SEC-2010.4.1-1
AFTERMATH CRISIS MANAGEMENT – PHASE I
- ACRIMAS -

D4.2 GAP ANALYSIS REPORT

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1 Executive summary

The ACRIMAS project is dedicated to providing comprehensive advice the European Commission DG ENTR in preparation of their call for a Demonstration Project on Aftermath Crisis Management[1], as well as on future research and development activities within this area.

As part of this effort, ACRIMAS has carried out a wide inventory of improvement needs in the area of Aftermath Crisis Management, which will be the basis for identifying priority topics for the Demonstration project and other upcoming research.

The inventory of improvement needs has been carried out from an end-user perspective. The methodology used is a combination of different stakeholder consultation methods, and improvement needs presented are those that have been reported as important by the stakeholders consulted.

This report describes the process followed in this activity.

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[1] For a definition of Aftermath Crisis Management, see section 2.1.3

2 Introduction

2.1 The ACRIMAS project

2.1.1 ACRIMAS objectives

ACRIMAS is a 15 months Support Action with 15 partners from 10 European countries, in which a roadmap is developed for an upcoming Demonstration Project (in Phase II) within Crisis Management (CM).

This roadmap will elaborate a systematic development process for CM systems, procedures and technologies in Europe, to be implemented within the demonstration project.

The process aims for gradual evolvement of CM capabilities through demonstration and experimentation (DE) activities, transfer of related knowledge between stakeholders and by promoting an environment for co-development of CM technology and methodology where users, providers and researchers work together.

ACRIMAS further emphasises community-building which will be considerably supported by the execution of the subsequent Phase II, bringing together the various key stakeholders and the available DE infrastructures in a case-by-case demonstration or experimentation activity.

2.1.2 ACRIMAS work approach

Large-scale incidents (man-made and natural) inside and outside the EU require a coordinated response from crisis managers and first responders across Europe and with resources from all levels of government. Currently, CM in the EU can be regarded as a highly diversified

„system-of-systems" integrating organisations and components with different cultures, policies and assets, and various stakeholders and procurement schemes.

To identify the critical areas and topics within this current CM „system-of-systems" which need to be addressed by the demonstration programme in Phase II, ACRIMAS follows a scenario-based and user-centric work approach.

ACRIMAS is scenario-based in the sense that characteristic CM scenarios will be identified, selected and developed to constitute a sound basis for ensuring the work of posing user needs and requirements, identifying current weaknesses and gaps in CM in Europe, looking at potential solutions and documenting corresponding demonstration topics and R&D needs to be integrated in a roadmap for Phase II. The scenario approach embraces an all-hazard view, including the EU external dimension.

ACRIMAS is user-driven in the sense that users and other stakeholders in terms of first responders, authorities and governmental bodies as well as the supply side are actively involved throughout the project process, some of them as full partners, most of them linked to the project through a supporting Expert Group and dedicated project workshops. They play a central role in complementing and validating the scenario analysis by expressing their needs and requirements regarding the identification of relevant CM topics, which should be addressed by DE activities in Phase II, and the demonstration concept to be elaborated.

2.1.3 Terms used and their understanding in ACRIMAS

According to the call text of SEC-2010.4.1-1 "Aftermath crisis management – Phase I", the ACRIMAS project has to focus on 'aftermath crisis management' as it was outlined, i.e. that it covers the response to large-scale disasters (man-made and natural) inside and outside Europe. However, the ACRIMAS project felt the need to briefly state its common understanding of the relevant terms used to achieve a common understanding, as in particular in the scientific community the term "crisis management" not necessarily need to be understood as "disaster response". Consequently, the ACRIMAS project referred to terms and definitions as provided by ISO in its TC on Societal Security (TC 223):

- **crisis:**
  incident affecting a society with the potential to cause loss or damage to persons, property or the environment which requires extraordinary coordination, resources, and skills in response
- **crisis management:**
  process of planning and implementing measures aimed at preventing, reducing, responding and recovering from a crisis
- **disaster:**
  a situation where physical damage or loss of life have occurred which exceeded the ability of the affected organization, community or society to cope using its own resources
- **(disaster) response & recovery:**
  - *Response*: measures taken during or immediately after a disaster to meet the immediate needs of the affected and minimising the impact on the incident
  - *Recovery*: activities designed to return conditions to an equivalent level acceptable to society
- **"aftermath crisis management"** (ACRIMAS understanding):
  the response to & recovery from large-scale disasters (man-made or natural) inside and outside Europe, including the preparation for response and recovery.

2.1.4 ACRIMAS expected results

ACRIMAS will prepare a roadmap setting out the main areas and relevant topics of CM to be addressed by the Phase II. In addition, ACRIMAS will deliver a demonstration concept for Phase II, describing how and where the DE activities in Phase II should be conducted.

2.2 The present report

This document presents the methodology followed to carry out the mapping of improvement needs[2] carried out within ACRIMAS Work package 4 (Gaps & Requirements Analysis)[3] and outlines the improvement needs identified.

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[2] In the ACRIMAS DoW, WP3 description, it is stated that it "includes a gap analysis (where) current and anticipated gaps and needs" will be identified. During the execution of the stakeholder consultations in WP4, resulting in this report, it was decided for the purpose of clarity and coherence to use the broader term "improvement needs" only.

[3] cf. ACRIMAS Grant Agreement No. 261669, Annex I "Description of Work", section WT3 work package description, p. 12 ff.

It forms the second deliverable of work package 4. The first deliverable, D4.1, provided an overview on relevant crisis management organisations, capabilities and procedures.[4]

The upcoming deliverable D4.3 will present the identified improvement needs in detail.
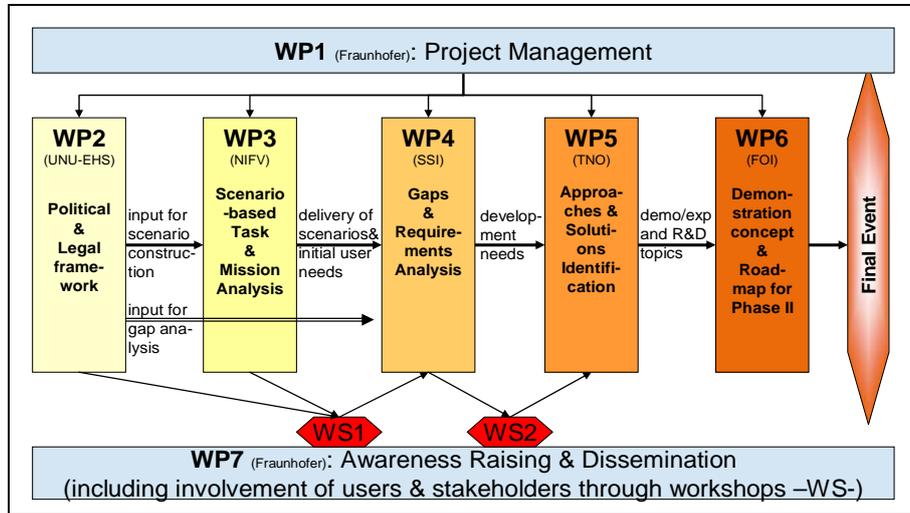
Figure 1 – The ACRIMAS Work approach

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3 Methodology

3.1 Approach

The methodological approach of work package 4 was chosen to fit the overall logic of the ACRIMAS project. Work package 2 (Political & Legal Framework) and work package 3 (Scenario-based Task & Mission Analysis) context-building activities within their respective areas. This is followed by work package 4 and works package 5 which will look for needs and solutions respectively, which essentially corresponds to the demand and supply perspectives.

Thus, the task of WP4 is to view development needs within disaster management from the end-users perspective, and to identify areas or topics where development is important and research, development and demonstration activities could provide benefit.

For this reason, a stakeholder consultation approach was chosen. This means the identification of improvement needs has been driven by consultations with end-users in different forms.

The consultations provided a basic overview of what areas are perceived as being in need of development by the end-user community, as well as an indication of how critical different areas are considered to be.

These areas were further investigated and described by ACRIMAS. Finally, these descriptions were checked for completeness and correctness by validation interviews and document reviews.

The methodology used is described in more detail in the next section.

3.2 Detailed methodology

An overview of the Work package 4 methodology for the improvement needs identification can be found in fig 1. As depicted there, the work has consisted of the following steps:

1. The initial activity in WP4 was to define and demarcate the problem area to be addressed and to break it down into subareas, in preparation of the consultation process. The European Commission expectations, as expressed in the call to which ACRIMAS responded, were analyzed, followed by a review of the project proposal. Outputs from WP3, in particular the initial findings on areas with likely improvement needs from WP3 workshop[5] on "Disaster scenario selection and characterisation"[6], were incorporated. Scoping and subareas were discussed in a project internal meeting. Then, key sub-areas were identified and formulated as consultation questions. This material was distributed to the consortium partners and was refined in a number of iterations.

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[5]   Brussels, 10 June 2011
[6]   cf. Ralf Beerens, Martina Duyvis, Ronald Heus et al, ACRIMAS D3.1 "Threat/Hazard Map for EU Crisis Management" and D3.2 "Scenario Proposal Report", v2.0, 25 January 2012

2. Respondent identification was carried out by identifying a number of categories of stakeholders which need to be consulted. The ACRIMAS contact list was used as a basis, and was sorted according the identified categories. Consortium partners were asked to provide further respondents, which was done primarily by consortium partners NIFV and PSCE. The respondent list was reviewed for comprehensiveness in terms of responder categories and further stakeholders were identified to fill the gaps. Furthermore, all national PoC (point of contact) agencies for the MIC (Monitoring and Information Centre) of the EC were added to the respondent list.

3. Based on the problem scoping, consultation protocols were developed to serve as basis for questionnaires and interviews. The questionnaires were developed around a core of about 10 open questions to which the respondents were asked to provide written answers to. The questionnaires were produced in three different variants to better suit different categories of stakeholders. The interviews were designed as semi-structured interview, using the same core questions but complemented with exploration guidance and with further questions added on a case-to-case basis, to draw upon specific competencies of the respondents.

4. Questionnaires were provided by a web-based system and by word documents distributed via email. Responses were managed in accordance with applicable law on the protection of privacy.

5. Interviews were carried out by different partners. The interviews were documented using text reports.

6. In preparation of the workshop[7], a revised scoping effort was carried out. This was done through a project-internal workshop. The purpose of this effort was to identify suitable sub-areas to form sessions in the workshop. Due to the limited time available in the work-shop, this involved a prioritization. This was primarily based on knowledge gained from the questionnaire answers.

7. Based on the revised problem scoping, the workshop was planned and carried out. It was designed as a half-day 'Introductory presentations'-part and a half-day 'Workshop'-part. The Workshop-part consisted of three parallel sessions of moderated brainstorming around the three prioritized thematic clusters: "Coordination and Command", "Communication and Information exchange" and "Awareness and Assessment"), followed by a joint reporting and discussion session. The outcome of the parallel sessions was documented by dedicated ACRIMAS rapporteurs.

8. All material from the questionnaires, the interviews and the workshop was put into a consultation repository. The responses were clustered into thematically similar categories, and by iteration of this process, a preliminary list of topics on improvement needs of disaster management were identified.

9. All topics were further investigated by using literature and fact-finding interviews. Based on this, textual descriptions were developed, in the format that can be found in chapter 3 of this report.

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[7] This workshop was the 2nd ACRIMAS Project Workshop "Current gaps and needs in crisis management in Europe"

10. The topics and their descriptions were discussed in validation interviews and were provided for review to stakeholders. This process was based on a set of validation questions. The feedback was gathered and incorporated into the report, resulting in a final list of validated topics with identified improvement needs in disaster management, which are described and discussed in detail in this report.
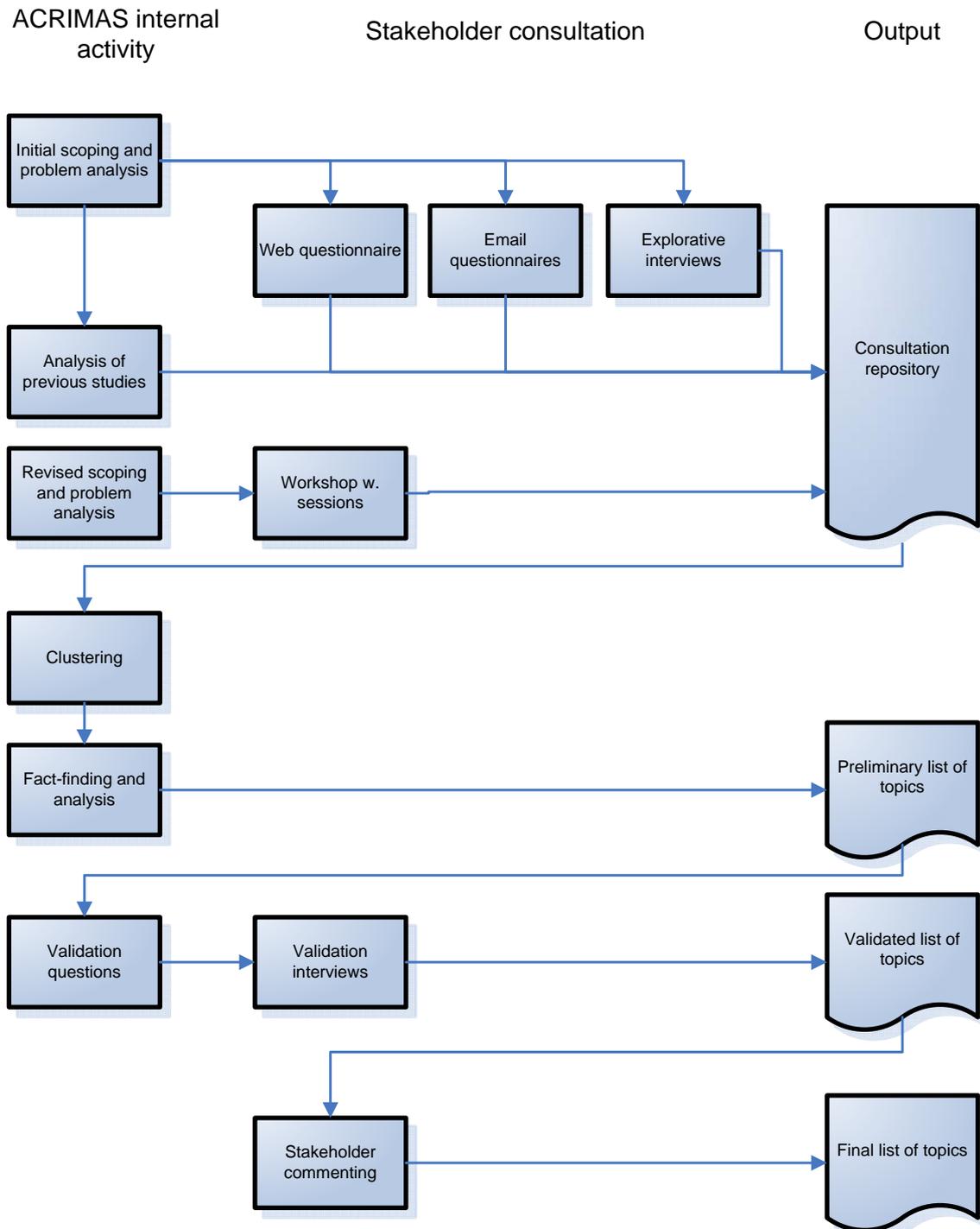

Figure 2 – The consultation process

3.3 The respondents

In total, approximately 150 respondents have participated in the three ACRIMAS activities (questionnaires, one workshop and interviews) within the WP4 stakeholder consultation campaign. Among these, approximately 120 respondents represent operational agencies, in the sense that they are a direct part of the disaster management system[8]. Since the purpose of the ACRIMASWP4 is to gather improvement needs as they are perceived by end-users, the priorities of the topics is based on the responses from the operational agencies[9]. Input provided by non-operational respondents has also been analyzed and taken into account, but before including topics based on their answers, support has been sought from operational respondents.

The questionnaire was answered by 46 operational respondents, the workshop included approximately 40 participants from the operational domain and interviews have been carried out, in person or by telephone, with around 35 people. Efforts have been undertaken to ensure a balance between different kinds of organisations, different services and different nationalities[10] in the stakeholder consultation. The following charts provide an overview of the composition of the respondent cohort.
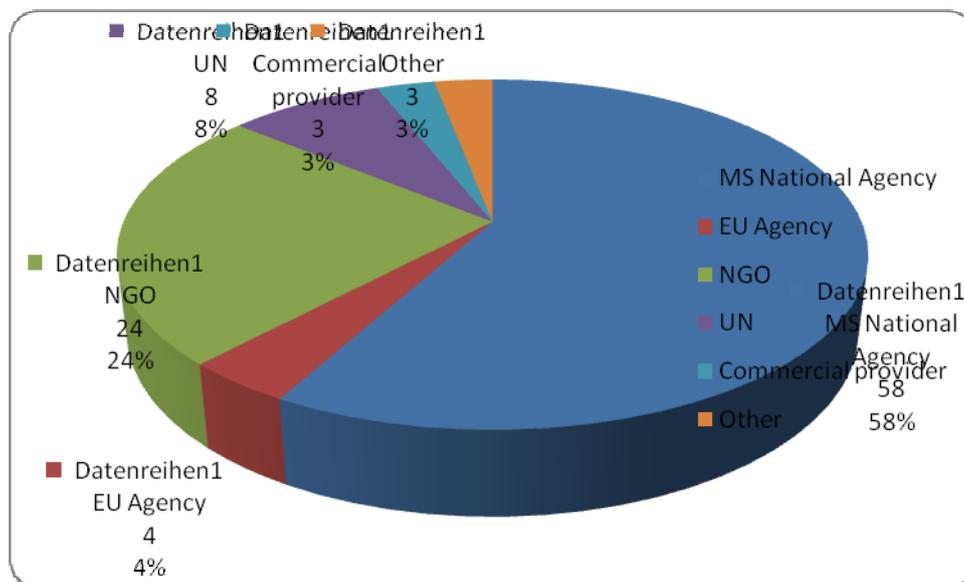

Figure 3 - Distribution of respondents in terms of type of agency

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[8]   The assessment of which agencies are operational has been carried out by ACRIMAS. The criterion used is that an agency is operational if it in any way participates directly to the relief or recovery phases, and if it participated in the preparatory phase in any of the following roles: policy, planning, coordination, training, assessment, funding, certification or in roles similar to this. Organisations that provide systems or technology to operational agencies have not been considered as operational.

[9]   Note that the ACRIMAS Work package 5 will analyse solutions and approaches. The perspective of the systems providers and other supply-side organisations will therefore be taken into account there.

[10]   Invitations to contribute were sent to all member states official points-of-contacts for the MIC. Further stakeholders were invited personally from almost all member states. In addition, stakeholders from Iceland, Bosnia-Herzegovina, Moldova, Serbia, Russia, USA, Norway, Switzerland and Nepal were invited to contribute.
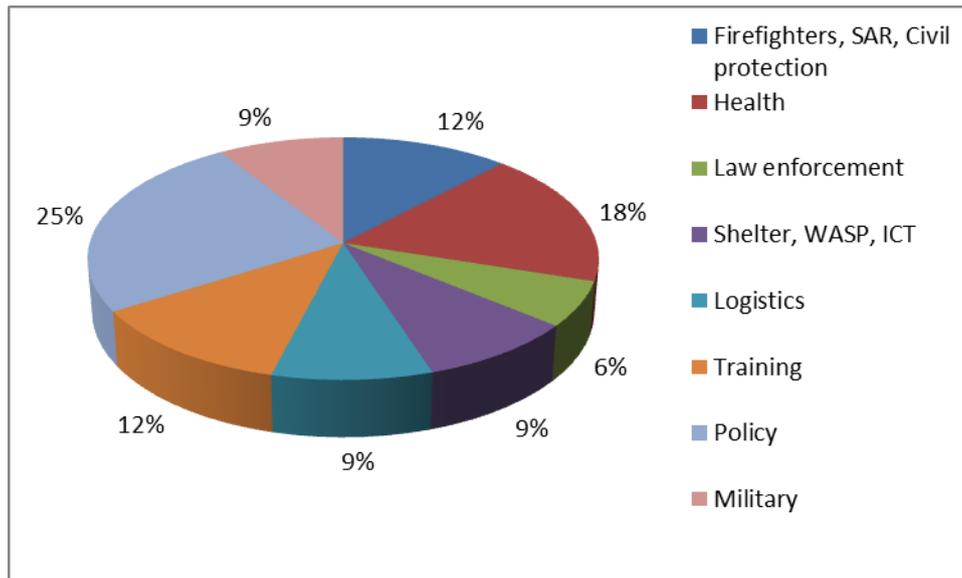
Figure 4 - Distribution of respondents in terms of type of service
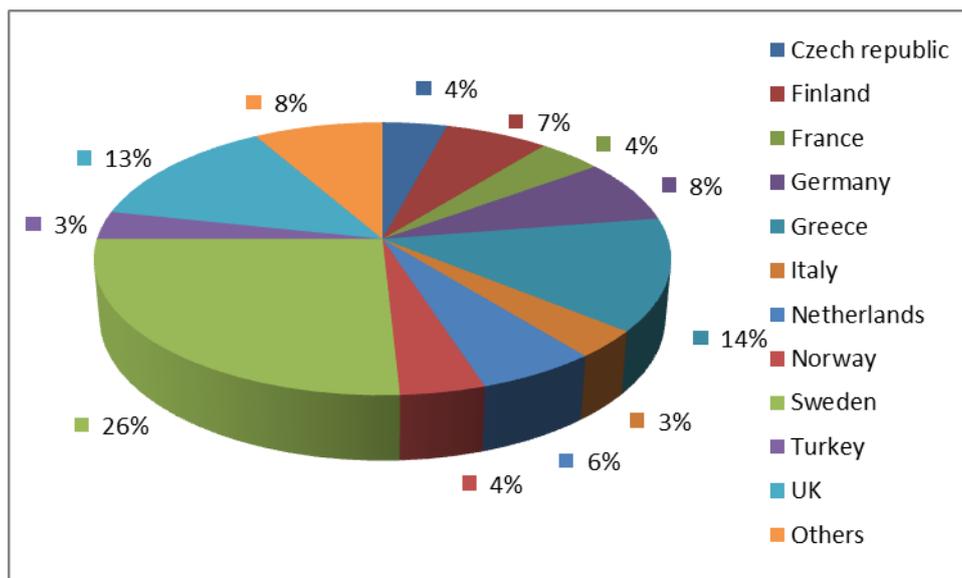
Figure 5 - Distribution of respondents in terms of the country which the respondents' organisation resides in.[11]

3.4 Selection principles for improvement needs

The ambition of this report is to adequately represent the views provided to ACRIMAS in the stakeholder consultations. Therefore, it was attempted to include any improvement need that were articulated and reasonably described in some of the sources. The only exceptions to this are improvement needs that clearly cannot be fulfilled by research and development activities.

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[11]   The category „Others" compromises countries with at most 2 representatives among the respondents. This set consists of Belgium, Denmark, Ireland, Israel, Poland, Romania, Spain and Switzerland.

This includes for example, statements that funding is inadequate or that the political will is inadequate[12]

An initial ranking of the improvement needs into "validated" and "non-validated" has been made. By these terms the following is meant:

A validated improvement need has
- been reported by at least five independent respondents in the initial needs analysis, or
- has been reported by less than five respondents and has been supported by either a secondary source or respondents in the validation interviews

A non-validated improvement need has either:
- only been reported sporadically in the initial needs analysis and has been supported neither by secondary sources nor by validation interviews
- has been reported but strongly questioned by other respondents

Since the questionnaires and interviews have used free text responses, the wordings of a particular statement that has been interpreted as supporting a particular topic may differ from the title or description of that topic. The validation interviews have been used as an instrument to mitigate any bias that may have affected this interpretation.

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[12] It should be noted though that there may be ways for research and development to support better decision-making within these areas, i.e. using research to better assess funding balance. Such indirect support has been included in the needs analysis.

4 Overview of the identified improvement needs

The outcomes of the stakeholder consultations were clustered into a list of areas in need of improvement. The purpose of this list is to function as input for the solutions and approaches mapping in WP5.and as input for the final topic assessment in WP6.

Figure 5 provides a table which presents the list of improvement areas. The needs are sorted according to the ACRIMAS crisis management conceptual model.

The rightmost column indicates the level of support the particular area has received in the stakeholder consultation. This means that topics with "High" support have been mentioned by a large number of respondents, or substantial support for the need has been found in written documentation. This ranking should not be considered as a prioritization of the improvement needs in terms of how important they are to address. Such a prioritization has not been possible to do based on the data available for this report.

All areas in table 1 have received sufficient support to be considered as relevant candidates for future research.

4.1 Validated topics

Group	Category	Identified need	Support
Preparatory efforts	**Policy and capacity building**	Analytic support to capacity building	High
		Capability and capacity mapping	Medium
		Ability of donors to assess the impact of their funds	High
	Training and exercises	Joint and harmonized training	High
		Effective exercises	High
	Evaluation and development	Strategic evaluation and performance assessment	High
		Sharing and implementing lessons and best practices	High
	Civil-military interaction	Agreed interaction procedures with military organisations	Low
	Doctrine and procedures	Certification and vetting of skills and competencies	Medium
		Harmonization of language and terminology	High
	Community awareness raising	Understanding of disaster management among the public	Medium
Supporting activities	**Coordination, command and control**	Efficient tools for tasking and resource management	Low
		Volunteer management	Medium
	Situation assessment and sense-making	Early warning capabilities	Low
		Understanding specific crisis dynamics	Low
		Understanding the relief effort as a whole	High
		Demand and needs assessment	Medium
	Information management	Inter-agency information sharing	Medium
		Retention of information and log-keeping	High
	Information gathering	Acquisition of information from external sources	Medium
		Efficient ways to gather data from responders	Medium
	Logistics	Logistics strategy	Medium
		Access to strategic transport	Medium
	Infrastructure	Responder communications in remote areas	Low
		Provision of energy to responder activities	Low
Task-level activities		Evolved management of information to the media and the public	Medium

Table 1 – Validated topics

4.2 Non-validated topics

The topics in this table have been mentioned by some respondent in the ACRIMAS consultations. However, they have only been sporadically mentioned and not clearly supported by follow-up consultations or written sources.

Improvement need	Comment
Use of space and aerial means	The use of air or space sensors in support of disaster management has been mentioned by a couple of stakeholders. Others have strongly argued against this as a priority need. Another perspective put forward is that especially space support is today provided by far to many organisations, and that there is a need for streamlining
Better awareness in third-countries about EU mechanisms	Sporadically mentioned, but not yet supported by follow-up consultations or secondary sources
Mechanisms to manage the safety of deployed teams	Sporadically mentioned, but not yet supported by follow-up consultations or secondary sources
Accountability for medical personnel when working abroad	Sporadically mentioned, but not yet supported by follow-up consultations or secondary sources
Better data protection in disaster management	Sporadically mentioned, but others have argued this is rarely a critical aspect of disaster management, but possibly for connected law enforcement activities.
Better identity management in DR, especially health	Sporadically mentioned, but not yet supported by follow-up consultations or secondary sources
Decontamination at CBRN incidents	Sporadically mentioned, but not supported by follow-up consultations or secondary sources. Opposing views by some stakeholders, claiming this is either mostly a problem at the coordinating level or a problem of lack of equipment in sufficient numbers.
European coordination of responder communications	Mentioned by a small number of stakeholders, but questioned by others. The problem has not been adequately described.
Fatality management	Sporadically mentioned, but not yet supported by follow-up consultations or secondary sources

Table 2 – Non-validated topics

Concluding remarks

This report described the processes followed by ACRIMAS to engage with stakeholders in the Crisis Management Community to identify critical improvement needs in the European crisis management capability.

ACRIMAS used a consultative and iterative methodology to assure that a broad range of perspectives were taken into account, that the findings were well accepted by stakeholders and that the identified priority needs were validated.

In the upcoming report D4.3 the individual needs will be further described based on the stakeholder input and further ACRIMAS research.