Driving Innovation in Crisis Management for ***E***uropean ***R***esilience

D92.21 – Report on Societal Costs and Negative Impacts on Society

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Executive Summary

The purpose of this deliverable is to signal the societal costs that crisis management (CM) measures and tools may cause. In order to provide this information in the most accessible and structured manner, the deliverable is based on a framework that assesses different *categories of CM measures and tools* and their relation to *key societal criteria, principles and aspects*. As opposed to D92.11, which focuses on the creation of secondary insecurities, this deliverable focuses on the various societal costs and challenges that CM measures and tools may cause, for example vis-à-vis diversity, non-discrimination, political reputation, international cooperation and many more.

The assessments and recommendations can be used as guidelines for the development of specific measures and tools in DRIVER, but also for CM in general. The deliverable introduces the idea of the deliverable, the relevant criteria that can be used for the assessment of societal costs, it introduces different categories of measures and tools in a table (giving also reference to the relevant DRIVER tasks). The core of the deliverable provides preliminary assessments for each category of CM tools and measures. This part introduces each category, gives a short assessment of how these measures and tools may impact on the most relevant criteria, gives a quick example that is operational and DRIVER-relevant and concludes with recommendations for the developers of CM tools and measures. Key findings are summarized and an outlook for the role of follow-up deliverables is given in the conclusion.

The contents of this deliverable are closely related to the contents to be taught to key stakeholders in WP94.

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List of Acronyms

Abbreviation / acronym	Description
CM	Crisis management
Cf	See
E.g.	For example
D	Deliverable
EU	European Union
D	Deliverable
DoW	Description of Work
Ibid.	As above
ICT	Information Communication Technology
ID	Identification
i.e.	in effect/that is
NSA	National Security Authority
PSS	Psychosocial Support
PoT	Portfolio of Tools
SP	Sub-project
SotA	State of the Art
T	Task
UAV	Unmanned Aerial Vehicles
USA	United States of America
WP	Workpackage

Table 1 List of Acronyms

1 Introduction

The main purpose of deliverable 92.21 is to provide assessments of the *societal costs* caused by crisis management measures and the potential negative impacts they cause for society. This deliverable is related to deliverable 92.11, which uses the same assessment framework to assess *secondary insecurities* caused by crisis management measures.

The assessments of societal costs is an important part of crisis management (CM), which is often neglected, but structurally taken into account by the DRIVER project through workpackages 92, 93 and 94. The approach that PRIO followed to conduct the assessments in both 92.21 and 92.11 was first to *develop a set of categories and subcategories*, which organize the various CM measures and tools into meaningful categories for societal impact assessments. PRIO then *defined a set of criteria that reflect key societal principles, values or aspects* that CM measures can potentially infringe upon and which can cause detrimental effects on society. **Since the assessment framework for this deliverable is set out in D92.11, it will not be introduced in detail here**.

Chapter 2 will introduce and define the most relevant criteria to be taken into account when developing crisis management measures and tools in general and DRIVER measures and tools in particular. Here, they serve the assessments of societal costs in particular. An overview table for orientation will be given to the task leaders to see which assessments are of particular relevance to them (Chapter 3).

The core chapters 4 and 5 present the assessments, and are organized according to the different categories of CM measures and tools. Each of these chapters:

- Shortly introduces the category of measures and tools that is being assessed
- Presents potential impacts on the most relevant identified criteria
- Gives examples that are specific to DRIVER and CM
- Provides general recommendations that should be taken into account when developing CM measures and tools.

Both the assessments and recommendations, conducted by DRIVER partners PRIO and ARC, can also be taken as guidelines and advice for the development of CM measures and tools in general.

Chapter 6 provides a preliminary conclusion and an outlook into 2015 (cf. Preliminary Conclusion in 92.11).

This report is issued in the first year of the DRIVER project and addresses *overarching* challenges vis-à-vis the foreseen development of measures and tools for crisis management. This deliverable will have two follow-up deliverables in year 2 and year 3, which will further refine and develop the criteria system and the framework, based on how the portfolio of DRIVER measures and tools has developed throughout the project.

The contents of this deliverable are closely related to the contents to be taught to key stakeholders in WP94.

2 Definition of Criteria

This chapter presents identified criteria for societal costs. A "societal cost-benefit analysis" tests in what way CM tools and measures can either create negative impacts on key societal values and principles, or how the same values and principles can be used as an opportunity to foster societal resilience. It also tests the acceptance and legitimacy of CM measures and tools altogether. Some key questions which the tool developer could reflect upon in terms of such an assessment could be:

- Who are the direct addressees of your measure/tool, and could its implementation be relevant to society at large?
- Think about the key societal values and principles that characterize European societies. Can you think of any that the planned measure/tool can either *foster* or *infringe* upon? How so?
- Can you think of any effects on society, positive or negative, that you may not have taken into account when planning the implementation of a measure/tool?
- How are you ensuring that your measure/tool will be accepted and considered as legitimate by the addressees and society as a whole?

Even though the DoW's task descriptions distinguish between **insecurities**, **secondary risks** (both addressed in 92.11) and **other societal costs** (addressed here), these categories overlap heavily. They are presented separately to structure the deliverables 92.1 and 92.2 accordingly, but this distinction is to a certain extent artificial, since, finally, all of the criteria from WPs 92 and 93 in the end will feed into one overarching criteria system that is used to assess different sets of measures and tools in terms of their societal impact.

The selected criteria in this chapter function as a tool for societal impact assessments and as a glossary for DRIVER to ensure that a common and consistent understanding of the criteria exists. The aim of defining the terminology in a glossary is not to deliver an exhaustive discussion of the concepts, but to deliver a functional definition of the criteria that helps assessing secondary impacts of CM measures and tools on societal values. In some cases, criteria exist to raise awareness, even though there is not always a concrete operational way of avoiding or counter-acting negative impacts (this is often the case with for example function creep, technology dependency and misuse).

SP9 ensures that the DRIVER criteria, assessments and recommendations are based on the EU's perspectives on ethics and norms. This chapter includes a set of criteria that addresses core societal values, political and administrative values and a selection of rights and ethical principles. These values, principles and norms have been advanced in the landscape of politics and research, for example in the Fundamental Charter for Human Rights, European policies or outputs from other European research projects that conducted societal impact assessments (cf. ValueSec, DESSI, PACT etc.). As such, SP9 seeks to build upon the existing CM legacy. An advanced analysis of these criteria and their relation to EU, UN, and Red Cross Red Crescent policies, frameworks, case studies and lessons learned can be accessed in D93.1. D93.1, which has been developed in parallel to D92.11 and D92.21, identifies opportunities for positive intervention, verifies the set of criteria used in D92.11 and D92.21 and includes specifically those policies in the review that address CM, Disaster Risk Reduction and Resilience Strategies.

A further selection had to be undertaken in order to produce a meaningful and manageable amount of assessments. The set of criteria needed to be applicable to DRIVER, so concepts that were too general, too specific or too similar to other concepts were excluded. Should the further development of the project indicate that the selected set of criteria is too expansive or lacking key criteria, it will be updated accordingly. The assessments and recommendations following in Chapter 4 are a direct consequence from this selection of criteria that is based on EU, UN and RCRC policies as well as additional definitions, and thus not to be understood as a normative judgment.

2.1 Core Societal Values

Trust:

Trust is a key element of relationships between and within social groups and individuals. Trust is tied to the belief that someone or something is reliable, good, and honest. It also refers to the reliance on the integrity, strength, and ability of a person or a state, an institution, a system, or an organisation.[1] The emergence of new crisis management technologies, especially information technology, has a great impact on how societies define and experience trust. (Cf. State-citizen relationship; political reputation)

> *Example: The collection of personal data can affect the trust of society in the state if affected citizens do not have the firm belief that the entity or institution in charge of the collection of data will use it for the mentioned crisis management purposes only. In the context of CM this lack of trust could impact the societal acceptance of measures in the long term. This can be avoided by communicating transparently what data collection during crises is used for, and by limiting access (cf. 92.11 Legitimacy; Transparency).*

Social Cohesion:

The Council of Europe defines social cohesion as the capacity of a society to ensure the well-being of all its members, minimising disparities and avoiding marginalisation. Cohesive societies have the capacity to manage differences and divisions and ensure the means of achieving welfare for all members.[2] Social cohesion thus refers to the reduction of disparities, inequalities and social exclusion within or between societal groups, as well as the strengthening of social relations, interactions and trust.[3] (Cf. Trust)

> *Example: Crisis management measures have the potential to negatively affect social cohesion if they are applied –or perceived to be applied- to a specific social group only or in a discriminatory and unequal manner against or in favour of a specific social group. A lack of societal cohesion is particularly detrimental in a CM setting where resilience and coping is heavily dependent on the commitment of societal members and volunteers.*

Solidarity:

[1] Oxford Dictionary: Trust http://dictionary.reference.com/browse/trust
[2] Council of Europe, 2008
[3] UNDP and NOREF, 2014

Solidarity refers to the feeling or action that produces a community of interests, objectives and standards. It is a common way to show mutual support within a group.[4] The fundamental principle of solidarity of the European Union is based on sharing both the advantages, i.e. prosperity, and the burdens equally and justly among all group members. The Internal Security Strategy in Action requires solidarity in response and responsibility in prevention and preparedness of crisis within the European Union. Also, the solidarity clause in the Treaty on the Functioning of the EU introduces a legal obligation on the EU and its member States to assist each other when an EU State is the object of a terrorist attack or a natural or man-made disaster.[5]

> *Example: Societal solidarity can be strained if the distribution of emergency aid is not guaranteed –or perceived to be guaranteed- in an equal manner. This may cause distrust and strain societal cohesion and lead to a lower acceptance of CM measures, which is particularly detrimental in times of crises (cf. social cohesion, Trust; 92.11 Legitimacy). An equal and non-discriminatory distribution of emergency help, taking the needs of different societal groups into account, can prevent such distrust.*

Participation:

Participation is the action of taking part in something, but also the state of being related to a community, region, or nation.[6] As a core societal value, participation is understood as public participation -the belief that those who are affected by a decision have a right to and an interest in being involved in the decision making-process. Participation also entails that all participants involved in decision-making processes need to be provided with the information they need to contribute in a meaningful way.[7]

> *Example: Public participation during the development of a crisis management tool or measure will increase its effectiveness and acceptance among the affected population once it is implemented. On the contrary, preventing the participation of potentially affected populations could lead to an eventual distrust, suspicion and even misuse of the CM measure or tool during its implementation, e.g. because the tool does not reflect the actual needs. One way to ensure participation is to ask populations in need for evacuation during a crisis about where they prefer to be sheltered and reallocated.*

Diversity:

Diversity refers to the condition of having or being composed of differing elements, especially, the inclusion of different types of people in a group, organization or country.[8] As a core societal and democratic value, diversity describes the wide range of racial, cultural, ethnic, linguistic, and religious variation that exists within and across societies. Cultural, religious and linguistic diversity is

[4] See Oxford Dictionary, the Free Dictionary and Merriam-Webster Dictionary

[5] Official Journal of the European Union, C 306, 17 December 2007 http://www.-treaty.org/wcm/the-lisbon-treaty/treaty-on-the-functioning-of-the-european-union-and-comments/part-5-external-action-by-the-union/title-7-solidarity-clause/510-article-222.html, http://europa.eu/lisbon_treaty/full_text/index_en.htm

[6] Oxford Dictionary: Participation

[7] International Association for Public Participation. Core Values, http://www.iap2.org/?page=A4

[8] Merriam-Webster Dictionary: Diversity

recognized and protected by the European Charter of Fundamental Rights (art. 22). [9] (Cf. Dignity & Non-discrimination; Cultural & Gender Sensitivity).

Example: Crisis management tools and measures have to take the diversity of the crisis population into consideration to avoid cultural, linguistic, religious and gender discrimination of the general population, but also e.g. female end-users applying a given tool. Crisis management tools furthermore have to be publicized in all languages spoken by the crisis population. Another example is if health programs during crises do not plan for the specific needs of elderly or children they will not succeed in building resilience. (cf. Societal Cohesion)

Open Society vs. Control:

An open society is characterized by a flexible structure, freedom of belief, a wide dissemination of information[10] and a respect for core societal values, which creates a feeling of trust and security in society. Societies of control, however, use mainly control technologies to establish security, which may also apply to crisis management tools. Societies of control thus create a feeling of security that is also based on distrust. (Cf. Trust)

Example: The use of technologies to single out potential troublemakers during a large event may contribute to the preparedness of crisis management, but they also are based on the idea of establishing security through control. If this control is perceived as disproportional it may cause distrust and lower the acceptability or even spur protest against the use of such technologies, which complicates CM (cf. Trust; 92.11, Legitimacy).

Cultural & Gender Sensitivity

This criterion refers to socio-cultural and gender-based particularities that need to be respected in the development of CM tools and measures. CM decisions, tools and measures can have different effects on men and women, boys and girls and groups of different cultural backgrounds. It is important to mainstream gender and cultural sensitivity across all phases of a crisis situation and specifically when developing new tools and measures.

Example: Men and women experience stress and traumatic events in very different ways due to biological and socio-cultural factors. Psychosocial support measures therefore should be adjusted to the different gender, age and cultural circumstances of the crisis populations to ensure an effective and inclusive delivery of emergency aid and support. In addition to that, it is important to pay attention to gender diversity in CM to allow for the availability of female crisis managers to female aid recipients. If this is not guaranteed, a whole societal group is unaddressed by the scope of emergency management.

2.2 Political and Administrative Values

Accountability:

[9] Banks et. al., 2005 http://depts.washington.edu/centerme/DemDiv.pdf
[10] Oxford Dictionaries: Open Society

The obligation of an individual or organization to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner.[11] As a core value of good governance, public accountability ensures that actions and decisions taken by public officials are subject to oversight in order to guarantee that these initiatives meet their stated objectives and respond to the needs of the community they are meant to be benefiting.[12] Responsible and open communication is a central part of accountability for CM (Cf. Transparency, Openness & Visibility).

> *Example: Typically during CM situations many different organizations and actors implement a variety of measures. If the accountabilities for conducting these measures or using CM tools is not clearly set out, potential negative side-effects and damages cannot be regulated effectively in the aftermath. It is thus crucial to determine accountabilities beforehand as a part of planning measures and tools.*

Transparency, Openness & Visibility:

Transparency means information disclosure, clarity and accuracy to enhance "the perceived quality of intentionally shared information from a sender".[13] Transparency is then also to communicate about and make those kinds of actions visible that cannot be perceived by crisis populations directly, but may have consequences for their rights, actions and reactions.

> *Example: If an emergency measure foresees the implementation of technologies that may collect personal data, transparent communication explains publicly and in an accessible manner what kind of data that would include, what it does not include, which purpose it serves and how it is going to be processed, published and destroyed. If these aspects are not clearly and transparently communicated before and during emergencies, the societal acceptance of such measures may be low, creating concrete implementation problems of such measures (cf. Trust; 92.11 Legitimacy).*

Integrity:

Within the DRIVER project, integrity refers to two aspects that are particularly relevant for the political dimension of crisis management. A) Integrity means to adhere to ethical principles[14] when planning and implementing crisis management measures and tools. B) Integrity also means “standing for something”[15] and showing this through truthful, accurate and consistent actions, values and principles.[16] Here, integrity is the opposite of hypocrisy.[17]

> *Example: There is a loss of integrity when crisis management measures disrespect widely accepted ethical codes and rights, such as the European Charter for Fundamental Rights. If the integrity of crisis managers is questioned, their policies may not be accepted or in some*

[11] http://www.businessdictionary.com/definition/accountability.html
[12] World Bank, http://siteresources.worldbank.org/PUBLICSECTORANDGOVERNANCE/Resources/AccountabilityGovernance.pdf
[13] Schnackenberg and Tomlinson, 2014
[14] Merriam Webster Dictionary: Integrity
[15] Stanford Encyclopedia of Philosophy: Integrity
[16] MacCallum, 1993; Pillai, 2011
[17] Lucaites, 1999

cases even be boycotted, as for example happened to a certain extent after the NSA's secret surveillance measures (for the sake of security) became public.

State-Citizen Relationship:

The state derives its legitimacy from its interaction with citizens.[18] States are legitimate when elites and the public accept the rules regulating the exercise of power as proper and binding.[19] The state-citizen relationship is thus a relationship marked by the legitimate exercise of power. In the crisis management context attention needs to be paid as to how measures and tools may change this legitimate power-relationship.

Example: Expecting citizens to take on self-managerial roles during crises that are more demanding than they can manage, challenges the legitimacy of the power-relationship between the state and the citizens. Citizens may easily feel overburdened and feel exploited or left alone rather than helped. This happened, for example, after Hurricane Katrina, when resilience programs overburdened locals. It is important to plan such programs in a realistic and participatory manner.[20]

Political Reputation:

Political reputation refers to the social opinion[21] and evaluation of a political entity. The reputation of a political entity is influenced by public discourses.[22] Bad political reputation often is accompanied with a low acceptance of policy measures.

Example: A crisis management measure or tool that includes potentially controversial methods, such as excessive public warning or insufficient planned infrastructure protection, can influence the reputation of the political entity that implements it. At the same time the reputation of a political entity can influence the measure to be implemented. In crisis situations, it is important to follow principles of transparency and integrity in order to avoid low political and societal acceptability of measures (cf. Integrity; Transparency, Openness and Visibility; 92.11 Legitimacy).

Negative Standardization:

Standardization generally describes the process of developing a specific level of quality or attainment[23] for materials, products and services in order to ensure that they are "safe, reliable and of good quality".[24] Negative standardization then refers to the overarching social process of establishing a procedure as normal when in fact it has detrimental effects.

Example: Crisis management tools that incorporate sensors may increase the acceptance of surveillance technology as normal, especially because they are deployed in a context that is

[18] GSDRC
[19] Papagianni, 2008
[20] http://www.rhizomia.net/2014/02/comment-on-tom-slaters-blog-post.html
[21] Oxford Dictionary: Reputation
[22] Benoit, 1995
[23] Oxford Dictionary: Standard
[24] International Organization for Standardization: http://www.iso.org/iso/about/discover-iso_meet-iso/about.htm

ethically accepted. In that sense, CM has a special responsibility to not to be an early adopter of questionable solutions. It is instructive to test whether such new solutions are suitable, necessary and proportional (cf. Proportionality).

International Cooperation & Treaties:

International cooperation describes the act of working together for a common purpose[25] to find responses for international challenges.[26] It is often organized and officially regulated in international treaties. Since emergencies can easily become a matter of international concern, as exercised in the DRIVER experimentation campaigns, crisis management necessitates international cooperation, but it can also potentially cause (unwanted) spill-over effects in other domains of international cooperation when not properly managed.

Example: If international crisis management cooperation does not take cultural factors and particularities as well as national regulations into account, it is likely to contribute to international tensions, which may worsen the crisis situation. If cooperation is badly planned, it may also lead to a different set of operational and technical standards for international CM, which may dampen the overarching international effects CM could have.

2.3 Rights and Ethical Principles (A selection)

Suitability, Necessity & Proportionality:

The so-called «proportionality test» is an instrument in EU law[27] to determine fairness and justice. It examines the suitability of a measure/tool in terms of its suitability, asking whether the appropriate means are being used to pursue the given objective. In a second step the test examines the necessity of a measure/tool, asking whether there is an alternative measure that is less restrictive than the measure in question and that is equally effective in achieving the pursued objective.[28] Finally, the «proportionality test» examines the proportionality in strict sense, namely whether the effects of the measure "are disproportionate or excessive in relation to the interests affected. At this stage the true weighing and balancing takes place."[29]

Example: Airborne sensors in unmanned aerial vehicles can be a suitable means to get an overview of an emergency situation. Alternative measures, for example manned helicopters (for non-automated data collection), do exist to fulfil this task as well. Helicopters may, however, be more expensive, so there is potentially a financial necessity to use airborne sensors; or sensors might have an added value as compared to human surveillance. The key question is then whether an airborne sensor, by collecting vast amounts of data that is not relevant for the situational analysis, is proportional to the objective in the narrow sense. This has to be balanced vis-à-vis the benefits of the airborne sensor. If CM measures are not proportional, they will cause several secondary effects, for example a low level of acceptability of negative standardization (cf. negative standardization; trust; 92.11: Legitimacy), which could contradict the effect/ aim of CM.

[25] Dictionary.com: Cooperation
[26] Center on international Cooperation: About
[27] Craig and de Búrca, 2011
[28] Dzabirova, 2009
[29] Ibid. : p. 1.

Dignity & Non- Discrimination:

Dignity is considered to be a universal value of the European Union. It means that a human being has an innate value and the right to be treaded ethically. This right is inviolable and must be protected in accordance with Article 1 of the European Charter of Fundamental Rights.[30] Dignity is closely related to Article 21, the right to non-discrimination, which forbids any discrimination "based on any ground such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation".[31] (Cf. Diversity; Cultural & Gender Sensitivity)

> *Example: The right to non-discrimination is violated if response measures that (maybe unintentionally) organize and provide access to first aid neglect homeless people in favour of others. It would also disrespect the IFRC's principle of impartiality, which says that CM should make « no discrimination as to nationality, race, religious beliefs, class or political opinions. It endeavours to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.»[32] CM measures and tools disrespecting this principle risk losing their status of having passed the necessary CM due diligence procedures.*

Privacy & Data Protection:

The content of privacy is contested. It mainly refers to the right to seclusion and to create an intimate sphere. Article 7 of the European Charter for Fundamental Rights[33] protects the right to privacy as the right for private and family life. But privacy is no longer "the right to be let alone" only.[34] It has become a concept, a regime, a set of policy instruments and a way to frame civil society activism.[35] A working definition is "the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others".[36] As such, it is closely related to the protection of personal data (Article 8). Protection also means that data has to be processed fairly, with the consent of the concerned person, who also has the right to access this data. This was framed as the right to "informational self-determination".[37] Both, privacy and data protection no longer relate to individuals only but express a conflict that affects society as a whole.[38]

> *Example: The use of visual airborne sensors to collect visual information of potential victims without their consent or the collection of visual information in areas that are private property violates the right to private life and the protection of personal data. This is regulated via the EU data protection directive[39], which needs to be adhered to at all times. A breach with such regulations has legal consequences.*

[30] Official Journal of the European Communities, 2000
[31] Ibid.: p. 13.
[32] http://www.ifrc.org/en/who-we-are/vision-and-mission/the-seven-fundamental-principles/impartiality/
[33] http://www.europarl.europa.eu/charter/pdf/text_en.pdf
[34] Warren and Brandeis, 1890
[35] Bennett, 2011
[36] Westin 1967: p. 7
[37] BVerfG, Urteil des Ersten Senats vom 15. Dezember 1983, 1 BvR 209/83 u. a. – Volkszählung –, BVerfGE 65,1.
[38] Simitis 1978 : 709
[39] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:en:HTML

Freedoms:

The European Charter for Fundamental Rights addresses a range of freedoms. The most relevant for the crisis management context are the freedom of thought, conscience and religion (Article 10), which means that it is possible to "change religion or belief and freedom, either alone or in community with others and in public or in private, to manifest religion or belief, in worship, teaching, practice and observance".[40] Another freedom is that of expression and information (Article 11), which states that everyone can hold and express their opinion and has the right "to receive and impart information and ideas without interference by public authority".[41] A third important article is the freedom of assembly and of association (12),[42] which includes the freedom to form peaceful associations, for example, on political, trade union and civic matters.

Example: If preventive crisis management (counter-terrorism) measures target, for example, Muslim citizens over citizens with other religious beliefs, they violate both the right to non-discrimination, and potentially the freedom of religion if it stops Muslims from practicing their religion freely. It also violates the principle of impartiality, which is at the core of CM. Measures and tools disrespecting this principle risk losing their status of having passed the necessary CM due diligence procedures and risk legal consequences. Deeply anchored in the European political identity (Cf. 93.1), it is a principle that should always be followed and a fundamental right that should always be respected.

[40] Official Journal of the European Communities, 2000 : p. 10
[41] Ibid. : p.11
[42] Ibid.: pp. 10-11

3 Overview of relevant Criteria per Category & Task

This table serves as a guideline to see which of the following assessments are the most relevant for the specific tool and measure-developers.

	Dimensions for task 92.2: Side-effects to Societal Values																	
	5 Core Societal Values							6 Political & Administrative Values						7 Rights & Ethical Principles				
Subcategory	**Trust**	**Social Cohesion**	**Solidarity**	**Participation**	**Diversity**	**Open society vs. Control**	**Cultural & Gender Sensitivity**	**Accountability**	**Transparency, Openness & Visibility**	**Integrity**	**State-Citizen Relationship**	**Political Reputation**	**Negative Standardization**	**International Cooperation & Treaties**	**Suitability, Necessity & Proportionality**	**Dignity & Non-Discrimination**	**Privacy & Data Protection**	**Freedoms & Protest**	**Measures as of WP/Tasks**
Category: Data & Information																			
Collection & Storage	X	X	X	X	X		X		X		X	X	X		X		X	X	36.3, 43.1, 43.2, 43.4, 45.2, 45.3, 45.4, 52.4, 53.2, 55.3, 55.4
Facilitating Data Processing	X	X	X			X		X	X	X		X	X				X		43.5,
Analysis & Evaluation	X					X		X		X		X		X			X	X	36.3, 43.1, 43.2, 43.3, 43.5, 52.4, 53.2, 55.4
Exchange	X		X			X			X	X					X	X			36.3, 43.1, 43.2, 43.3, 43.5, 52.4, 53.2, 55.4, 36.3
Category: Risk, Damage and Needs Assessment																			
Gap analysis				X	X	X	X	X	X		X		X	X	X		X		34.1, 52.2, 53.1

Situational Analysis & Impact Assessment	X	X	X	X		X		X	X	X	X		X	X	X	X	X	X	43.2, 43.4, 43.5, 44.2
Early warning, Risk Analysis, Forecasting	X	X				X	X	X	X	X	X	X		X	X	X			43.1, 43.3, 44.1
Communication Systems	X		X									X	X	X		X	X		45.2, 45.3, 45.4
Category: Cross-border and Cross-Sectoral Interaction																			
Cross-border and Cross-Sectoral Interaction	X		X		X	X		X	X			X		X		X	X		33.2, 36.3, 44.2, 45.2, 45.3, 45.4, 52.2, 53.1, WP55
Category: Communication between crisis managers and to the public																			
Communication between crisis managers and to the public	X	X	X	X	X	X	X		X			X			X	X	X		35.2., 35.3, 35.4, 36.2, 36.3, 43.3, 44.3, 45.3, 45.4
Category: Other Forms of Training																			
Psychosocial	X	X		X	X		X			X							X	X	32.2, 32.3, 32.4
Media/Policy	X	X	X	X		X	X		X		X	X					X		35.2
Category: Resilience Logistics & Contingency Plans																			
Resources, Supply chains & Contingency Plans	X						X	X				X		X		X			44.1, 44.2, 44.4, 44.5, 46.1,

Core functions in the city	X			X	X		X	X	X			X		X	X	X	X		34.1
Catetegory: Decision Support Systems & Simulations																			
Decision Support Systems & Simulations	X	X			X		X	X			X		X			X	X	X	35.3, 44.1, 44.4, 44.5, 54.3
Category: Harmonization																			
Harmonization	X		X	X							X		X			X		X	43.1, WP52, 53.2, 54.1, 54.3, 55.1, 55.3

Category: Strategy Design																			
For Community Resilience	X	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X	WP33
For Early Warning & Risk Analysis				X		X	X	X	X				X	X	X	X	X		43.1, 43.3, 44.1
For Learning Activities & Lessons Learned				X	X		X						X			X	X	X	WP51, 52.2, 52.4, 53.1, 53.2, 55.1, 55.3
For Competence-Building				X	X		X	X	X				X	X		X			WP52

For Decision-Making	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	43.1, 54.1, 54.3
For Costs & Effectiveness Assessments	X			X			X	X	X	X	X	X		X	X	X	X	44.1, 44.5
Category: Methodologies for Selecting Measures & Assesing Impacts of Experiments																		
Methodologies for Selecting Measures & Assesing Impacts of Experiments					X		X		X	X			X		X	X		SP2 & SP9

Table 2 Overview of relevant Criteria per Category & Task

4 Assessments and Recommendations

All assessments are formulated for the *subcategories of measures and tools* indicated in the table above. The introduction of each assessment consists of a short description of the criteria's relevance for CM in general, and then points to the specific relevance for DRIVER tools and measures, giving some example tasks. This introduction generally also points out if there is a group that is specifically addressed by this measure or tool in order to specify the context of the assessments. The introduction is followed by the assessments of the relevant criteria. The impact on each criterion is described in one or two sentences and borrows examples from relevant fields of CM. They describe potential negative impacts that could either be expectable direct consequences of a measure or effects that have been discussed in relevant news, in academic papers or research projects. References are to be found in the footnotes. Each chapter gives an additional example that speaks to the specific DRIVER context to illustrate why the criteria need to be taken account during the development of DRIVER measures and tools. The assessment closes with a set of recommendations, which are formulated as concrete suggestions that should be followed when developing tools and methods within DRIVER. They can also serve as inspiration for the development of CM tools and measures in general. Overall, it is important to note two points:

1. Since the criteria assessments could be boundless, this deliverable does not claim to be complete. In order to be useful and practical, it is limited to the assessments of those key criteria, which are relevant for each DRIVER subcategory.
2. The authors are fully aware that each measure and tool may have both a positive and a negative effect on its addressees. This means that the measures and tools under discussion can have at the same time a positive impact on the same criterion. Positive impacts, however, are discussed in 93.1. It is also important to note that some aspects discussed here as negative effects can also be politically desired. Unease, for example, can also be politically utilized to create a positive state of alertness. Or, the usage of one technology for several purposes can in some cases be a *function creep*[43], a negative side-effect, and in some cases a desired effect. Since this deliverable focus on negative effects of CM, it points to those side-effects that are *disproportionate* and those developments that are not openly reflected upon.

The recommendations in this deliverable are to be read as advice against potential pitfalls, and as general guidelines and principles to avoid disproportionate effects of secondary insecurities. It provides examples and direction to each responsible task leader to conduct societal cost-benefit-analyses about the potential impacts of the measure or tool. The follow-up versions of this deliverable will be more operational, addressing, for example, crisis managers that are to procure or

[43] From 92.11, the definition of Function Creep is : « When developing, implementing and refining technological solutions for crisis management, the risk of function creep can be defined as the gradual widening of the use of a technology or system beyond the purpose for which it was originally intended, especially when this leads to the potential invasion of privacy. Limiting regulations, which foresee a restriction, are often implemented to counteract or minimize the risks of function creep".

use the DRIVER tools in order to provide them with an idea about the potential consequences of a DRIVER tool, a combination thereof, or a combination of DRIVER tools with CM legacy systems.

4.1 Data and Information

4.1.1 Collection & Storage

Related WP and Tasks: 36.3, 43.1, 43.2, 43.4, 45.2, 45.3, 45.4, 52.4, 53.2, 55.3, 55.4

Data collection is unavoidable for development and deployment of many CM solutions, since cumulative knowledge production and benefitting from lessons learned requires a data record of previous actions. The tools and measures developed and deployed in DRIVER collects and stores data from different actors and in different ways, for example through airborne sensors (43.2) and the technical development of solutions for professionals, such as data collection through applications for smart-phones (55.1). The collection and storage of data in DRIVER varies from e.g. tools collecting data from professionals and the population in the field by the use of smart- phone applications (43.1) to capitalizing on data from pre-existing software solutions to use citizens as sensors (36.3). Collection and storage needs to fulfil certain requirements to avoid creating secondary risks and insecurities. Data protection laws differ also within the EU, but the common aim is to protect the values and interests of the data subject, such as privacy.[44] Data can be stored on paper, electronically or computer-based e.g. through cloud computing solutions, hard drives or memory sticks.

Trust: Collection and storage of data can influence trust if the data is not collected and stored for the right purpose and according to the agreed terms (risking function creep e.g.). This could lead to skepticism or uncertainty, as individuals would not be made rightfully aware of how their data is being collected and stored.

Social Cohesion, Proportionality: The data collection and storage could create inequalities if based on assumptions related to ethnic or religious groups. Social cohesion can be negatively influenced if the data collection is disproportional or targets e.g. a specific religious group, making them feel controlled or suspected of something that they experience as irrelevant. This could influence social cohesion by distancing this group from the rest of society.

Solidarity, Cultural & Gender Sensitivity: Data collection can also similarly influence solidarity if the population feels unfairly targeted by the collection. The principle of solidarity includes sharing both benefits and burdens, and data collection from one particular group could negatively influence solidarity if the basis for the selection of the target group is controversial. Cultural and gender sensitivity is also central here, as the data collection could be skewed by not taking gender and cultural variables into account when planning the data collection.

Participation: Public participation could be negatively influenced, both in the short and long term, if the data collection and storage is not done based upon consent and/or a notification in advance. In the further extent, this could result in a "chilling effect" where individuals change their behavior

[44] Bygrave, L. (2002): Data protection law. Approaching its rationale, logic and limits. Great Britain. Anthony Rowe Limited.

because of concerns about how the collected information can be processed or used at a later point in time.

Diversity: If diversity is not reflected in the selection of the population serving as test-, focus- or target group etc. for the development or refinement of CM measures, the result will not be generalizable and representative. For example, has the target population been breakdown by gender and age?

Transparency, Openness & Visibility, Privacy: Disproportional, hidden, or opaque data collection is traits of a society with a high level of control. If bulk collection of data happens, especially without a clear and communicated purpose, this clearly goes against the three principles of transparency, openness and visibility. Gathering and storing data without processing it further can also be negative, as the necessity can be questioned, influencing the concept of an open society or the concept of privacy.

Political Reputation, State-Citizen Relationship: Disproportional, hidden, and/or opaque data collection will very likely to influence the political reputation of the state or state actors in charge of the data collection process vis a vis citizenry.

Negative Standardization, Freedom & Protest: The collection of data as the norm for CM tools can become a negative standardization if it normalizes data collection as the go-to solution to a problem, when there is or could be other solutions better or as well suited. Data collection could infringe upon freedom and the right to protest if this negatively standardized data collection targets certain groups, making them feel uneasy or suspicious of being surveilled. Furthermore, the previously mentioned "chilling effect" can be seen as a negative consequence of a lack of freedom and the right to protest.

> *Example: If there is a revelation that a CM tool or measure has collected and stored personal data without adhering to ethical and/or legal principles, this information could lower the trust individuals have towards whichever actor, or type of actor, that has failed to comply with data protection principles and regulations. This could result in"chilling effects", which e.g. means that the individual or group would change its behavior in response to the revelation.*

Recommendations:

- Data collection and storage must happen in a way which does not infringe upon the social cohesion and solidarity of the population. This can be counteracted by e.g. ensuring openness and transparency regarding the process.
- When a CM tool collects data for (e.g.) the purpose of testing a CM solution on the target population, make sure the data collection accounts for diversity, including variables such as language, ethnicity, gender, culture and religion.
- Data collection in an open society adheres to the legal principles of privacy, data protection and integrity through a process that is suitable to the cause and proportional to the task.
- Do not collect more data than really needed, and consider if the data collection itself is necessary.
- Ensure secured storage of the collected data. This can include locks and other physical security measures, but also password protection or encryption of data.

- To avoid influencing the relationship between the state and the citizenry in a negative way as well as to protect the political reputation of the CM actor (whether professional, too, developer, volunteer, etc.), open, clear and timely communication is paramount.
- Avoid CM tools or measures for data collection or storage targeting certain groups, as this could be seen as a discriminatory practice.
- Not all data collection is easily preventable (such as pooling of data in public registers), but the data collector should inform the data subjects prior to the data collection exercise. Participatory approaches to the development of CM tools are advisable, especially if the final CM tools are meant to be used by the general public.

See also (sub)categories: Situational Analysis & Impact Assessments, Mapping; Communication Systems; Cross-border and Cross-Sectoral Interaction

4.1.2 Facilitating Data Processing

Related WP and Tasks: 43.5,

The facilitation of data processing differs from the collection and- storage itself as the aim is to create, bridge or join systems of data processing. Working together is often crucial in CM. Here the question is what practical impacts can cause the processing? Technology itself can be seen as a facilitator for data processing. Within DRIVER, the facilitation of data processing refers to, for example, tools or methods facilitating interoperability, such as methods for improving the situational awareness by integrating information from different agencies and professionals (43.5).

Trust: Facilitating data processing, in terms of sharing data between two or more partners (or the public), can infringe upon trust in the professional (or public) environment if the facilitation is based upon controversial or contradicting decrees between the partners. This could mean that not all actors agreed upon the facilitation of data exchange, or that it happened in the wrong way, something that could be indicative of potential similar occurrences in the future and thus lower trust within the cooperation.

Social Cohesion, Solidarity: If the facilitation of data processing happens in a way that can be perceived to favor or promote one social group over another, it can influence the social cohesion as some groups could feel discriminated. This could also result in a breach in solidarity, as the community of interests could be fractioned and weakened.

Open Society vs. Control: If an entity is facilitating more data processing or data exchange than what is considered normal or necessary for a specific cause, e.g. collecting bulk data or directly or indirectly facilitating function creep, there is a risk that the society would feel overly controlled, e.g. as a result of not having the opportunity to influence what happens to the data if it is reused for new purposes without asking the data subjects.

Accountability, Privacy & Data Protection, Negative Standardization: If the facilitation of data processing is not based on an ethically acceptable method, nor does it take into account legal frameworks (data protection legislation for protecting individual privacy) and other relevant

guidelines, it will infringe upon legality. In addition, this kind of facilitation will negatively affect the public accountability of the data processor(s). as because it could be seen as not valuing the core principle of responsibility and good governance. Facilitating poor data processing also includes the risk of negative standardization[45] if an unacceptable procedure becomes the standard, furthering a society based on a high degree of control.

Transparency, Openness & visibility: Facilitating a data sharing process that does not inform the data subjects about how or why their data is being collected, is not transparent, open or visible, and can have consequences also for the valued concept of an open society.

Integrity, Political Reputation: If the facilitation of data processing does not adhere to common ethical principles, it can influence the integrity of the data processor in a negative way, as the data processor can be regarded as inconsistent or insincere. Loss of integrity could also influence the political reputation of the data processor.

> *Example: The facilitation of data processing refers to e.g. tools or methods facilitating interoperability between CM tools or measures. If DRIVER facilitates this data processing through a method that does not adhere to common ethical principles such as transparency, openness and legality, it can influence the integrity and the accountability of the data processor(s). Such a procedure further risks becoming a negative standardization for facilitation of data processing.*

Recommendations:

- To avoid lowering trust between partners facilitating data exchange, ensure that the process is transparent, open, and adhering to all relevant legal frameworks.
- Do not facilitate more data processing than what is proportional, necessary and suitable to the cause.
- Make sure that the facilitation is happening on the basis of an ethical acceptable method, and adhere to relevant data protection legislation.
- Make sure that the process does not facilitate data processing that favors one social group over another, unless there is a good cause for it (such as adjusting for low- income countries), which should then be clearly communicated.
- When communicating about the process, strive for transparency and openness to the involved, for example by ensuring that everyone has the opportunity to voice their questions and concerns. To avoid negative standardization of routines for facilitating data processing, impact assessments can help guide the process so that it is accountable.

See also (sub)categories: Analysis & Evaluation; Exchange; Situational Analysis & Impact Assessments; Cross-border and Cross-Sectoral Interaction

[45] Standardization generally describes the process of developing a specific level of quality or attainment for materials, products and services in order to ensure that they are “safe, reliable and of good quality”. Negative standardization then refers to the overarching social process of establishing a procedure as normal when in fact it has detrimental effects.

4.1.3 Analysis & Evaluation

Related WP and Tasks: 36.3, 43.1, 43.2, 43.3, 43.5, 52.4, 53.2, 55.4

Data analysis and evaluation is crucial for CM, as it provides the very basis for learning and developing new solutions for CM. To analyse data can mean to handle, alter, treat or refine data. Various kinds of data and information are being analysed and evaluated throughout DRIVER tools. This happen e.g. in relation to data collection such as through an airborne sensor suite that includes an on-board processing system and a direct data link from the airborne platform to ground (43.2).

Trust, Political Reputation: If the data analysis or evaluation does not adhere to the predefined arrangements and rules, it can negatively influence the trust between whichever parties are involved. If an actor does not belief that another actor of the arrangement is reliable, good and honest, this can further influence the political reputation of the actor at stake

Data Protection: Although data protection legislation differs also within the EU, the main principles are mainly coherent. However if an actor analyzing or evaluating data has dramatically different standards, it can make data exchange and analysis more difficult. This can happen e.g. if the common ethical principles for data collection vary between two data collecting states, while the data is being analyzed or evaluated on the same basis afterwards. The starting point may already be skewed.

Open Society vs. Control: If too much data and information is being analyzed without a clear objective, it can negatively contribute to a society of more control than necessary because the analysis and evaluation of data often also includes collection and storage.

International Cooperation & Treaties, Political Reputation: There is a possibility that the legal regulations for data protection are different between partnering countries (e.g. between Schengen member states and non- Schengen member states).This would challenge the data analysis and evaluation or even encourage the actors to take legal or ethical shortcuts.. If this has spill- over effects into other domains of international cooperation, it can damage the political reputation of the actor(s). A lack of legally organized international cooperation can negatively influence the political reputation of the actor(s), and can cause further spill-over effects into other domains of international cooperation such as trade.

Accountability, Integrity, Privacy: If the way in which data is analyzed or evaluated causes suspicion and unease among the population or the tool developers/professionals, it can negatively impact on the accountability of the data analyst actor; poor analysis/evaluation procedures (e.g. such as not limiting access to personal data) can be seen as a sign of the actor undervaluing core ethical and societal principles such as the protection of privacy. The integrity of the data analyst/evaluator can also be questioned.

Freedom & Protest: Should the data analysis and evaluation happen in such a way that it does not allow the data subjects to access or withdraw their personal data from the collection, or access it in some way as per data protection legislation, it can be seen as hindering or limiting individual's freedom or the right to protest against unwanted or unrightfully data analysis and evaluation.

> *Example: It can happen that existing data is reanalyzed or reused for new purposes. This can include analyzing data that was originally collected for one purpose in order to say something about another purpose. Even if the data is already collected, it can still potentially lead to*

discrimination, e.g. if the original selection of data subjects did not take diversity[46] into account.

Recommendations:

- When analysing data, make sure that the data protection legislation of the country where the data is collected is followed.
- It is crucial that eventual international cooperation is well- and legally organized, e.g. between Schengen members and non- Schengen members.
- The purpose behind the data analysis or evaluation must be clearly communicated. Rules should be set limiting the role of the data controller or the legally responsible actor.
- The process of data analysis and evaluation needs to be transparent and as open as possible in order for the involved actors to experience that their data is being processed in a rightful manner, and to ensure that the accountability of the data processor is maintained.
- The data subjects whose data is part of the data that is being analyzed need to be reassured of the protection of their privacy data according to established protection rights.
- Up to a certain point in the process (usually until the data is anonymized or encrypted) allow the data subjects to withdraw to withdraw their personal data.
- Make sure that the data is used for the purpose it was collected for only.

See also (sub)categories: Collection & Storage; Exchange; Situational Analysis & Impact Assessments, Mapping; Cross-border and Cross-Sectoral Interaction

4.1.4 Exchange

Related WP and Tasks: 36.3, 43.1, 43.2, 43.3, 43.5, 52.4, 53.2, 55.4

The exchange of data is important to increase efficiency and effectiveness as well as to strengthen collaboration in the area of CM between different stakeholders. It implies mutual trust and can be beneficent to all partners. DRIVER has a strong focus on interoperability and coordination between different actors, hereunder tools facilitating exchange of data as a key for improvement. Data exchange between different actors happens on multiple occasions within a CM scenario, and is a necessary and common activity in many areas of technology development and deployment. This is e.g. the case in WP45 where the aim is to tear down the barriers of information exchange within the responders community at all levels. This necessarily requires data- or information exchange. The exchange can be informal (45.2) and a valuable method for knowledge production, development of tools or measures, sharing of experiences, or finding new solutions for old challenges. However the process can be said to be dual-edged, as it can create both positive and negative side effects. This duality is explicitly referred to within DRIVER in 45.4, where the interconnection of communication

[46] Diversity refers to the condition of having or being composed of differing elements, especially, the inclusion of different types of people in a group, organization or country. As a core societal and democratic value diversity describes the wide range of racial, cultural, ethnic, linguistic, and religious variation that exists within and across societies. Cultural, religious and linguistic diversity is recognized and protected by the European Charter of Fundamental Rights (art. 22).

systems (the first responders "system of the systems") is being analysed in order to clarify threats and opportunities connected to the use of such systems.

Trust, Integrity, Solidarity: If a partner in a process of data exchange does not adhere to the principles of data protection, it can infringe upon the trust between other partner(s) and the partner at stake. This is a particularly sensitive risk also because trust and integrity can be said to be easier to break down or destroy than to create. Once the damage is done, it can have unfortunate consequences. Trust can also be influenced if the population or professionals feels that the data should not be exchanged with a certain partner for one reason or another. If the data exchange still happens, it could further negatively influence the feelings of solidarity in the community, as the common principles, interests, objectives or standards are being questioned..

Dignity & Non- Discrimination: Should the data exchange involve disproportional costs to one of the partners, it can be seen as discriminatory and not respecting the dignity of the affected partner, and thus negatively influence both dignity and the principle of non- discrimination. An exchange of data is not considered ethical if the content of the data exchanged discriminates against a certain societal group. Also, it would not be considered ethical to exchange data affecting the dignity of people.

Transparency, Openness & Visibility: If the process of the data exchange does not happen in a way that allows all involved actors or subjects to be made aware of what is happening to the data they are contributing with, it can create secondary effects by negatively affecting transparency, openness and visibility of the adherence to law.

Open Society vs. Control, Suitability, Necessity & Proportionality: As a wide dissemination of information is one of the traits of an open society, the flow and exchange of information can be regarded as a negative influence of the open society. This could be the case if, for example, large scale data exchange is the method used to form the basis of a security measure that is de facto an instrument of control. This potential negative influence on the open society can be even worst and result in an instrument of control, if the data exchange happens illegally, or through an opaque process, or if the data that is being exchanged is regarded as not particularly suitable for the cause, or particularly necessary or proportional to the cause.

> *Example: If data is exchanged between two partners, where one has the aim to reuse the data for another purpose that for what the data was originally collected, there is a risk that the limitations set for the original use of the data are overlooked. If this kind of unrightfully reuse happens, it can negatively influence the accountability of the data processor and/or analyst.*

Recommendations:

- Make sure the data being exchanged is representative of the cause, i.e. that it takes, for example, diversity, cultural and gender differences into account.
- As data exchange can create vulnerabilities by spreading data leaving it vulnerable for misuse, do not exchange data if it is not absolutely necessary, and evaluate if exchange is the best solution for the issue at stake.
- Make sure that the economic costs of the data exchange are fairly distributed, also accounting for low- income countries.

- Respect the integrity and dignity of the data subjects who are contributing to the data base by ensuring the protection of their privacy through the appropriate data protection regulations.

See also (sub)categories: Collection & Storage; Facilitating Data Processing; Analysis & Evaluation; Situational Analysis & Impact Assessments, Mapping; Cross-border and Cross-Sectoral Interaction

4.2 Risk, Damage and Needs Assessment

4.2.1 Gap Analysis

Related WP and Tasks: 34.1, 52.2, 53.1

In general, gap analysis is a method for resource management, and in CM this can include analysing where mistakes have been made in the past and where more attention is needed. As such, this category is slightly different from needs assessment, because it refers more to strategic planning (i.e. What do we need for future operations?) as opposed to needs assessment in an ongoing crisis. The analysis of gaps is one aspect of different tasks within DRIVER. They include self-assessments conducted by organizations to understand gaps in crisis management (34.1), identification of gaps in competence (52.2), as well as in systems to enhance lessons learned (53.1). These tasks mainly address professionals, volunteers, and the civil population which is why societal impacts are likely to appear only indirectly.

Participation, Diversity: Gap identification depends mostly on the perspective of those who identify gaps. Who is included? Who is a position to define what a potential gap is, or in short: who knows well about all gaps? Some gaps run the risk of being unaddressed if not all affected groups are represented in the analysis team.

Open Society vs Control, State-Citizen-Relationship, Negative Standardization: Gap analyses often identify areas that need to be controlled better. If such areas include the control of citizens or public spaces and activities, the excessive identification of gaps may heighten the overall level of control in societies. This also influences the relationship between those who control the situation and those people living in areas that are being controlled.

Cultural & Gender Sensitivity: Cultural and gender differences raise the need to take related gaps into account or for gaps to be addressed in a specific way (e.g. gender analysis methodologies). When cultural and gender dimensions are ignored, the gap analysis may result uncompleted or skewed as significant parts of the population and their specific needs (e.g.) are left unaddressed (e.g. religious dietary requirements or specific sanitary needs for women). This can have a detrimental impact in the management of any crisis.

Accountability: The identification of specific gaps, like risks, comes with a big responsibility. This may affect the accountability of the actor responsible for doing the analysis. This was the case in L'Aquila, Italy, where risk authorities were held responsible for issuing a statement reassuring people to stay

within the city, which caused major negative impacts once the earthquake struck harder than expected.[47]

Transparency: If gap analysis relies on parameters that are incomprehensible for the addressees, they risk being not transparent, which also complicates their reproducibility.

International Cooperation: If the identification of gaps at cross-border level is not internationally comparable, gap analyses may not only lead to diverging results but may also entail negative effects for political cooperation because priorities of CM may be too different.

Suitability, Necessity & Proportionality: If approaches to identify gaps are not suitable, they will miss the identification of important gaps; if such approaches are not the necessary approaches, meaning other approaches to gap analysis do exist, they may create unnecessary side effects; If approaches for gap identification are not proportional to their intended CM gain, they risk being ineffective or, in the worst case, cause negative side-effects.

Privacy & Data Protection: Should gap analysis include private or secret information without permission, they do infringe upon privacy and data protection regulations.

> *Example: If DRIVER develops a system for identifying gaps or lessons learned in crisis management and this system is not carefully developed, it may not be applicable in different international contexts, it may neglect the specific needs of particular societal groups or it may end up producing the opposite, namely an over-identification of gaps, which heightens the overall level of control within societies.*

Recommendations:

- Make sure the team defining parameters for gap identification is diverse. This does not mean just the inclusion of cultural and gender diversity but also professional diversity needed for a thorough gap analysis. Time permitting, run a pre-analysis identifying those players and representatives who know best about gaps in a specific area.
- Ensure that any analysis of gaps includes reflections about the importance of these gaps and their potential for overly controlling the emergency situation.
- Include cultural and gender sensitive perspectives into the identification of gaps.
- Regulate responsibilities for the identification of gaps and for potential misidentifications.
- Ensure that gap analysis rely on comprehensible and transparent parameters to ensure that they are reproducible.
- Ensure that the influence of political agendas on gap identification is made in a transparent and discussible manner.
- Run the proportionality test on approaches to gap analysis: is the approach suitable, necessary (meaning no other approach exists) and proportional to the CM gain?
- Ensure that the data feeding the gap analysis follows all regulations for privacy and data protection, including international regulations (if applicable).
- When recommending actions for addressing gaps, make sure to propose alternative solutions to allow for an assessment of pros and cons.

[47] Radical Geography (?) L'Aquila Earthquake, Italy 2009, A Case study of an Earthquake in an MEDC, http://www.radicalgeography.co.uk/laquilasum.pdf

See also (sub)categories: Data & Information; Cross-border and Cross-Sectoral Interaction ; for Learning Activities & Lessons Learned; for Competence Building;

4.2.2 Situational Analysis & Impact Assessment

Related WP and Tasks: 43.2, 43.4, 43.5, 44.2

Situational analysis and impact assessments are important tools to prepare CM decision-making and plan effective response. Within DRIVER, such assessments are conducted to identify damages and needs through mobile applications (43.1), airborne sensors (43.2), via social media and crowd-tasking (43.4) and by integrating information from different agencies and dimensions (43.5). This category also includes the assessments and mapping of actions undertaken by responders (44.2). Most measures and tools are directed at both professionals and the population as such, which emphasizes the necessity for careful evaluation of secondary effects.

Trust, Open Society vs. Control: If populations are not being informed about CM data collection via airborne sensors or on social media, these practices can signify distrust towards society and/or public authorities, and raise the general level of suspicion because such data can also be used for surveillance purposes.

Social Cohesion, Solidarity: Some applications or social media foresee the self-reporting of unrests, damages or missing persons. Especially in the case of reporting unrests, these technologies can lead to unfounded assertions of suspicions, which entail social segregation and a general climate of distrust towards each other, as for example happened on social media after the 22nd of July attacks in Norway.[48]

Participation: The collection of information from social media and apps is limited to those who are equipped with phones or social media experienced users, which may also vary across culture, age and gender.

Accountability, State-Citizen-Relationship: Collecting and crowd-tasking information for situational analysis can turn into a form of holding the public accountable for sharing information. It is also unclear as to whom is to be held accountable for drawing conclusions from and acting upon collectively gathered information, which can – even if statistically significant, be wrongful.

Transparency, Openness: What data is to be collected for conducting the situational analysis and how is it going to be used is often not decided transparently. This can create distrust and infringe upon the openness of the society.

Negative Standardization: Enhancing the general expectation towards the role to be played by citizens during crisis through, e.g. crowd-tasking may lead to negative standardization, i.e. the citizens are increasingly being "made responsible" to care for their own safety and wellbeing without really respecting citizen's rights otherwise.

[48] Kaufmann M (forthcoming 2015) Resilience 2.0. Media Culture and Society.

International Cooperation & Treaties: Since online data is not territorially organized, but data protection is, collecting data transnationally on social media could create problems for international cooperation agreements, which also applies to the regulations for the use of airborne sensors.

Suitability, Necessity & Proportionality: Since airborne sensors and social media can produce deceptive information it can be contested whether they are suitable and necessary means to collect information (i.e. no other, better means to collect situational data exist). Finally, it can be contested whether the potential for vulnerabilities in terms of collected personal data and infringements upon data protection regulations are proportional to the value of the information collected? Another problem is that proportionality can only be tested after the actual occurrence of a situation in which the technologies have been deployed, which creates particular challenges for this criterion.

Non-Discrimination: If airborne sensors can identify cultural, ethnic or gender-related features, it can run the risk of discriminating against these parts of the population – positively as well as negatively. Similar forms of identification can also be connected to Internet-IDs.

Privacy & Data Protection: Privacy is usually infringed upon if data is collected without (real) consent. Consents are hard to collect for deploying airborne sensors and even if the data subjects agree to a consent form, they often do know what is actually traceable (sensor: picture of self, the possibility to track people and identify their identity)

Freedoms: If populations feel watched by airborne sensors and cannot contextualize what exactly they are being used for the use of this kind of sensors potentially infringes upon the freedom of movement and trust in the CM operation.

> *Example: If DRIVER plans the collection of information through mobile applications, it is important to reflect in the results that not every citizen has a mobile device (or is an experienced user), which influences the results and options of participation. If not verified and contextualized, self-reported data may lead to societal distrust because it can open up for the reporting of problems that are not verified and are the result of hasty conclusions. It may also create distrust vis-à-vis the state or the institution running the operation if data is collected without informed consent. Generally, it should be stated that the citizen cannot be held accountable for reporting or not reporting information.*

Recommendations:

- Raise awareness about the use of airborne sensors or information circulated on social media before utilizing them. Limit the use of information collected through sensors to CM only to avoid creating a culture of control.
- If you foresee the usage of social media and apps for reporting, avoid asking for information that may involve the naming of a specific group.
- Ensure cultural and gender sensitive planning of technology use for situational analysis to reach the highest share of participation possible.
- Ensure that crowd-tasking does not make crisis populations feel pressured to share information.
- Organize information campaigns in advance about the why and how of data collection how it will be used and collect informed consent of populations wherever possible.
- Ensure that data collection via CM technologies is only happening with the consent of the population and after having consulted the implementing decision makers/politicians.

- Reflect to which extent the increased reliance on crowd-tasking may shift responsibilities from public authorities towards the general citizen in a disproportionate manner. Communicate clearly what is the added value of crowd-tasking and where the responsibilities to collect information otherwise lie.
- Take into account whether other means and tools exist to collect information in a manner more suitable and proportional to the cause.
- If sensors or information produced online can (potentially) discriminate against cultural, ethnic or gender features, ensure that these are not fed into the analysis, unless strictly necessary, e.g. for the identification of missing persons.
- Always contextualize the use of airborne sensors and mark them clearly as first aid or emergency related.

See also (sub)categories: Data & Information;

4.2.3 Early Warning, Risk Analysis, Forecasting

Related WP and Tasks: 43.1, 43.3, 44.1

Within CM, risk analyses play an important part in the situational analysis to enhance preparedness and reaction and to ensure the effective use of resources. Within DRIVER, this is reflected in e.g. 43.1 and 44.1. Risk analysis and early warning are integral aspects for assessing crisis dynamics and approaching hazards (43.3). Because risk analyses and early warning systems have always been important technologies within crisis management, their secondary impacts are also well-explored, especially when it comes to their implementation.[49] This section focuses on the way in which risk analyses and public warnings may cause *general* negative effects on society when they are being *implemented*. For advice on methodological aspects of risk analyses check section 4.8.2

Trust & Social Cohesion: Publicly announcing risk or making early warning statements is always about announcing insecurity (which can sometimes be desirable and sometimes not). The disproportionate or un-actionable communication of risk can thus impact trust in governments and especially if the risk concerns specific groups, it may create distrust in society and towards the targeted parts of society. This happened e.g. in the Norwegian terror alerts in summer 2014, when the government released alerts about Islamist terror without concrete advice. Warnings may cause societal stress. Sometimes societal stress contributes to strengthening social cohesion and solidarity (e.g. after natural disasters) while other times the social fabric of a society tends to disintegrate when expose to certain kinds of severe stress (often the case in e.g. terrorist attacks). Alerts can cause a disproportionate atmosphere of unease (cf. unease in 92.11), which may impact trust in society and cohesion and distract from shared values (cf. truthfulness, transparency in 92.11).

[49] Furedi, Frank (2006) The Culture of Fear Revisited. London: Continuum. Jaeger, C; Renn, O, Rosa Eugene A, Webler, Thomas (2006) Risk, Uncertainty and Rational Action. London: Earthscan. Baker, Tom and Simon, Jonathan (2002) Embracing Risk. The Changing Culture of Insurance and Responsibility. Chicago: The University of Chicago Press.

Open Society vs. Control: A risk analysis is also a control-instrument. It can create incentives to answer the risk with a specific set of measures. A disproportionate focus on risk can result in spiral of creating a control-society.

Cultural & Gender Sensitivity, Non-Discrimination: Risk analysis, early warnings and forecasting exercises can be differently understood and may cause different societal reactions in different groups depending on culture and gender. Targeting specific societal groups in risk analysis may also lead to their stigmatization

Accountability: Since risk analysis and assessments are mostly conducted by scientific experts, it is often challenging to determine where ultimate responsibilities lie. It is difficult to identify who is to be held accountable when risk has been assessed or communicated in a way that politicians draw the wrong conclusions, which can cause disastrous consequences. This was the case of the scientific experts and government officials who were held accountable and judged for some of the damages caused by the L'Aquila earthquake in Italy in 2009, even though this judgement was discussed broadly in the aftermath and would not be effective in any jurisdiction.[50]

Transparency: If early warnings and risk analyses are not transparent, they will create suspicion, confusion and unease within society. They also can affect the credibility of the warning or analysis itself and/or the credibility of the actor in charge of their production and dissemination. (Cf. suspicion and unease in 91.11). Transparent communication of early warnings and risk means being honest about the degree of uncertainty and include what we know and what we do not know about the risk.[51]

State-Citizen Relationship: Risk analyses may alter the state-citizen relationship, especially if it results in the identification of every citizen or specific societal groups as a potential threat, which in turn calls for more surveillance (cf. Open Society vs. Control). Risk is always tied to a position of power as it defines what people should feel insecure about. Risk communicators may underestimate (or not be even aware of) this relation between risk and power

Integrity, Political Reputation: Disproportionate warnings can infringe upon political reputability and integrity of public authorities, as was the case during the Norway terror alerts in the summer of 2014.[52]

International Cooperation & Treaties: The communication or non-communication of risks, early warnings and forecasting can cause international domino-effects, especially when potential threats may spread across borders (e.g. pandemics, floods).

[50] BBC (2011), Italy Scientists on Trial over L'Aquila Earthquake. http://www.bbc.co.uk/news/world-europe-14981921

[51] International Federation of the Red Cross and Red Crescent Societies (2008) Bridging the Gap. Integrating Climate Change in Disaster Risk Reduction, p.8. http://www.ifrc.org/Global/Case%20studies/Disasters/cs-climate-change-drr-en.pdf

[52] http://www.aftenposten.no/nyheter/iriks/Kritiserer-mediene-for-a-skape-angst-etter-terrortrussel-7650037.html; http://www.aftenposten.no/nyheter/iriks/Kritiserer-mediene-for-a-skape-angst-etter-terrortrussel-7650037.html; http://klassekampen.no/article/20140728/ARTICLE/140729963; http://morgenbladet.no/samfunn/2014/et_glimt_av_usa#.VCLQI_mSx8E; http://www.jstor.org/discover/10.2307/30000168?uid=32605&uid=3738744&uid=32604&uid=2&uid=3&uid=5909240&uid=67&uid=62&sid=21104745263583http://www.dagsavisen.no/samfunn/krisepsykolog-advarer-mot-overdreven-frykt/

Suitability, Necessity & Proportionality: Communication methods for risk alerts and early warnings may not always be suitable and a public announcement is not always necessary. A non-suitable or really needed public announcement can be picked-up by the media and disproportionally communicated causing societal damage (e.g. fear, suspicion, unrest, etc.).

Freedoms: Warnings that may unintentionally be connected to specific territories or activities may lead to the avoidance of these areas or activities, without the real need to do so, and thus affect the freedom of assembly, movement, protest, or the local economy etc.

> *Example: Alerting systems developed within DRIVER should first and foremost include mechanisms that judge which warnings are proportionate. Disproportionate warnings may undermine trust of the society in the government and public authorities. Warnings that are published too late can infringe upon international collaboration (in case of spreading effects) or they can be misunderstood, which may lead to situations similar to the L'Aquila earthquake when populations did not leave the dangerous areas and premises. If they are spread too early and not in a transparent manner, early warnings and risk analysis may cause distrust in society and undermine the reputation of the warning organizations. This was the case in Norway in summer 2014 when the police alerted of an immediate potential Islamist terrorist attack. The benefits and negative effects of this terror alert have been widely discussed and criticized by the public in Norway.*[53].

Recommendations:

- Carefully plan the language of a risk communication. Give concrete advice for the situation so that people can act react in line to the communicated risk. Ensure international institutions that could have an interest in the potential spread of threats are properly and timely informed.
- Communication strategies on risks and early warnings or forecasting should be honest and transparent, and include what is known and what not about the future.
- Risk analysis need to include reflections on the way in which they favour specific measures.
- Avoid targeting specific groups in risk communication and early warnings. Plan risk communication and early warnings taking all potential audiences into consideration.
- Clarify the accountability lines of risk analysis and risk communication before making any related public announcement.
- Methodologies for conducting risk analysis and related communication polities need to be developed in a transparent manner
- Reflect about the fact that any communication of risk is also an expression of power over the citizens because it tells them what they should be afraid about.
- Organize a communication and media strategies dependent on the contents and the groups targeted by the alert.
- Reflect whether the formulation of the alert can have any negative impact on a particular group, area or activity.

[53] Ibid.

See also (sub)categories: Communication between crisis managers and to the public and Training; Cross-border and Cross-Sectoral Interaction

4.2.4 Communication Systems

Related WP and Tasks: 45.2, 45.3, 45.4

Communication technologies play a crucial role during crisis. Professionals and especially first responders need to be in constant communication and exchange data and information through secured and interoperable systems to ensure an appropriate response (e.g. in T66.3). The field of communication technologies develops rapidly. Systems are continually being introduced and the new mass-market devices enable the participation of the general public in crisis response with different results. Within DRIVER, e.g. WP45 will focus on secured interoperability tools aimed at improving for information exchange within the responder's community. Specifically Task 45.4 will assess the risks and opportunities of the use of existing and planned communication systems (i.e. GSM, TETRA, TETRA3); the interconnection with other systems; and the use of mass-market devices (i.e. smart-phones, tablets). Professionals involved in this task need to take into consideration that the analysis of existing communication tools, as well as the design and implementation of the guidelines can indirectly create side-effects to societal values.

Privacy & Data Protection: The exchange of data through communication technologies may infringe upon the legal requirements for the collection, storage and processing of data and information. This can happen e.g. if the data is being exchanged across borders, where the data protection legislation is not equally developed; and/or if there is a legal vacuum concerning regulation of cross- border data exchange.

Negative Standardization: If the communication technology, although not living up to the high standards of data protection, still becomes the commonly used technology or standard, it can be defined as a negative standardization. This can e.g. happen if the functionality or interoperability of the technology is operating so well that other negative aspects may be intentionally or unintentionally overlooked. Another side effect of this can be that it enforces technology dependency.

International Cooperation & Treaties: Finding solutions to international challenges, including communication technologies during a crisis, requires working together cross-border. If a cross-border measure or tool does not take international treaties and regulations (including, but not limited to data protection) into account, it can create large difficulties, especially for the implementation of the tool.

Political Reputation: If the communication technology does not function as intended, or if the implementation bears with it some controversial or sensitive challenges, it can negatively influence the political reputation of the developer or implementer of the tool. This can happen e.g. if the tool does not adhere to the legal requirements and processes personal data or if it does in an unsatisfactory manner.

Solidarity, Trust, Dignity & Non- discrimination: If the information communicated to the crisis population during a crisis is not experienced as trustworthy or thorough, it can seriously influence

the solidarity within the population, as they could feel that they cannot trust getting the information they need during a crisis. The same goes for a communication tool that does not function equally well in all countries, e.g. because of varying stages of technological development and/ or technical infrastructure.

> *Example: As the DRIVER experiments, crisis may very well become an international concern and require technology for cross border-communication. If this communication technology does not function in a way in which it creates a trustful relationship between the crisis managers and the crisis population, this can seriously reduce the applicability of the tool and even have spill-over effects into other domains of the international cooperation.*

Recommendations:

- Ensure that both the development and the implementation and use of the communication technology adhere to the relevant data protection legislation and pay attention to potential nuances in the various data protection laws.
- Ensure not normalize the use of communication technologies that may be flawed or risk becoming a negative standardization.
- Ensure no international treaties or regulations are overlooked, to e.g. ease implementation.
- It is very important that the communication tool functions equally well in all the countries involved to avoid discrimination or breaching solidarity.
- Ensure that both the use of and the information communicated through the tool is, and is being perceived as, trustworthy within the crisis population. This is particularly important when it comes to crisis management, as resources and time can be scarce.
- If possible, ensure that sufficient non-electricity/non-high-tech based ways of communicating is available as backup systems.

See also (sub)categories: Data & Information; Cross-border and Cross-Sectoral Interaction

4.3 Cross-border and Cross-Sectoral Interaction

Related WP and Tasks: 33.2, 36.3, 44.2, 45.2, 45.3, 45.4, 52.2, 53.1, WP55.

In an increasingly intertwined European society, cross-border communication, interaction, networking and international collaboration is of utmost importance for CM, and is taking place within all the different phases of what is referred to as the crisis management cycle.

Figure 1 Simplified version of the crisis management cycle

Networking and international collaboration are important to allow intra- and cross-border cooperation before, during and after a crisis. DRIVER includes the development of measures and tools that facilitate national and international interaction of CM partners, volunteers, professionals, institutions and the general public. Engaging and facilitating formal and informal social networks of citizens will also play an important role to ensure the participation of the general public and civil society in crisis management and thus enhance community resilience (33.2). International cross-border collaboration and networking happens through the organization of databases, tools and web-services aimed at creating collaborative tools for formal and informal exchange of information and data among professionals (45.2, 45.3), identifying competences (52.2, 52.4) and lessons learned (53.1), etc. Given the complexity of international collaboration and networking, the potential for creating secondary insecurities and challenges is high.

Trust: International collaboration among partners or actors is (usually) built on trust and the assumption of shared common values. However, if the collaboration happens among partners with inconsistent values, then the trust in the relationship will be affected. If the collaboration is not based on a common ground and shared values, the whole cooperation might fail. This may be particularly important when it comes to the rather sensitive topic of CM, where certain priorities necessarily need to happen over others. It should be reminded that any prioritization process implies –directly or indirectly- the projection of core values.

Political Reputation: of a collaborating actor might be negatively affected if a previous collaboration failed or was controversial. Equally, if collaborating partners perceive each other as political opponents in the domain of the cooperation or elsewhere, the setup of the international CM collaboration can be politicized in a negative way.

International Cooperation & Treaties, Open Society vs. Control: Following the borderless character of potential crisis, international collaboration and networking becomes increasingly important. There is a chance that the increase in international cooperation can be negative in a way that it raises the amount of regulations, which may add disproportionate complexity to the field (and potentially hinder transparency). This, in turn, would exacerbate the amount of control over societies affecting its core value of openness

Accountability, Transparency, Openness & Visibility: If the international collaboration to prepare for a crisis happens in a way that does not adhere to the principles of transparency, openness and visibility, it can become challenging to oversee that the actors involved are being responsible and are accounting for their activities. Public accountability will be reduced if there are no oversight mechanisms in place to see that the collaboration is happening according to the agreement and that it meets the stated objectives. Also, citizens have to be aware of cross-border cooperation

agreements for CM operations in order to be able to understand why e.g. non-domestic first responders or even military forces show up at a crisis scene.

Solidarity, Non- discrimination, Diversity: If the collaboration does not account for lower- income countries when distributing the costs and benefits of the CM activity, it may infringe upon the principle of non- discrimination by adding extra burdens to an actor/s that is/ cannot bear them. An unfair distribution may also affect the feeling of solidarity within the collaboration, if e.g. a certain actor is unable to voice its concerns on the same line as the others. When setting up the collaboration, if there is a skewed representation of gender and/or cultural sensitivities, it can be seen as being discriminatory and limiting diversity.

Privacy & Data Protection: If the collaboration or networking activity includes the collection, storing or processing of personal data, there is a risk that the legal frameworks in place to regulate such activities differ among the partners. Also the exchange of data and information could be challenged or hindered by arrangements or agreements regulating data exchange between the number of countries involved in the collaboration.

> *Example: If a country within the Schengen-area wishes to exchange personal data with a country outside the Schengen -area, different rules may apply. If this is not taken into account from the outset of the collaboration, it can seriously jeopardize its implementation, as necessary approvals may take a long time to get, and in the worst case, make the whole collaboration impossible.*

Recommendations:

- Agree on some fundamental, predefined and shared values as the basis of the collaboration will raise the level of trust among partners and thus contribute to the success of the collaboration or networking activity.
- The networking or collaboration should happen as openly and transparent as possible to show the collaboration is happening according to the agreement and meeting its stated objectives.
- Ensure national legislations are taken into account early in the planning of the collaboration as this will safeguard the collaboration against potential legal non-compliances.
- If the collaboration is of economic nature or has large economic impacts, make sure to account for eventual low- income countries and distribute the costs and benefits accordingly.
- The design of international collaborations, e.g. between two countries or two industry partners, should consider gender and cultural related aspects both in its structure and measures to be implemented.

See also (sub)categories: Data & Information; Cross-border and Cross-Sectoral Interaction Communication Systems;

4.4 Communication between crisis managers and to the public

Related WP and Tasks: 35.2., 35.3, 35.4, 36.2, 36.3, 43.3, 44.3, 45.3, 45.4

Communication tools are essential, if not the most essential part in CM, for informing the public about upcoming hazards and taking appropriate measures. They are not only important for alerting the population (35.3) in the early warning phase but also in the preparation phase (35.4). Knowledge on how to address particular stakeholder groups via media can help channel the willingness of the public to help in a way that assists and does not obstruct the response. In the last years responders had to learn that spontaneous volunteers (36.2, 43.3) are not only individually acting in disaster sites, but organizing themselves using social media. It is thus important to have communication tools in place and use them to organize spontaneous volunteers and direct them in the most suitable way for CM (36.3, 44.3). The impact of modern collaboration tools (45.2) on CM is noticeable on a daily basis. So any improvement in a structured information exchange (45.3) is a welcome development for CM. Furthermore in order to overcome the impacts on telecommunication infrastructure the communication in a CM scenario mostly relies on radios (45.4).

Trust: Trust is based on open, direct and honest communication. When the population (or any other key stakeholder in the communication process) gets the impression that CM tries to retain information, this will lead to the loss of trust and might compromise the appropriate response of sectors of the population to a hazard.

Solidarity, Participation, Social Cohesion: Communication tools for alerting and preparing the population which exclude or treat certain groups of society preferentially over others are likely to have a negative impact on the social cohesion. This is especially important since solidarity and social cohesion are key factors for promoting community resilience. Very frequently it is not the response but family, neighbours or habitants of the area which rescue affected people in case of disasters. In earthquakes 80-90% of the saved persons are found by neighbours or persons that were around the area when the collapse occurred. Failure of preserving the social cohesion may thus – in a worst case - endanger lives.

Diversity, Cultural & Gender Sensitivity: Social exclusion can be based on language and language proficiency, gender, ethnicity, class, socio-economic status and also age. The cultural background influences the perception of risks. Failing to embark cultural sensitive crisis communication and develop social inclusive tools may prevent particular groups from preparing for a disaster or taking the proper protective measures in the occurrence of a disaster.

Open society vs. Control: Communication tools for crisis and preparedness communication with the population might contribute to the feeling of a centralised control mechanism. Any information provided by the public is centralised in one place and might therefore easily be searchable and used for controlling groups or the population.

Transparency, Openness & Visibility: If a response organisation uses tools for the communication with volunteers or the population, those tools, if they communicate only limited information, may give the population the feeling of lacking information about the “bigger picture” and leaves the population with a feeling of in-transparency. In cases, where openness of the communication process cannot be put into practise because, e.g., it affects other core values such as data protection, crisis communicators shall make sure to explain the need and benefit of such tools helping the public to decide whether they want to use this tool.

Political Reputation: Communication itself but also trust can influence the political reputation of an organization involved in CM. In case of bad or lack of communication, the opinion of the population towards an organization may change drastically.

Suitability, Necessity & Proportionality: Communication tools like cell-phone apps may gather more information on the users and their surroundings than originally necessary to overcome a CM situation – thus being not proportional and prone to misuse.

Privacy & Data Protection, Open Society vs Control: Using bi-directional communication tools in CM such as social media or mobile apps -where the population can feed back information- may enhance the situational picture of responders. At the same time authorities may gather sensitive data from users such as movement profiles or information on infrastructure and surroundings. As a result the right to privacy and data protection can be affected and perceptions of being "watched" and controlled spread among the population.

Dignity & Non- discrimination: Communication is very sensitive when it comes to dignity. It is not just the means of communications, the "channel", it is also the content of the communication, the information, than can have a detrimental impact of people's dignity if not treated in a sensitive manner. For example, smart phone penetration is quite high among different nationalities, socio-economic, cultural or gender backgrounds. It is not the smart-phone itself (the channel) but the framing of messages that can exclude certain groups from being included in the preparedness and response phases if, e.g., sending textual warning measures only in the national language when there are groups with little language proficiency or if the written messages use a small font which may not be readable by elder people. *Example: Failure of crisis communicators to embark on inclusive communication practises (35.2, 35.3, 36.3) may compromise community resilience as it may prevent certain groups of the population from preparing for and applying the proper measures in the case of disasters. Thus in the framing of messages the selection of media channels and the development of communication tools, factors such as language, language proficiency, cultural background and/or physical limitations should be considered.*

Recommendations:

- When formulating alert or preparedness messages they should not only be adjusted to the particular media channel but also consider socio-cultural factors such as language, language proficiency, gender, nationality, ethnicity, class, age and/or physical limitations.
- A mobile phone app for bi-directional crisis communication with the population itself is not exclusive per-se, because smart phone penetration is quite high irrespective of nationality, socio-economic, cultural or gender background: it is the framing of messages that can exclude certain groups (e.g. exclusively textual warning measures in the national language using a small font may exclude elderly who cannot read the letters as well as people with a little language proficiency, regardless whether they are members of the majority of the population or migrant groups).
- Organizations should consider having non technological alternatives or very-simple-to-access technological possibilities for special groups within the population.
- When designing tools for bi-directional communication with the population or organizing volunteers their conformity with European data protection regulations must be ensured.

- Communication with whichever group has to be clear and transparent. The needs of the beneficiaries are to be addressed and the benefit of taking specific measures or feeding back data to the response bodies should be communicated to the public.
- Above recommendations should be taken into account when designing training curricula of crisis communicators and media stakeholders.

See also (sub)categories: Data & Information; For Community Resilience; Communication Systems; Early Warning, Risk Analysis, Forecasting;

4.5 Other Forms of Training

4.5.1 Psychosocial Support

Related WP and Tasks: 32.2, 32.3, 32.4

Psychosocial Support (PSS) after CM interventions contributes to the psychological well-being of responders as well as of the affected population. In DRIVER, PSS training activities (32.2, 32.3, 32.4) aim at giving responders (both dedicated responders and affiliated volunteers) the means to cope with stressful psychological situations and also to enable responders to provide psychological support to the affected population. Especially when training activities are aimed at the population, potential detrimental impacts shall be taken into consideration.

Trust: PSS training is strongly based on trust as participants may have the feeling that they will give away a very private part of their lives in those trainings. Also, if the organisation providing the PSS training and interventions is not perceived to be trustworthy, potential trainees will not take the courses and the population may not be willing to receive the PSS services provided by this organization.

Diversity, Freedoms & Protest, Social Cohesion: PSS training may exclude some groups within the population (e.g., as PSS relies heavily on communication, it can happen that due to language issues some part of the population is excluded). The selection of potential volunteers may influence social cohesion in a negative way, when members of specific groups are discriminated against on grounds of their nationality, gender, language, ethnicity, class, and/or religion. As members of specific groups, such as migrant communities and social minorities, are often underrepresented within volunteers from response organisations, this can challenge the respect to diversity not only within the organization providing the training but also during the implementation of PSS programs and activities (e.g. some affected people may prefer to be supported by someone from their own cultural background).

Participation: Trainees should be given the opportunity to participate in the design and improvement of the training curriculums. If, for example, participants provide feedback on the training and their input is ignored or their proposed improvements not included in future training rounds, they will have the feeling of being excluded and may not be willing to participate again.

Cultural & Gender Sensitivity: In PSS training the cultural background of a person plays a very relevant role (e.g. grief is very differently expressed depending on culture, gender, religion and age and some training content can challenge religious believes).

Integrity: In a worst case, PSS training could be used to manipulate people or to give them the wrong information. This would in turn lead to the loss of integrity of the organization offering the training.

Privacy & Data Protection: The organization offering the training could give away the data of the trainees thus data protection shall always be ensured.

> *Example: When testing a sports-based PSS training in an urban setting, a double exclusion of participants could happen if those activities are not designed to include physically disabled people, trainers fail to cover relevant languages, and/or are not aware of different culturally diverse coping mechanisms.*

Recommendations:

- When designing PSS training curriculums and selecting participants ensure that socio-cultural diversity is taking into account in the curriculum and the profile of trainees is as inclusive as possible. Trainers should be able to deliver PSS to various societal target groups and take into account different culturally bound coping mechanisms.
- When testing PSS training activities in other national contexts, ensure that the new host organisation of that training is perceived as trustworthy and the competence of proving psychological support is credible.
- Training curriculums should pay special attention to how to establish a sphere of trust among trainees and later on with the target population.
- Ensure the right to privacy of trainees and future PSS recipients is always upheld and comply with European data protection legislation and rights.
- Drawing on the approach from medical first aid, the rules for PSS for lay persons can be designed to minimize additional harm, by actively engaging in a crisis situation.
- Pay attention not to overburden the crisis population with responsibility post- crisis.

See also (sub)categories: For Community Resilience; Data & Information

4.5.2 Media & Policy

Related WP and Tasks: 35.2

Training courses for responsible authorities in CM and media stakeholders are not the main focus of the DRIVER experimentation towards enhanced crisis communication with the population. However the wrong application of (inclusive) communication tools and (culturally sensitive framed) messages can undermine any previous efforts leading to negative societal impacts.

Media contact during a crisis is highly probable. Therefore crisis communication training courses for CM professionals, public policy makers and media stakeholders (35.2) enable the more effective use of media channels and the appropriate framing of messages to reach the various groups within population. During a cross- border or cross-sectoral crisis, the need for coordination is critical, and badly coordinated messages can have devastating consequences. The application of non-inclusive

communication tools and cultural- and gender insensitive framed messages can undermine any previous efforts leading to negative societal impacts. Therefore crisis communication training courses for CM professionals, public policy makers and media stakeholders should take into consideration the following potential societal side-effects. When people conclude that they are at risk (by perceiving a risk or being told by authorities or the media) they are more likely to take proactive action. Studies suggest that people take action when they think they are at risk implementing the most appropriate actions they know.[54]

State-Citizen Relationship, Participation, and Solidarity: The feelings of solidarity with the crisis population and the participation of society in citizen-to-citizen help can be jeopardized if the message communicated by authorities only stresses the efforts undertaken by the professional response community, disregarding the role of the population in preparedness and response.

Transparency, Openness & Visibility: Unsufficient communications training can result in a bad or wrongful communication style both in terms of the content of the message and its framing. This can result in perceived (or real) feelings of lack of transparency, openness and a bad visibility of important issues among the population and thus negatively influence the actions people may take in the aftermath of a disaster. For example, during the first case of Ebola outbreak in Spain in October 2014, the communication strategy of the Spanish central and local governments, including the information and messages sent by public officials, were highly criticized for the lack of transparency and openness which lead to confusion, social alert, and a strong discomfort with the way the crisis was managed by the Spanish authorities.[55]

Trust, Political Reputation: Failure to communicating truthfully can jeopardize the trust of citizens in the official response. Especially it will damage the political reputation of the involved authorities and organisations as was the case during the Spanish government response during the outbreak of the first case of Ebola in Spain (see also above).[56]

Cultural & Gender Sensitivity, Social Cohesion: Communicators not trained to account for cultural and gender related differences can lead to the discrimination against certain societal groups over others and affect social cohesion in a negative way.

Privacy & Data Protection: During training sessions, especially those targeted to authorities and media stakeholders, proper treatment of personal data should be assured to build trust among trainees and avoid the leakage of private or sensitive data and information.

> *Example: The communicator's training could focus too much on how communicators shall stress the efforts undertaken by the professional response teams disregarding how the ordinary people themselves can prepare and react. In such cases this could contribute to a "habitus of consumption" on the side of the population (i.e. when the population relies on the CM to help them in any situation and disregard the importance of their contributions for self-help and citizen-to-citizen help)*

[54] Lindell et al (2006) Fundamentals of Emergency Management

[55] El Pais (2014), Los cinco errores de comunicación institucional en la crisis del Ebola, http://politica.elpais.com/politica/2014/10/09/actualidad/1412872730_989674.html

[56] El Pais: Ebola in Spain: Five days after Ebola case confirmed, Deputy PM takes control of crisis, http://elpais.com/elpais/2014/10/10/inenglish/1412949468_311967.html

Recommendations:

- Enable communicators to select media channels and frame messages considering socio-cultural factors such as language, language proficiency, gender, nationality, ethnicity, class, age and/or physical limitations.
- Joint trainings between responsible crisis communicators and media stakeholders contribute to the openness and transparency of the communication process and a better mutual understanding.
- Always ensure conformity with European data protection legislation and rights.
- Ensure that functioning cross-organisational and cross-border coordination mechanisms are in place in order to avoid non-harmonised or even conflicting messages through different channels or in different countries.

See also sub(categories): Other forms of Training; Data & Information; Early Warning, Risk Analysis, Mapping;

4.6 Resilience Logistics & Contingency Plans

4.6.1 Resources, Supply Chains & Contingency Plans

Related WP and Tasks: 44.1, 44.2, 44.4, 44.5, 46.1

Distributing resources via well-functioning supply chains, and also ensuring that contingency plans are in place is crucial for CM. Within DRIVER, resources can be human and material- in terms of knowledge, deriving from cross-border cooperation (44.2)or material resources (such as a disaster relief supply chain in 44.4).

Accountability, Trust: If the CM professionals have reasons to believe that contingency plans are not in place, or if they have proven not to be in place, this can negatively affect the accountability of the responsible actor. This can lower the trust of CM professionals towards the organizational leader.

International Cooperation & Treaties: When working together to set up a supply chain or plan for the distribution of resources, it is possible that certain legal frameworks are not harmonized, specially, at cross-border and international levels (e.g. regulating the use of airborne sensors). This, among other factors, may make international cooperation difficult or, in the worst case, impossible.

Gender & Cultural Sensitivity, Dignity & Non- Discrimination: When setting up a supply chain or distributing resources during a crisis, there is a risk of discriminatory distribution of supplies and resources in terms of recipients (whom the supplies and resources reach) and content (what is included in the supply or what kind or resources are being distributed) of the supply chain). Men and women, as well as culturally diverse societal groups, have different needs (e.g. different kind of hygiene articles; dietary restrictions for Muslims and Jews). These needs to be taken into account from the outset). Another discriminatory practice can be that the supply chain is organized in a way that favours or overlooks some social groups over others (for example, if it treats homeless people,

immigrants, marginalized people, etc., differently or does not target them at all) This can also be seen as denying peoples dignity.

Accountability, Political Reputation: the overall coordinator body for preparedness and response is usually a national governmental agency on which the accountability and responsibility of the actual crisis management relies on. If the management of the actual crisis –whether in terms of distribution of resources, functioning of supply chains, or contingency planning- fails or is mismanaged (e.g. discriminating against ethnic groups, or ignoring gender considerations, see above), the political reputation of the local or central government itself will be massively affected. In the aftermath of hurricane Katrina in 2005, the Federal Emergency Management Agency (FEMA) was heavily criticized for its slow and inadequate response as well as for its inability to coordinate efforts with other federal agencies and organizations. Criticism from politicians, activists, and journalists were directed at the local, state and federal governments.[57] This is very important to consider as citizens expect coordinated emergency help from their authorities despite the fact that citizens are already expected to help themselves..

> *Example: In T44.4, the the efficiency and capacity of the storage and transport of resources is evaluated. If the scenarios for testing the efficiency and capacity of the supply chain do not account for different cultural or religious needs when deciding upon its content, it might be perceived as infringing upon values of diversity, non-discrimination, and dignity.*

Recommendations:

- When designing a supply chain, make sure the costs and benefits are fairly distributed between the partners.
- Ensure contingency plans are in place to safeguard against possible unforeseen events.
- Ensure the resources and content of the supply chain takes respects the diversity of the target population I taking gender, religious and/or cultural needs and rights into consideration. This could e.g. mean to include hygiene articles suitable for females, and include food that is suitable for all religions.
- Ensure that the distribution of resources does not discriminate against any social groups in a way that can be seen as denying the dignity of people.

See also (sub)categories: For Costs & Effectiveness Assessments; Early Warning, Risk Analysis, Forecasting; Situational Analysis & Impact Assessment, Mapping;

4.6.2 Core functions in the city

Related WP and Tasks: 34.1

[57] Mentioned in http://en.wikipedia.org/wiki/Social_effects_of_Hurricane_Katrina

When it comes to crisis management, one crucial issue is to uphold (or restore) the core functions in the city to avoid additional damage and negative effects. Resilience logistics and contingency plans in DRIVER refer mainly to the resilience of local governments and related areas of mobility, energy, water, buildings, logistics and information technologies (34.1). This task includes the identification of core functions within government and the development of indicators and plans for strengthening their resilience. Since the identification of core functions and resilience indicators itself is unlikely to produce negative effects, potential secondary impacts are highly dependent on the methodologies that are chosen to conduct these identifications and which may influence the results.

Trust, Participation: If those institutions and companies working on core functions in the city are not included in the process of identifying indicators, contingency plans may not reflect the actual needs and important companies may not feel the necessary commitment to implement them later. They may not trust the accuracy of the contingency plans.

Accountability: Contingency plans often come with an associated accountability and responsibility chain for specific partners and officials to provide backup solutions. If the accountability and responsibilities chains are not clearly set out in advance, or set our unfairly, accountabilities are not likely to be assumed in times of crises and the response might be jeopardize.

Cultural & Gender Sensitivity, Diversity, and Dignity & Non-discrimination: If the identification of core functions and the development of contingency plans is not culturally and gender sensitive, it may neglect crucial aspects and rights of many members of society and specific societal groups **Transparency:** Should the identification of core functions, the development of contingency plans and related indicators not be transparent, it may lack the involved companies' trust and acceptance or may cause confusion once emergency strikes.

Political Reputation: The identification of societal key functions is always intertwined with political agendas. If political influences on the contingency plans are disproportionately big, the plan may lack acceptance by those who are supposed to implement the plan or by the general population and result in negative political reputation (especially if the actual response to a crisis results poorly)

International Cooperation & Treaties: Many infrastructures are of international dimension because they include international providers or cross territories of different nations. This and the respective international regulations need to be taken into account for contingency plans to work.

Suitability, Necessity & Proportionality: If the identified indicators for contingency plans are neither suitable nor necessary, meaning that other, potentially better indicators exist, they risk not being proportional to the aim.

Privacy & Data Protection: Should information about core functions and infrastructures be secret, confidential or private, this data cannot be accessed without the respective approvals.

> *Example: If contingency plans fail to include the key partners, as well as gender- and culture-sensitive perspectives into the developments of such plans, they risk ignoring important aspects of CM. If such plans do not set out who the responsible partner for implementing specific measures is, they will not be effective. The influence of secondary political agendas on the devising of such plans should be carefully evaluated and made transparent in order to increase the acceptance and durability of contingency plans.*

Recommendations:

- Ensure partners responsible for core functions in the city are part of the process of identifying indicators.
- It should be verified whether, how and to what extent identified partners can actually be held responsible for contingency plans and backup solutions.
- Review your contingency plans to check whether all solutions are culturally and gender-sensitive.
- Devise transparent contingency plans that state responsibilities and first response actions clearly.
- Reflect about and steer the influence of political agendas on contingency planning.
- When designing a contingency plan, verify which core functions are connected to international infrastructures and ensure the inclusion of necessary international partners and respective regulatory issues.
- Ensure indicators for contingency planning are suitable, necessary and proportional to the contingency plan's aim to avoid unnecessary negative secondary effects.
- Organize the relevant approvals for data access in case some information about core functions in the city is secret or involves private or personal data.

See also (sub) categories: Resources, Supply chains & Contingency Plans;Cross-border and Cross-Sectoral Interaction ; Data & Information;

4.7 Decision Support Systems & Simulations

Related WP and Tasks: 35.3, 44.1, 44.4, 44.5, 54.3

Simulations are a common method for preparing for crisis[58] and they can be useful to test solutions or tools to enhance the management of a real crisis. A large part of DRIVER activities revolves around developing and testing CM solutions through scenarios and simulations. This category includes only simulations and decision-support systems that are used as an operational CM tool. Task 44.4 models and develops scenarios for the supply chain to enhance CM preparedness, which then feeds into 44.5 which stimulates the occurrence of unforeseen events and creates a decision-support tool (an application) for professional logistics crisis managers. The partly unknown accuracy of this method includes some risks.

Diversity, Social Cohesion, Dignity & Non-Discrimination: If the scenario that the exercise is based on targets or portrays certain groups of individuals in a particular way, (i.e. not taking the core value of diversity into account), it can potentially have a negative influence on the social cohesion of the society. For example, if the scenario is based on the anticipated misdeeds of Islamist groups, it can infringe upon social cohesion within society resulting in the marginalization and discrimination against Muslims.

[58] See e.g. Falenski, A., Filter, M., Thöns, C., Weiser, A. A., Wigger, J. F., Davis, M., ... & Käsbohrer, A. (2013). A Generic Open-Source Software Framework Supporting Scenario Simulations in Bioterrorist Crises. Biosecurity and bioterrorism: biodefense strategy, practice, and science, 11(S1), S134-S145.

Trust, Freedoms & Protest: Even if the experiments happen within a controlled environment, if the participants are not informed in advance of the nature and purpose of the activity, it can cause mistrust and infringe upon the desired truthfulness of the project, as individuals could feel misled. If the participants do not feel that they have the freedom to object to the exercise, or voice their concern about it, it can influence the functionality of the final tool.

Privacy & Data Protection: If the legislation is not followed, and the development of CM solutions is not founded on common legal (mainly data protection) and ethical principles, implementation and distribution of the scenario- based tool may be difficult.

State-Citizen Relationship: If the use of the scenarios for large exercises involving the public happens without informing the public in a duly and timely manner, it can negatively influence the relationship between the state and the crisis population. The population could feel unease or discontent when being exposed to the potentially disturbing scenario- based exercises. There is also a risk that the population does not agree on the scenarios chosen for the exercises as being the most relevant. This can be further invoked if the population is scattered across a large area or a large country where the needs are very varying (such as strong urban- rural divides).

Negative Standardization, Diversity, Gender & Cultural Sensitivity, and Accountability: If the scenarios that are chosen as the basis for the exercises do not take cultural- and gender diversity in society into account, it can cause problems for the accountability of the exercise and/ or implementation of the tool at stake. If the particular scenario continues being used in other exercises as well, it can be defined as a sort of negative standardization also because the scenario may not be equally applicable in other contexts.

> *Example: The scenarios that are being simulated in the CM experiments in DRIVER can appear as distressing as they remind individuals of current threats and insecurities in society. The scenarios are based on modelling and simulation in consort with realistic real life experiments. If data protection principles such as obtaining informed consent from the participants is not followed or if no de-briefing is offered, it will be a breach of legislation that can negatively affect individuals right to privacy and dignity.*

Recommendations:

- Ensure relevant data protection legislation is being respected and pay particular attention to the regulations concerning getting informed consent from the participants in experiments.
- When designing the scenarios, be careful not to stigmatize or discriminate against certain groups based on ethnicity or religion.
- Account for diversity as well as gender and cultural sensitivities when designing the scenarios.
- Ensure participants are informed about the nature of the scenario- based activity and ensure that there are mechanisms in place that allow them to voice their concerns or object to it.
- Do not reuse scenarios uncritically and reflect upon the fact that the predictions included in the scenarios may be false.
- Consider technological solutions applicable to different scenarios and not within one context only. Even within that context, the variations in variables can be formidable.

See also (sub)categories: Data & Information;

4.8 Harmonization

Related WP and Tasks: WP 52, 43.1, 53.2, 54.1, 54.3, 55.1, 55.3

When collaborating during all sorts of CM activities, a harmonization of practices (sometimes related to standardization, but here more policy-oriented) is a basic principle that emerges in different scales and has relevance on different occasions. When harmonizing standards or routines for CM, especially in the critical response phase, the in-advance planning and preparedness is crucial. Within DRIVER, many activities revolve around harmonization and cooperation. In 55.3, the outputs of training sessions on psychosocial support are harmonized with training and support tools. In 55.1, the focus is the collaboration between professionals and the general public, focusing on how different professional organizations can align with each other their collaboration with the public.

Negative Standardization: When harmonizing language and terminology, it may happen that the harmonization adds organizational or regulatory layers to the activity, and thus makes it unnecessarily complex. If this e.g. results in adapting new terminology that does not fit the cause or that is too foreign to use, is can be seen as a form of negative standardization.

Freedoms & Protest, Participation: If the harmonization is an attempt to standardize controversial or sensitive terms, there is a risk that harmonization can infringe upon the individual's freedom to express their opinion by deciding upon one version or concept over the other, and thus negatively influencing public participation.

Dignity & Non- discrimination: A harmonization of certain equipment standards or similar can be seen as discriminating or not respecting the dignity of individuals, if they are not accounting for diversity while operating or exercising the harmonized standards (e.g. not allowing the affected individuals to practice their religion freely or by not considering people with disabilities which prevent them from using the standardized equipment).

State- Citizen Relationship, Solidarity: If harmonization of terms or practices happens in a way that interferes with strong societal traditions (e.g. not allowing for burial ceremonies and imposing cremation in case of pandemics), it can negatively influence the relationship between the state and the citizens. If the state (e.g. through tool development or reforms) decides to harmonize, and thus change, a solution or concept that is deeply rooted in the population, it can even risk causing a negative influence on the solidary towards the state.

Trust & Solidarity: If the harmonization of data exchanges does not happen on the basis of commonly shared values and legal and ethical principles that are important for the involved, it may create distrust and a breach of solidarity among the crisis professionals or tool developers (followed by lack of acceptance for novel tools).

> *Example: In WP52, the aim is to develop a harmonized and systematic competence framework, integrating different existing learning and competence approaches for CM in Europe. A special emphasis is put on the process to generalize and harmonize cross-border and cross-organizational contexts together with end-users. If the harmonization does not account for the needs and concerns of the different CM actors involved, it can be seen as having a negative impact on the diversity or accountability of the approach.*

Recommendations:

- Ensure that the harmonization of terms or language does not infringe upon individuals freedom to speak or right to protest.
- Respect diversity by allowing individuals to practice their religion, and avoid forcing routines or policies on to individuals in a way that it interferes with personal or religious beliefs.
- Pay attention so that the harmonization actually does not complicate matters unnecessarily, thus contributing to an over-engineered area of control.
- Harmonization through the exchange of information needs to happen in a transparent and trustworthy way, ensuring that all partners are respecting legal and ethical principles.

See also (sub)categories: Psychosocial; for Learning Activities & Lessons Learned; for Competence Building; for Decision-Making;

5 Methodology

These two final categories are placed outside the main assessment chapter, as they refer to tasks that are not operational CM. They include preparatory and research-oriented work and are of methodological nature. The recommendations of these categories will most likely not feed into the PoT. They are, however, important categories at this point in time when tools are being developed and tested.

5.1 Strategy Design

5.1.1 For Community Resilience

Related WP and Tasks: WP33

Enhancing and enforcing community resilience is a corner stone for crisis management in general. This is also reflected within DRIVER, e.g. in WP33 which aims at creating a community resilience model with indicators and measurement tools to assess resilience in urban and rural areas across Europe (33.1). Community resilience is reflected, among other things, in the quality of the psychosocial support provided (33.3) and the ways in which community support is organized through civil society and social networks during and after a crisis (33.2). The selection of indicators for the community resilience model and the design of an efficient and measurable approach itself can create undesired secondary effects that can have a detrimental impact in the future implementation of the community resilience model. These assessments and recommendations will focus on the way in which the *standardization and modelling* inherent in these tools can cause secondary effects.

Trust, Participation: If indicators to measure resilience are not developed in participatory way including all the necessary groups, they will most probably lack trust and acceptance within society. **Social Cohesion, Solidarity, Open Society vs. Control:** If resilience is measured and turned into a "competition" about bouncing back after disaster, it may affect social cohesion negatively and put citizens under pressure rather than inspiring neighbourly help. The establishment of generalized indicators for resilience may disrespect local forms of coping, as such they may permit the feeling that even bouncing back after disasters becomes a performance that is being measured and controlled.[59]

Cultural & Gender Sensitivity, Diversity, and Dignity & Non-discrimination: Resilience indicators that are not sensitive to culture- and gender-specific issues may not measure important resilience dynamics and neglect key necessities within specific groups of society, infringing upon key societal values such as diversity, dignity and non-discrimination.

[59] http://www.newsecuritybeat.org/2013/05/measuring-community-resilience-implications-development-aid/ (Measuring Community Resilience)

Accountability, State-Citizen Relationship, Political Reputation: If resilience is being measured it may entail that groups that do not perform well according to these indicators risk being held accountable for their negative results. Even if they are not officially being held accountable, performance indicators may produce the feeling within society that they are being held disproportionately accountable for dealing with crises they have not caused. Resilience metrics may emphasize a shift in responsibility for crisis management towards the citizen, which changes the relation between the citizen and the state (sovereign). Citizen may feel abandoned. This disproportionate "outsourcing" of CM to the citizen may infringe political reputation negatively. This happened, for example, after Hurricane Katrine hit New Orleans.[60]

Transparency, Openness & Visibility: If resilience metrics and indicators are not transparent, they may meet a lack of understanding in the population and infringe upon the comprehensibility and reproducibility of the results of the measurements.

Negative Standardization: If resilience indicators become a standard for assessing crisis populations, the negative aspects of self-help and a feeling of abandonment and a shift in responsibility may also become a standard situation.

Suitability, Necessity & Proportionality: If the chosen indicators are not suitable (a possible indicator for a broad development), necessary (the best possible indicator for a development, there is no other) and proportional (is it over-representing?), the results of resilience metrics will be futile.

Privacy & Data protection: Some indicators may only be measurable by accessing private data, especially when it concerns forms of coping within the population. If their consent to use this information to measure resilience is not given, resilience metrics infringe upon privacy and data protection.

Freedoms & Protest: If resilience metrics policies are implemented without the population's consent, it may spark protest within specific communities, which may prove hard to express within specific political frameworks. This has happen, for example, after Hurricane Katrina in the USA where affected communities protested against the Federal Emergency Management Authority policies in various states.[61]

> *Example: If the DRIVER assessment of resilience in specific populations is conducted with indicators that are not developed under the participation of the affected groups, they risk not being gender- or culturally-sensitive; they may miss out on important resilient developments; and may lack trust and acceptance in the population that is supposed to be assessed. Pointing out negative results can entail that the affected groups feel disproportionally held accountable to cope with crises they did not cause, which may in turn cause protest and strains the state-citizen-relationship.*

Recommendations:

- Include diverse and potentially affected parties in the development of resilience indicators to ensure that resilience models are trusted and accepted. Include local forms and ideas of coping into resilience planning, as far as possible. Find culture and gender-sensitive indicators for resilience

[60] http://www.rhizomia.net/2014/02/comment-on-tom-slaters-blog-post.html
[61] Mentioned in http://en.wikipedia.org/wiki/Social_effects_of_Hurricane_Katrina

- Avoid shifting resilience responsibilities to the population by holding them accountable for resilience actions or turning resilience performance into a "competition" by over-engineering resilience metrics and politics. Ensure that shifting responsibilities is not becoming a new standard.
- Make resilience indicators as transparent and comprehensible as possible. Ensure that they are suitable, necessary and proportional.
- If you need to access potentially private data to measure resilience, only do so after you have collected informed consent.
- Ensure that the populations have a chance to express protest or concerns about bearing the responsibility of having to be resilient.

See also (sub)categories: Data & Information;

5.1.2 For Early Warning & Risk Analysis

Related WP and Tasks: 43.1, 43.3, 44.1

For crisis management, risk analyses play an important part in the situational analysis to enhance preparedness and reaction and to ensure the effective use of resources. Within DRIVER this is reflected in. 43.1 and 44.1 for example. Risk and early warning are integral aspects for assessing crisis dynamics and approaching hazards (43.3). As opposed to 5.2.3, which focuses on the *implementation* of risk analyses and early warning systems, this section focuses on those effects that need to be taken into account when *developing and modelling* risk analyses and early warning strategies.

Participation: If those parties who know best about risk and the societal reaction to risk are not included in the design of risk analyses and early warnings, the actual risk analysis and early warnings be ineffective.

Open Society vs. Control, Privacy & Data Protection, and Negative Standardization: Indicators for detecting risk can themselves be intrusive, for example if they include personal or private information. In order to cover as many risk factors as possible, risk methodologies often also control many aspects of social life, which can, if disproportionate, foster a culture of control or a risk society in which everything has potential to become a risk or be seen and framed as a risk.

Cultural & Gender Sensitivity, Dignity & Non-Discrimination: Risk analysis can be based on indicators and variables that follow a too specific or discriminatory picture of culture and gender, as for example known from the context of ethnic profiling in counter-terrorism practices.[62] These indicators and methodologies foster discriminatory practices in the long term.

Accountability: Risk analyses are on the one hand a scientific method but on the other hand they are often connected to the societal responsibility of communicating danger. If the aspect of responsibility is not addressed and regulated before risk analyses are conducted and warning messages issued, risk analyses may cause problems in terms of accountabilities in case the prediction

[62] Kaufmann (2010) Ethic Profiling and Counter-Terrorism, Examples of European Practice and Possible Repercussions, LIT Verlag Münster.

of a risk analyses has been communicated in a way which left too much room for wrongful interpretation. This was the case with the risk communication preceding the L'Aquila earthquake where members of the scientific community have been sentenced in the aftermath of the earthquake for not issuing adequate warnings.[63]

Transparency: If methods for conducting risk analyses and early warning communication are not transparent, they may easily cause confusion and results that are not fully comprehensible and reproducible.

International Cooperation: Especially when it comes to the analyses of international risks, methodologies, if not carefully designed, may not be internationally compatible or applicable and produce differing results and differing threat messages, which in turn impacts international cooperation negatively.

Suitability, Necessity & Proportionality: If the method or the communication modus for early warning is neither suitable for, nor proportional to the purpose, they produce skewed results and confusion, which can have dangerous consequences in the case of crises.

> *Example: Risk indicators need to be carefully designed to avoid intrusion and non-discrimination. If their development happens without the participation of relevant experts, they may be ineffective and forget to reflect gender- and culture-specific risks. The development of risk indicators needs to be transparent to allow for reproducible results. If accountabilities are implicitly attached to risk analyses they may lead to difficult legal situations, as for example after the L'Aquila earthquakes, which should be avoided.*

Recommendations:

- The development of risk analyses methodologies and the design of early warnings should happen under the participation of societal representatives.
- Define indicators for risk analyses that are not intrusive, non-discriminatory, as well as gender- and culture-sensitive.
- Design the analyses methods to be proportional to the target and try to limit the control of societal life as much as possible.
- Clarify questions of legal accountabilities connected to risk analyses and communication before they take place.
- Design risk analyses and communication as transparent and reproducible as possible.
- Identify risks that can reach international dimensions and include international partners in the risk analyses. Ensure that risk analyses and communication are internationally compatible.
- Accountability when it comes to early warning and risk analysis also includes responsible communication. When preparing methodologies for risk communication to the population, ensure that there are mechanisms in place to raise awareness about the significance of scientific accuracy.

[63] BBC (2011), Italy Scientists on Trial over L'Aquila Earthquake. http://www.bbc.co.uk/news/world-europe-14981921

See also (sub)categories: Early Warning & Risk Analysis;Cross-border and Cross-Sectoral Interaction ; Communication between crisis managers and to the public ; Media &Policy.

5.1.3 For Learning Activities & Lessons Learned

Related WP and Tasks: WP51, 52.2, 52.4, 53.1, 53.2, 55.1, 55.3

Documenting and utilizing lessons learned is an important tool to enhance the effectiveness and efficiency of crisis management. Within DRIVER, many learning and training activities happen, but the concept of learning activities and lessons learned will also be relevant beyond the project. DRIVER includes variables related to learning with the basic aim to increase the effectiveness of CM management as a whole. These include, for example, the identification of the need for a standardized European model for learning activities (55.1, 55.3 and WP51), lessons learned (WP53) and competence building (WP52). While 4.2.3 focuses on the *implementation* of learning activities and lessons learned, this section focuses on those effects that need to be taken into account when *developing and modelling* frameworks for these tools.

Dignity & Non- Discrimination: Similarly to the selection of the context for the scenarios that the simulations and experiments are based on, the selection of which lessons learned should be included in the framework negatively affect certain societal values, especially if these infringe upon the principle of dignity non-discrimination. This can happen if e.g. the lessons learned or learning activities overly focused on preparing from a terrorist attack from a particular religious group.

Participation, Cultural & Gender Sensitivity: If the potential training participants or the public involved in a situation on which a lesson learned will be based on are not involved in the process and allowed to voice their advice, ideas or concerns, there is a risk of negatively influencing future participation in the implementation of these activities. If the content of learning activities for crisis mangers should, e.g., account for diversity and cultural/religious beliefs, then societal groups from different backgrounds should be consulted and participate in the design of the learning activities to ensure these societal aspects are properly addressed in the learning content. This in turn will contribute to the encouragement of specific societal groups to participate in the events and not feel discriminated or think that the learning activity does not apply to them.

Negative Standardization, Diversity: If certain scenarios or past events are taken as the basis for a series of training activities, there is a risk that the selection is too narrow and that other potentialities might be overlooked. This can e.g. happen if diversity is not taken into account in the foundation of the learning activities. If this continues, there is further a risk of a negative standardization of routines.

Privacy & Data Protection, Freedoms & Protest: If the relevant data protection legislation is not followed, it can create hinders for both the learning activity itself (e.g. by lowering public participation), and the potential tool that is being tested through the activity. Adhering to protecting the privacy of the individuals involved (population, volunteers and professionals) also includes respecting the right to freedom and the right to protest or voice concerns regarding the activity.

Example: When designing the harmonized lessons learned framework in T53.1, if cultural & gender- sensitivity is not respected among the decision-makers/first responders and/or other external experts, there is a chance that the evaluation and the lessons learned may be based on skewed assumptions.

Recommendations:

- When choosing the lessons learned, make sure to do this in a way that does not discriminate or unrightfully target particular groups based on ethnicity, religion, socio-economic backgrounds, etc.
- Take into account lessons learned that respect the diversity in the crisis population.
- Consider involving the potential crisis population in certain parts of the design of the learning activity to get a better understanding of how they can contribute in a meaningful way. This will ease the implementation of the developed tool or measure.
- Ensure to follow relevant privacy and data protection legislation when including human participants in the future learning activities (e.g. carefully plan how to inform and protect data of participants) and, especially when using personal examples and data in the design of a lesson learned.
- When designing the learning activity/ lessons learned framework, take into account the potential lack of legal harmonization when it comes to data processing across borders.

See (also)subcategories: Decision Support Systems & Simulations ; Other Forms of Training; Data & Information

5.1.4 For Competence-Building

Related WP and Tasks: WP52

When implementing a CM tool or measure it is important to have a strategy in place for how the tool will build or enhance competence within the field. Such a strategy should account for variables such as demographics. Within DRIVER, WP52 will develop a harmonized competence framework for crisis management that is applicable across the EU through the integration of different learning and competence approaches into a harmonized and systematic framework. Concretely, this involves the standardization of competence building across Europe (52.1) that will feed into the harmonized framework (52.2) and the web-based competence-check-tool for crisis management professionals (52.4). “Competence” is a highly dynamic concept –influenced by fast scientific and technical progress as well as socio-economic criteria and assumptions- that require to be constantly updated to avoid it losing relevance. This is especially true in the rapid developing and rather technical area of crisis management. These assessments and recommendations will focus on the way in which the *standardization and modelling* inherent in these tools can cause secondary effects.

Participation, Diversity, Cultural & Gender Sensitivity, and Dignity & Non-Discrimination: If competence frameworks are designed without the participation of each country and representatives of relevant societal groups (as applicable), it does not represent and reflect upon the different societal needs during a European crisis management scenario and may cause detrimental or discriminatory effects for the neglected groups.

Transparency: Competence frameworks that involve various international policies are usually complex. If they are hard to follow and understand, they become less actionable.

International Cooperation & Treaties: Especially if competence frameworks are harmonized across international borders they risk being too general for the specific national situations. This can make international cooperation challenging.

Accountability, Negative Standardization: Each framework also creates a new standard that should be followed in order to facilitate international collaboration. As such, it also creates new accountabilities that need to be reflected upon. If the framework's points are too general or too specific to be sensible or applicable to each member country, the framework may contribute to the creation of negative standards.

> *Example: Competence frameworks developed in DRIVER have to be culture- and gender sensitive and speak to a diverse group of stakeholders. To ensure this, the participation of relevant stakeholders into the design of competence-frameworks should be guaranteed. At the same time competence-frameworks need to be transparent to be reproducible and actionable. A cost-benefit analysis needs to be conducted whether rather a general competence-framework is needed that allows for international cooperation, or a specific competence-framework that speaks to and is most effective for a particular situation in a particular setting.*

Recommendations:

- Ensure the participation of all relevant countries and societal groups to develop competence frameworks, also to take account of diversity and gender-sensitive competences needed for crisis management.
- Devise frameworks as clearly and as transparent as possible so that they are actionable.
- Facilitate international collaboration to ensure that the framework does not collide with each participant countries' specific legal, political, social and economic situation.
- Take into account how a new framework also creates new standards. Can these standards be fulfilled by every participating country?; Are they actionable and effective standards for every country and what are the accountabilities that the framework requires and affords?

See also (sub)categories: Cross-border and Cross-Sectoral Interaction; Gap Analysis; Learning Activities & Lessons Learned

5.1.5 For Decision-Making

Related WP and Tasks: 43.1, 54.1, 54.3

Because important decisions usually have to be taken under circumstances of urgency, they need to be prepared, and regulations for decision making in CM need to be in place. Supporting decision-making during crisis management is a key activity within DRIVER, for example when it comes to damage and need assessment (43.1), as well as decisions about CM in general (54.1) is crucial. Within tasks 43.1, 54.1 and 54.3 models are being developed to enhance decision-making process and

context training. These tasks refer to the impacts that can be caused by the developments of tools and methods that should support it. As a result, these recommendations will focus on the way in which the *standardization and modelling* inherent in these tools can cause secondary effects.

Generally, many decision-making models are in one way or another based on cost-benefit calculations. It is important to ensure that decision-making models also take account of secondary impacts on society. This means that any decision will have to consider the potential side-effects that a CM measure may produce on trust, social cohesion, solidarity, participation, diversity, the open society, specific groups in society, privacy, freedoms, etc. These potential impacts should be modeled into the decision-making tools.[64]

Diversity: If decisions are taken on the assumption that a society is homogeneous, decisions may cause negative effects on specific societal groups that do not fit into the uniform assumptions that decision-takers have about society. Decisions taken on the assumption that society is culturally homogeneous may also reproduce homogeneity in society, asking society to perform according to pre-given standards.

Open Society vs. Control: The design of decision-making methodologies can influence the level of control within a society. Decision-making methodologies often assess which technology or tool should be implemented to solve a specific problem. As such, they exclude non-technological solutions[65] and contribute – potentially unintendedly – to a higher level of control within society.

Cultural & Gender Sensitivity, Dignity & Non-discrimination, and Trust: Cultural and gender- bias or insensitivities in decision-making modeling are not only likely to produce secondary effects on specific societal groups, but decision-making based on biased parameters may evoke distrust from the population vis-à-vis decision-makers.

Accountability: Decision-making models do more than just calculating the best possible decision; they also produce a rationale for decision-makers according to which they choose to implement specific decisions. As such, decision-making methodologies also create accountabilities for those who take decisions.

Transparency, Openness &Visibility: If the parameters in the decision-making model are not clearly defined and explicated, they will infringe upon transparency, which is of utmost importance in decision-making.

Integrity, Political Reputation: If decisions are taken without knowing about or understanding the decision's backgrounds and effects, and if decision-makers are not given the chance to consider ethical and societal aspects of their decisions, the decision-maker may risk political reputation and integrity.

Negative Standardization: Any tool or methodology for decision support creates a specific standard for decision-making. As such, it also contributes to a normalization of the decision-making process. If the methodology does not take the negative side effects of decisions into account, it may lead to a negative form of standardization. Many traditional decision-making methods, for example, produced

[64] Cf. ValueSec Project, cost-benefit analysis of current and future security measures in Europe, http://www.valuesec.eu/ and the PACT project, *Public perception of security and privacy: Assessing knowledge, Collecting evidence, Translating research into action.* http://www.projectpact.eu/

[65] Cf. DESSI Project http://securitydecisions.org/about-dessi/

a standard according to which the negative societal impacts of decisions were generally sidelined. It's only until recently that these issues start to be incorporated into CM.[66]

International Cooperation & Treaties: Many decisions in CM refer to international solutions. If a decision-making tool or methodology does not take account of the international effects of the decision, it may produce risks for international collaboration and eventually infringe about international treaty obligations.

Suitability, Necessity & Proportionality: The calculation of decision parameters in numbers may not always be a suitable means to provide tools for decision-making, because it tends to reduce complex decisions to singular numbers.

State-Citizen Relationship, Participation: If decision-making is exclusively done on manager-level, it is easy to lose sight of societal realities and discourage people to engage with specific topics.

Privacy & Data Protection: Every decision-making model is based on the data that is fed into the model. If this data is personal or secret, the relevant approvals and consents need to be obtained before feeding the data into the model.

> *Example: DRIVER models that support CM decision-making have to be developed on the assumption that society is not homogeneous, but diverse. Otherwise they may not take account of gender- or culture-specific aspects. In order to prevent control-societies decision-making models should also take non-technological solutions into account. Decision-making models should always reflect which rationales they produce for decision-makers; they should be transparent to ensure the reproducibility of results and should give decision-makers the opportunity to reflect on ethical and societal impacts so that they do not risk their own integrity when taking decisions.*

Recommendations:

- In general, when modeling decision-making tools, take into account secondary effects of decisions on society, also to avoid negative standardization in decision-making.
- Take the diverse groups of society into account when assessing the impact of decisions. Make decision-making gender- and culturally sensitive.
- The design of a decision-making methodology should foresee the comparison and evaluation of several alternative measures, including non-technological ones.
- Clarify where and how the decision-making methodology influences the accountability of the decision-maker.
- Decision-making models need to document and make comprehensible any step of decision-making in order to take into account all potential aspects and side-effects and make decision-making as transparent as possible and avoid infringements upon political reputation.
- Take international effects of decision-making into account when devising decision-making methodologies.
- If possible, include representatives from diverse societal groups, potentially the most affected, into the development of decision making support tools.
- If information is secret or private, obtain the relevant approvals and consents for data before feeding it data into the model.

[66] Ibid. ValueSec Project

See also (sub)categories: Data & Information; For early-warning & Risk Analysis; Harmonization; Situational Analysis & Impact Assessments

5.1.6 For Costs & Effectiveness Assessments

Related WP and Tasks: 44.1, 44.5.

It can be difficult to estimate the costs versus benefits when it comes to creating and deploying CM solutions, e.g. because they may never come into use, or we will never know what crisis they might have prevented. DRIVER takes into consideration the limited availability of financial resources compared to the potentially unlimited costs for crisis management tools and measures. Cost-benefit analyses are needed to identify which tools and measures are most effective and efficient (44.5).

It is debatable whether cost-benefit analysis refers mainly to methodology, i.e. it is used at the stage of the development of tools, or whether it is in itself a fundamental tool in CM that will be re-used by other crisis managers for preparation and operational CM.

Trust, Political Reputation, Integrity: The wrongful analysis of costs or benefits can infringe upon the citizen's trust in the overall decisions and the political reputation of the entity conducting the analysis, especially vis-a-vis investments into common goods that may not show a direct measurable impact after the investment has been executed (e.g. in case crisis does not ever occur)

Participation: If actors potentially affected by disasters and/or actors well versed about costs and consequences of crises are not involved into the analysis, the outcome of the cost-benefit-analysis may be partial or skewed.

Cultural & Gender Sensitivity: If costs- and benefit-calculations do not take gender and cultural differences into account, meaning that there are costs and benefits that, for example, only impact on –or impact in a different way- on men or women, the results of the cost-benefit analysis will not reflect reality and produce secondary costs and effects. (Cf. participation)

Accountability, Transparency Openness & Visibility: If identification of costs and benefits is not conducted in a transparent manner, it may have secondary effects on accountability in case unforeseen costs arise. A chain of responsibilities should be established when conducting the analysis.

State-Citizen Relationship: Some externalities and costs, especially for resilience programs, may target and potentially overburden citizens by shifting (real or perceived shift) of responsibilities for safety and wellbeing from the state to the citizen. This can negatively affect the state-citizen-relationship.

International Cooperation, Non-discrimination: If costs do not relate to the available resources of lower-income countries, they may strain international cooperation. Low-income-countries may feel disadvantaged if standardized cost-models are applied to them. If effectiveness analyses are conducted without keeping international costs and effects in mind, it may cause international tensions.

Suitability, Necessity & Proportionality: Keeping in mind potential tragedy of the commons, some investments may not be proportional to the aim of the measure, which again impacts effectiveness

and efficiency of the investments. Also, the nature of crisis - i.e. low probability, potentially high impact - events have to be taken into account.

Privacy & Data Protection: If any information about costs is secret or of personal nature (e.g. public infrastructure, certain databases), this information cannot be obtained without the consent of the party in question.

> *Example: The calculations of costs and benefits for measures and tools have to be transparent in order to be reproducible and accountable. Cost-benefit-calculations will produce secondary cost if they do not take into account gender-specific and cultural perspectives, and if they are not adjusted to low-income countries. Keep in mind that costs and benefits not only represent efforts undertaken and benefits enjoyed by professional crisis managers, but also by citizens..*

Recommendations:

- If you decide to invest into common goods, prepare a communication strategy that explains how the benefits may not be directly visible, but may pay back in the long term.
- Ensure to include the participation of potentially affected parties and those who know first-hand about costs and benefits.
- Take gender- and cultural-sensitive perspectives on costs and benefits into account.
- Make cost-benefit analyses as transparent and reproducible as possible.
- Reflect on how the cost structures may lead to increased costs for citizens that they may not be able or willing to bear.
- Adjust costs-benefit analysis frameworks of international projects to the available resources of each participating country. .
- Assess which investments can really make a difference – especially vis-à-vis a tragedy of the commons – to avoid unprofitable investments.
- The collection of data and information the assessment needs to comply with the data protection regulations.

See also (sub)categories: Early Warning, Risk Analysis, Forecasting; Cross-border and Cross-Sectoral Interaction For Community Resilience; For Early Warning & Risk Analysis;

5.2 Methodologies for Selecting Measures & Assessing Impacts of Experiments

Related WP and Tasks: SP2 & SP9

This section considers the internal DRIVER activities mainly in SP2, which can be described as research strategies and methodology. Strategy design for dealing with data outputs from the DRIVER experiments refers to activities that exclusively take place within DRIVER, for example, by means of performance and benefits metrics (23.2) and Impact and Effectiveness Assessments (23.4), including multi-criteria decision-making and impact and effectiveness-methodologies. This does not mean, however, that the way in which data is being analysed or evaluated and measures are being selected

within DRIVER does not infringe upon CM as a whole. This prompts a few research ethical and methodological considerations.

Diversity, Cultural & Gender Sensitivity, and Dignity & Non-discrimination: The assessment of CM methods and tools can impact how the assessed methods and tools are further developed. If these assessments do not take the diversity of society, cultural and gender perspectives into account, some methods and tools may not include these needs and run the risk to produce discriminatory results.

Transparency: If the assessment methods of SP2 are not clearly explained to the DRIVER members, they and are not devised and implemented in a transparent manner. The results of such assessments are not comprehensible for the DRIVER community and risk being not reproducible.

Integrity: If the assessment system applies different criteria and makes different quality claims to the different tools and methods within the project it is within itself not integer and risks producing contradictory results.

Negative Standardization: Any assessment system seeks to implement a certain set of standards for a tool or a measure. If the assessment system turns out to have skewed parameters, it may contribute to an overall standardization of the measures and tools, which is not necessarily positive for the outcome.

Suitability, Necessity & Proportionality: If criteria are not suitable, necessary or proportional to assess a specific measure or impact, they will not produce effective results.

> *Example: In order to make effective judgments, DRIVER-internal evaluations of measures and tools should assess whether solutions are culture- and gender-sensitive, otherwise they may infringe upon the right to non-discrimination. If methodologies for the assessments of measures and tools are furthermore not transparent, the results will not be reproducible, which is of utmost importance. Even though assessments should be context-specific, they still have to be comparable, meaning they should not follow different quality standards. If the selection of criteria are not tested in advance, they may turn out to be not suitable, necessary or proportional to what is sought to be assessed.*

Recommendations:

- Ensure to include experts on gender- and cultural perspectives into your assessment team or criteria and metrics.
- Make the assessment system as transparent and as reproducible as possible.
- Make sure that you apply the same quality standards to everyone and everything, while taking context dependencies into account.
- Always test the parameters of the assessment system and revise if necessary.
- Test whether your assessment criteria are sensible (they really measure something with concrete outputs), whether they are necessary (meaning that there is no other criteria that covers it better) and proportional to the aim you seek to measure (not too low or too high quality standards, for example).
- Make sure experimentation and evaluations teams are as diverse as possible.

See also (sub)categories: Situational Analysis, Impact Assessments; Harmonization;

6 Preliminary Conclusions

The table in chapter 3 summarizes the assessments and provides an overview of the criteria that have been discussed per category of tools. The assessments allow for the preliminary conclusion that all criteria have shown to be relevant in the context of crisis management in general and the DRIVER project in particular. This result, however, needs to be further contextualized.

Firstly, these assessments are not final. As mentioned in the introduction, SP9 will follow the DRIVER tool development, observe experimentation as well as scenario-based implementation and will furthermore pay attention to ongoing discourses on CM in order to update the categorization of tools, criteria, assessments, examples, and recommendations where necessary. The next steps are thus to participate in DRIVER experimentations throughout the next year and to update this deliverable accordingly in version 92.22, due in M19. The same follow-up procedure is foreseen for the other deliverables in WPs 92 and 93 so as to validate the criteria, refine the recommendations and make this deliverable more operational over time. 93.1 already provides a fist reality-check for the criteria set as the criteria are being verified in detail in relation to EU, UN and IFRC crisis management and resilience policies.

Secondly, even though the table in chapter 3 displays frequencies of discussed criteria, it does not serve as a basis to argue that those criteria which have been mentioned most often are the most important. The importance of criteria is strictly context dependent. What this table does show, however, is which criteria are likely to be relevant for particular categories of tools. As such, this table serves as a first hint or an initial alert that should attract the attention of those who develop and implement CM tools and measures.

Finally, this idea of the alert is also the starting point for conceptualizing the integration of the criteria set into the DRIVER portfolio of tools (PoT) and the testbed (the DRIVER methodology). The integration of WP 92/93 findings into the PoT and testbed is the ultimate aim of these WPs and will be enabled through the final versions of all 92 and 93 deliverables, the last of which are due in M47. A concrete methodology for integration will thus be developed throughout the next three years alongside the further development of the PoT and the testbed. A first suggestion for the criteria integration, however, is to create a kind of “alert system” that at the same time enables decision-makers, end users and stakeholders to understand and asses the kind of impact that a tool or measure can have on society. This would include the following steps:

1. The selection of criteria, their definitions, the assessments, examples and recommendations are being refined and iterated through participation in DRIVER experimentations. A refined version of the full set is delivered in the final versions of deliverables, latest in M47.
2. The categorization of tools is equally being updated and refined throughout the DRIVER project.
3. Both, criteria, recommendations, examples and tool categories are being “tagged” with a tagging system that allows for different combinations of tools and with different scenarios.
4. When a specific category of tool or a combination of tools is being retrieved from the PoT, the relevant criteria will appear on a dedicated area on the PoT screen. The tagging system will ensure that these criteria match the researched tools/combinations and the particular

context. The user could then have several options: a) The user can click on each criterion to read a definition in order to learn more about this criterion, its relevance and the way it is being understood. b) To follow-up, the user can upon further clicks retrieve example assessments and recommendations in order to understand which next steps to take and what to pay particular attention to in the implementation.

5. A mechanism for ensuring that criteria and recommendations are actually being paid attention to in the implementation will have to be developed. A suggestion is that the user cannot proceed with the ongoing operation in the PoT unless s/he has given a short written reflection about how to avoid negative and foster positive societal impacts.

Please note that these are *preliminary* ideas and suggestions for the integration of criteria into the PoT. They will first have to be discussed in detail in SP9 and eventually planned and realized with those partners who develop the PoT and the testbed. This work will, as indicated, start once the concrete planning for the PoT's structure has actually begun. It will furthermore have to be discussed whether the tagging of criteria to different tools and contexts is a realistic plan and how to identify the underlying structures and logics for this tagging system.

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