkbox"/> Prevention through land use management <input type="checkbox"/> Technical protective measures	<input checked="" type="checkbox"/> Other <i>[Perception, culture of risk and communication]</i>
	<input type="checkbox"/> Other		<i>[Introduce which ones]</i>



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Cross-sectoral topics	<input type="checkbox"/> Risk and vulnerability assessment and mitigation <input type="checkbox"/> Cost-effectiveness assessment <input type="checkbox"/> Civil protection, emergency and post-disaster management	<input type="checkbox"/> Risk planning, governance and policy framework <input checked="" type="checkbox"/> Community involvement and risk communication <input type="checkbox"/> Other: [Introduce which ones]
Level	<input type="checkbox"/> Local <input checked="" type="checkbox"/> Regional <input type="checkbox"/> National <input type="checkbox"/> Cross-border <input type="checkbox"/> EU <input type="checkbox"/> Global	
DRM cycle phase	<input checked="" type="checkbox"/> Prevention <input checked="" type="checkbox"/> Preparedness <input checked="" type="checkbox"/> Response <input checked="" type="checkbox"/> Recovery	
DRM domain	<input checked="" type="checkbox"/> Policy making <input type="checkbox"/> Early warning system <input type="checkbox"/> Disaster response	
Sendai priorities	<input type="checkbox"/> Priority 1: Understanding disaster risk <input type="checkbox"/> Priority 2: Strengthening disaster risk governance to manage disaster risk <input type="checkbox"/> Priority 3: Investing in disaster risk reduction for resilience <input checked="" type="checkbox"/> Priority 4: Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction	
Contribution to Sendai Targets	<input checked="" type="checkbox"/> Reduce global disaster mortality <input checked="" type="checkbox"/> Reduce the number of affected people <input checked="" type="checkbox"/> Reduce the direct disaster economic loss <input checked="" type="checkbox"/> Reduce disaster damage to critical infrastructure <input type="checkbox"/> Increase the number of national and local disaster risk reduction strategies <input type="checkbox"/> Enhance international cooperation to developing countries <input checked="" type="checkbox"/> Increase availability of and access to multi-hazard early warning systems and disaster risk information and assessment	

Description and analysis

<p>Summary: quick presentation of the Good Practice <i>[Objective: summarize in a few lines the key elements of the good practice]</i></p>
<p>Place in national/regional policy <i>[Mentioned in the law/regulation/guidelines? Mandatory? Recommended?]</i></p> <p>The alert system framework is structured in a way that it follows the regional resolution DGR 26/12, dated May 2016. Such resolution approves the transmission mode to deliver the meteorological bulletin, the hydrogeological and hydraulic criticality bulletin, the meteo and hydro alerts through the civil protection website. Moreover, the hydraulic and hydrogeological bulletin is also uploaded in the national website. Reference for the management of alerts when phenomena are ongoing, is the DGR 59/22 dated November 2016.</p> <p>On the basis of Regional plan for prediction, prevention and active fight against forest fires valid for the three-year period 2017-2019 is implemented a similar procedure to spread the wildfire hazard bulletin. <i>[free text – 5 lines max]</i></p>
<p>Goals and achievements <i>[Objectives, goals and the achievements of the Good Practice]</i></p> <p>The aims of this resolution is to facilitate the spread of alert messages. So, mayors can alert citizens quickly about potential risks and alert civil protection apparatus. For these reasons the resolution provides also the list of the actors involved in the public bodies to alert to. To achieve in time this goal, at least six hours of advantage is scheduled. <i>[free text – 5 lines max]</i></p>
<p>Actors involved <i>[Explain who is involved in the development: practitioners, stakeholders, educators, ...]</i></p> <p>The actors involved are the following:</p> <ul style="list-style-type: none"> - Region Sardegna Civil Protection staff members from the three Services 1) Risk forecasts and information systems, infrastructures and networks 2) Emergency planning and management Service 3) Programming, legal and financial affairs, communication and training Service; - Civil Protection associations and local volunteers of the territories; - All the bodies of the Government at Regional Level;

- Local municipalities;
- Law enforcement at different levels;
- Prefectures;
- Land improvement consortia;
- Power company;
- National Autonomous Roads Corporation;
- Railway company;
- Press

All the population is involved in the alert communications.

[free text – 5 lines max]

Implementation stage *[Is it operational? Since how long? Is it a pilot experiment?]*

The implementation phases are ongoing, which means that the started point of the multiplatform alert system is often under review and improved by the Decentralised Functional Centre (CFD), involved in the dissemination strategy of the alerts. The multiplatform is based on three systems:

- Institutional web page alert
- Sirsam (this software permits to send sms e-mail and pec)

ZeroGIS (even this web portal permits to spread alert bulletin)

[free text – 5 lines max]

State of technical knowledge *[state of the art and technical background of the Best Practice]*

The technical implementation is crucial to maintain and update the system. The latest technologies are used, cause of the technological software advance and hardware improvement. Different operative systems are used and the compelling methods to reach all of recipients.

[free text – 5 lines max]

Context *[regulatory, socio-economic, political]*

Regulatory speaking, national and regional regulations to move forward municipalities requirements represent the official body to refer to. Many entitled bodies legislate to promote the public safety. In accordance with the regional issues of civil protection statements, Regulation DGR 53/25 dated 29.12.2014, DGR 26/12, dated 11.05.2016, DGR 59/22 dated 3.11.2016 regulates activities. *[free text – 5 lines max]*

Detailed Characteristics *[Objective: detail the implementation conditions of the Good Practice]*

Description of the implementation steps *[different stages in the implementation process, duration]*

The steps followed the regulatory evolution. From 2015, year of establishment of CFD, several improvement steps have been made to adapt the alert system to the legislation. Furthermore, the system guarantees to reach the critical mass of bodies interested. First of all, the communication starts with the web page publication in the institutional web site of the Regional Civil Protection. The online publication is mandatory to be published daily and, in case of “out of order” of the web site, ZeroGIS provides the dissemination of the bulletins. This approach is active toward the mayors and more generally towards institutions involved. Moreover, the Sirsam allows to reach through sms, email and pec, when the web site is not working properly, to alert the actors involved, as listed in regulation DGR 53/25. *[free text – 5 lines max]*

Governance *[responsible authority and roles of the different actors involved]*

Responsible of the governance is the “Risk forecasts and information systems, infrastructures and networks” Service. The Service must deliver the bulletins, particularly the alert, because of the forecast phase, at least 6 hour before the event. During the alert, it must deliver the monitoring analysis report every 3 hour (every hour with regards to data registered from the field, levels in rivers, height of rain in rain gauges) *[free text – 5 lines max]*

Necessary means to implement the Good Practice in efficient conditions *[human resources, materials, financial...]*



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Tools and software have been developed by a request for proposal (RFP), addressed to private companies. The request of proposal has been written by officers involved in CFD (Regional Centre for Risk Forecast) in a jointly effort to provide better solutions, and technically aware of the centre needs for an efficient communication system.

Challenges encountered during implementation and solutions incurred
 Several challenges have been faced during the system application, for instance, how to deliver the sms messages and networks used. A duplicity of the phone service has sometimes solved the slowness of delivering the sms alerts. *[free text – 5 lines max]*

Priorities identified for successful implementation of the Good Practice
 The recipients of the bulletins and alerts should be aware of the meaning of the document published by the CFD (Our regional centre). This means a further activity to make more comprehensive the message, or simplify the messages, as much as possible. Meetings ad hoc have been scheduled for the actors involved, in order to explain the meaning of bulletins. *[free text – 5 lines max]*

Impact of the Good Practice *[Objective: evaluate the impact of the Good Practice].*

[Added value on decision processes, on national policies or regulations, on relationship with stakeholders, etc.]

It has been noted that the public bodies, such as municipalities and actors involved, are more inclined to understand the risks and willing to do their best to manage the situation. *[free text – 5 lines max]*

Future developments *[Objective: understand the follow-up perspectives]*

[Continuation, future improvements,]

An app is going to be released by the Directorate General of Civil Protection, to allow people to be informed and consciously aware of the incurrent risks, if any, through their cell phones. *[free text – 5 lines max]*

External resources *[Objective: provide further information]*

Attached materials *[include format (document, photo, video...) and name of the file]*

Web links
<http://www.sardegnaambiente.it/protezionecivile/>
<http://server.zerobyte.it/zbdati/regsardegna/ReIndex.jsp>

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[Additional information - optional]

Lessons learnt *[Objective: compare the results obtained to the objectives set at the start of the Good Practice]*

Evaluation process, if exists (internal or external)

<p>A qualitative evaluation is ongoing by the students that participated in the training course. The evaluation will be conducted through the provision of specially prepared questionnaires. <i>[free text – 5 lines max]</i></p>
<p>Assessment of results (quantitative and qualitative) and comparison with main goals Quantitative speaking, only a questionnaire, together t-test about the result, can assess the results. Qualitative speaking, it can be said that the message reached the people and the same have enlarged the knowledge of the phenomenon <i>[free text – 5 lines max]</i></p>
<p>Negative aspects identified Sometime the lack of the knowledge of the government bodies, which are responsible of the population safety <i>[free text – 5 lines max]</i></p>
<p>Unexpected consequences (short / mid / long term) and corrective measures implemented The CFD is shortly opened and it is waiting to calibrate the corrective measures to fit a good dissemination plan and communication system <i>[free text – 5 lines max]</i></p>

<p>Durability and transferability <i>[Objective: evaluate the integration of the Good Practice and its sustainability, give recommendations for transferability]</i></p>		
<p>Is this information:</p>	<p>Replicable <input checked="" type="checkbox"/></p>	<p>Measurable <input type="checkbox"/></p>
<p>Regulatory Framework Regulation DGR 53/25 dated 29.12.2014, DGR 26/12, dated 11.05.2016 and DGR 59/22 dated 03.11.2016 <i>[free text – 5 lines max]</i></p>		
<p>Stability of the human environment <i>[Stability of partnership, structures, population enabling successful implementation and positive impact in the long term]</i> <i>[free text – 5 lines max]</i></p>		
<p>Financial requirements <i>[business model]</i> Financial funds are provided by the regional government, through regional and national funds. Research, aimed to implement the system is also provided by EU funds. Several financial tools are expected in the near future. <i>[free text – 5 lines max]</i></p>		
<p>Success factors <i>[political, technical, human, financial...]</i> To understand how to deliver the message. Language and phrases construction are the best tools to the success communication. This means that short phrase with emphasis amplifies the message to be sent. Financial factors are always to be listed in the success of the multiplatform alert system, due to the technological progress <i>[free text – 5 lines max]</i></p>		
<p>Risk factors <i>[legal, financial, safety...]</i> Financial funds should be considered the activation spring to reduce the risk, especially in the technological progress. The speed to reach the population is always a key to let them safe. <i>[free text – 5 lines max]</i></p>		
<p>Additional and non-formal experiences contributing to the implementation of Good Practice <i>[free text – 5 lines max]</i></p>		