



## **Culture and disaster risk management - Citizens' reactions and opinions during Citizen Summit in Lisbon, Portugal.**

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# 1. Introduction

The analyses and results in this document are based on the data collected during the fifth Citizen Summit held in Lisbon, Portugal on April 14<sup>th</sup> 2018. Like the previous four Citizen Summits held in Romania, Malta, Italy and Germany, this Citizen Summit was designed as a one-day event combining public information with feedback gathering through different methods of data collection.

In the morning session, the event started with a presentation of the CARISMAND project and its main goals and concepts, and the planned CARISMAND Toolkit functionalities. Then, overall 27<sup>1</sup> questions with pre-defined answer options were posed to the audience and responses collected via an audience response system. As in the previous Citizen Summits, all questions in this part of the event aimed to explore citizens' attitudes, perceptions and intended behaviours related to disaster risks. Comparing and contrasting the respective results of all six Citizen Summits in the final synthesised analysis will aim to provide additional insight into cultural factors that may affect disaster-related preparedness and response.

Between these questions, additional presentations were held that informed the audience about state-of-the-art disaster preparedness and response topics (e.g., large-scale disaster scenario exercises, use of social media, and mobile phone apps).

Furthermore, this last round of Citizen Summits was organised and specifically designed to discuss and collect feedback on recommendations for citizens, which have all been formulated on the basis of Work Packages 2-8 results and in coordination with the Work Package 11 brief. These Toolkit recommendations are envisaged to form one of the core elements of the Work Package 9 CARISMAND Toolkit. Additionally, following the cyclical design of CARISMAND events (and wherever meaningful and possible), they "mirror" the respective recommendations for practitioners, which were discussed in the last (third) CARISMAND Stakeholder Assembly held in Lisbon in February 2018, and they are structured in two, main "sets":

- A. Developing a personal "culture of preparedness"
- B. Taking part in disaster preparedness and response activities.

These two sets of recommendations were also presented in detail during the morning session to the participating citizens.

In the afternoon session, small moderated group discussions of approximately 2 hours duration were held, which aimed to gather the citizens' direct feedback on the two sets of Toolkit recommendations presented in the morning, following a detailed discussion guideline.

For a detailed overview of all questions asked and topics discussed please see Appendix A.

Overall, 102 citizens participated in the Portugal event. The total sample shows a relatively even gender and age distribution, which is unsurprising given the target quotas<sup>2</sup> that were requested from

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<sup>1</sup>25 questions; plus 2 initial test questions to ensure that the radio signal between the participants' keypads and the central unit was working. A final follow-up question was posed at the very end of the event.

<sup>2</sup> Target gender split: 50% female / 50% male; target age split: 20% 18-24 years, 40% 25-44 years, 40% 45+ years; total target of 100-110 participants per Summit.

the recruiting local market research agency. The lower number of senior citizens aged 65 and above was expected and reflects mobility issues.

**Table 1**  
**Distribution by age and gender**

Total	Gender			Age Groups						
	Female	Male	No answer <sup>3</sup>	18-24	25-34	35-44	45-54	55-64	65+	No answer
102	55	43	4	16	21	18	24	17	6	0

Participants were asked about three key aspects of experience of disasters and disaster risk perception that could potentially have an impact on how other questions were answered<sup>4</sup>. More than nine out of ten respondents (92.8%) indicated that they, or a close friend or family member, have experienced a disaster, more than half (56.7%) felt that they are currently living in an area that is specifically prone to disasters, and 57.8% answered that they know other people in the area where they live who they think are particularly vulnerable or exposed to disasters. Slight gender and age-related differences in the responses to these questions were found to be not statistically significant ( $p \geq .05$ ).

**Table 2**  
**Disaster risk perception I**

Questions		Answer=YES		
		Total	Female	Male
Q5	Experience of disasters	92.8%	96.2%	88.4%
Q6	Feel that living in a disaster area	56.7%	47.2%	67.4%
Q7	Know of vulnerable groups particularly exposed to disasters	59.2%	61.8%	54.8%

Q5: Have you, or a close friend or family member, ever experienced a disaster?

Q6: Do you feel you are living in an area that is specifically prone to disasters?

Q7: Do you know of any other people in your area where you live who you think are particularly vulnerable or exposed to disaster?

The rest of this report presents the results of the fifth CARISMAND Citizen Summit and is structured in five main sections. After this introduction, the second section will provide an overview of the different methods applied. The third section, based on the quantitative data collected via the audience response system, presents the results from questions on general disaster risk perceptions, disaster preparedness, and behaviours in disaster situations with a particular focus on the use of mobile phone apps and social media. In the fourth section, based on the qualitative data collected in the ten discussion groups, the analyses will provide detailed insight into the participants' feedback on the two sets of recommendations for citizens presented in the morning session. The final section compares and contrasts the results from sections 3 and 4, draws conclusions, and presents proposed changes and amendments to the Work Package 9 Toolkit recommendations based on the participating citizens' suggestions.

<sup>3</sup> In each question, the participating citizens were given the answer option "choose not to say".

<sup>4</sup>These questions formed part of the recruitment criteria to ensure a good mix of levels of experience for the discussions about disasters.

## 2. Methodology

Participants for the Citizen Summit were recruited via a Portuguese market research agency<sup>5</sup>, following a recruitment questionnaire (see Appendix B), which aimed at achieving an even gender and age distribution, as well as a minimum proportion of participants fulfilling certain criteria such as having experience of disasters and using social media. All documents, i.e. recruitment questionnaire, consent form, PowerPoint presentations, and focus group discussion guidelines were translated into Portuguese. Accordingly, the Citizen Summit presentations, as well as the group discussions were held in Portuguese<sup>6</sup>, aiming to avoid any language/education-related access restrictions for participation and allowing citizens to respond intuitively and discuss freely in their native tongue. For this purpose, professional local moderators were contracted.

Overall, 28 quantitative questions were posed during the presentations to the general audience, 27 before the group discussions, and 1 after. The participants' immediate responses were captured via an audience response system<sup>7</sup>, which allowed immediate feedback of the results to the participants via PowerPoint. After the event, all data were exported into a database for further analyses. All data in this database are fully anonymous. Although keypad ID's were assigned to participants during the registration process to enable retrieval of the devices at the end of the event, WP5 team members were not involved in this process and had no access to the registration documents. Additionally, after data export, random new ID's were assigned to all data sets. All analyses were conducted with SPSS Version 25.0 and significance tests were run for all results.

After the presentations and questions, the audience was split up into smaller groups of 9-12 participants with an even gender split and similar ages. This division into age groups aimed to allow participants to discuss amongst peers with similar life-experience. All group discussions were audio-recorded, fully transcribed, and translated into English. In this process, all participant names and personal identifiers were removed to ensure the participants' anonymity.

The qualitative analysis of these translated transcripts followed, in a first step, the structure of the discussion guideline, i.e. general feedback, favourable and unfavourable reactions to the individual recommendations, barriers, and suggestions for improvement. These structured results were then coded to indicate participating citizens' acceptance, perceived usefulness and relevance of the recommendations presented. Based on the frequency of these specific findings, the following "rating system" was established:

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<sup>5</sup> Equação Lógica; <https://www.equacaologica.com>

<sup>6</sup> Some presentations were held in English but with simultaneous translation into Portuguese.

<sup>7</sup> Clík-a-pad system with ppvote software; for further information see <http://www.clíkpad.com>.

++	All or almost all participants in all groups agreed and found the respective recommendation to be very useful and important.
+	A majority of participants in most groups agreed upon the respective recommendation's usefulness, with some participants considering it to be difficult to implement in their daily lives.
+/-	The recommendation had a mixed reception, i.e. some of the participants perceived it as useful, whereas others felt that it would not be applicable to them (e.g., due to age concerns or personal circumstances).
-	A majority of participants perceived the recommendation as not useful or practicable, e.g., because it was seen to be a recommendation for authorities rather than for citizens.

In one case (related to educational games) the rating “+/-” was assigned, given that the respective recommendation raised strong interest amongst many participants with young children and also a number of older participants, whereas a (smaller) number of participants were adamantly against and questioned whether games would be appropriate for disaster-related education.

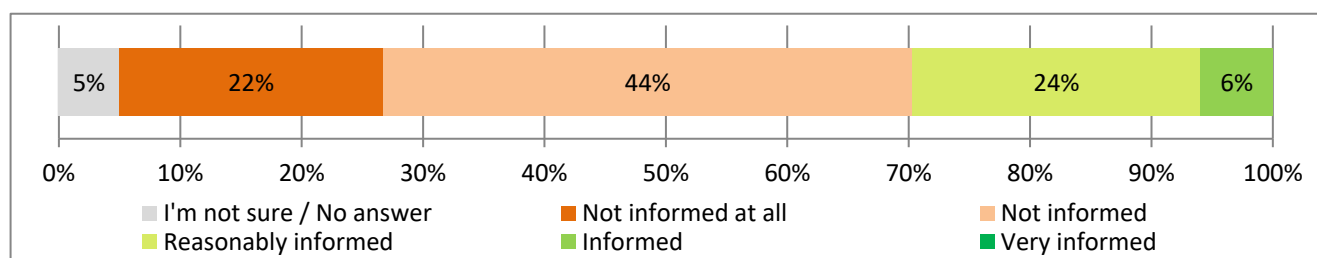
## 3. Quantitative Data Analysis

### 3.1. Disaster Preparedness

The questions in this section built directly upon the design and results from the third and fourth Citizen Summits in 2017. The third and fourth Citizen Summits were, in turn, built upon results of the first round of Citizen Summits as well as on the Work Package 4 literature review, which points particularly at recent research findings regarding the ambivalent relationships between perceived disaster preparedness and actual preparedness<sup>8</sup>. In detail, Q11 introduces the topic of disaster preparedness through asking about awareness of disaster-related behaviours; Q12, Q15, and Q16 measure citizens' perceived preparedness levels and preparedness intentions, with Q13 and Q14 operationalising the results from Q12 for guidance to disaster managers. Regarding the latter, a need of specific training activities for citizens rather than the mere provision of information was specifically pointed out by the practitioners who participated in the second and third Stakeholder Assemblies.

Generally, participants of the Portuguese Citizen Summit expressed a strong lack of knowledge about what to do in case of a disaster, with 66% of respondents feeling not informed or not informed at all.

**Figure 1**  
**Feeling informed about what to do in case of a disaster**



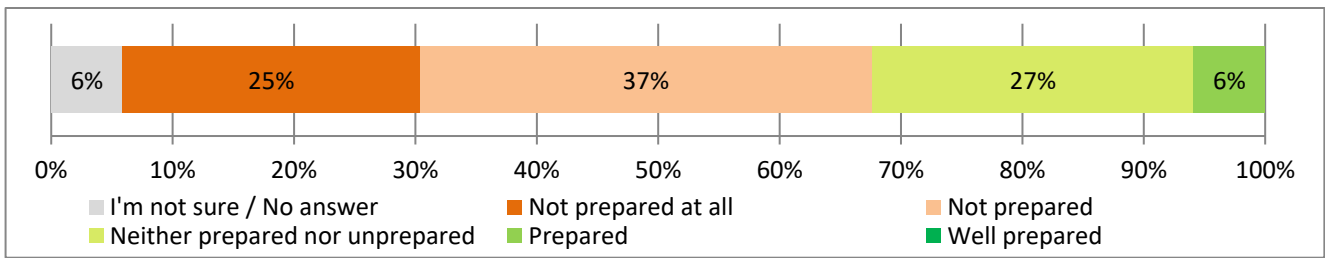
Q11- How informed do you feel by the authorities (for example Civil Protection, local police, emergency services) of what you have to do in case of a disaster?

At the same time, almost two out of three participants expressed their feelings of not being prepared or not being prepared at all (62%), whereas only a very small minority (6%) feel prepared or well prepared, and there is only a weak to moderate<sup>9</sup> correlation ( $R=.300$ ) between feeling informed and feeling prepared.

<sup>8</sup> Joffe, H., Perez-Fuentes, G., Potts, H.W.W. & Rossetto, T. (2016) How to increase earthquake and home fire preparedness: the fix-it intervention. In: *Natural Hazards*, 84: 1943. doi:10.1007/s11069-016-2528-1.

<sup>9</sup> Generally, correlations between 0.2 and 0.3 are considered to be weak, between 0.3 and 0.5 to be moderate, and when higher 0.5 to be strong.

**Figure 2**  
**Feeling personally prepared for disasters**

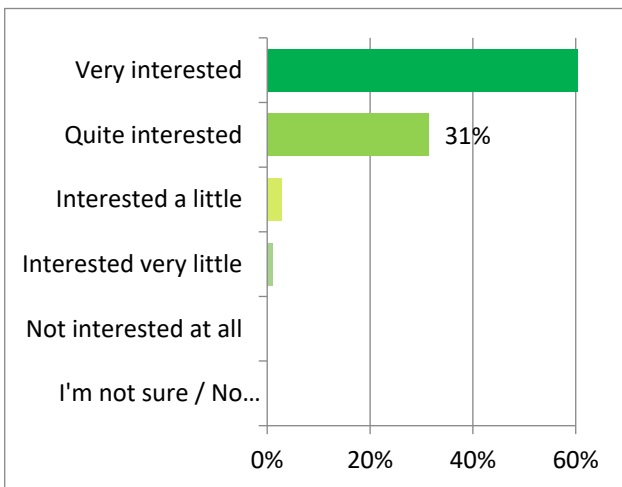


Q15 – How prepared do you personally feel for a disaster in your area?

However, the participants expressed a considerable interest in having information about disaster preparedness, with 96% of participants indicating they were quite or very interested in information about disaster preparedness, and a similarly large majority (89%) indicated strong intentions to prepare for disasters (prepare quite a lot or a lot). There is a moderate correlation ( $R=.447$ ) between the respondents' interest in information and their intentions to prepare themselves, although there seems to be a generally stronger interest than actual intentions to prepare, albeit both being at a very high level.

**Figure 3**

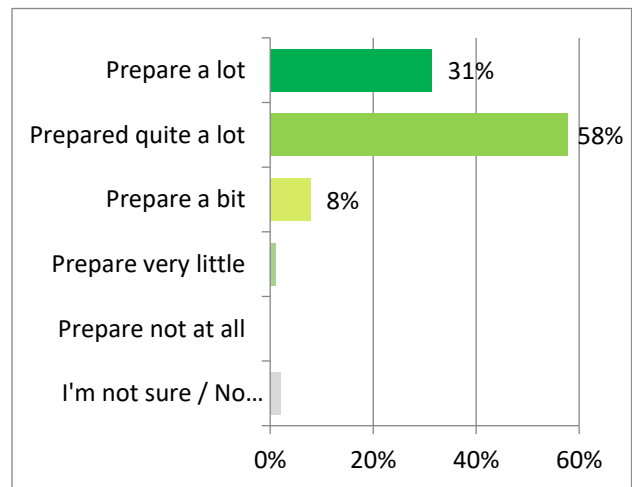
**Interest in information about disaster preparedness**



Q12 – How much are you interested in information about disaster preparedness?

**Figure 4**

**Intentions to prepare for disasters**



Q16 – To what extent do you intend to prepare for disasters?

These somewhat abstract questions about the participants' interest and intentions were put into a more concrete context through further questioning, which explicitly asked for their expectations and participation in preparedness activities within specific time frames. Here, the answers provide a more detailed picture (see Tables 3 and 4 below). Almost participants (93%) would like to **receive information at least once per year** about how to prepare themselves and their family/friends for a disaster. Furthermore, three out of four (75%) would like to **participate at least every 1-2 years in training activities** (e.g., emergency drills or workshops) that would help improve their and their family's/friends' safety in case of a disaster. Not surprisingly, the results of these two questions are strongly correlated ( $R=.574$ ).



**Table 3**  
**Desired frequency of receiving information about disaster preparedness**

Q13 How often would you like to receive information about how to prepare yourself and your family/friends for a disaster?	% of respondents
Never	0%
Only when there is an increased disaster risk	7%
Once per year	19%
Once every 6 months	41%
At least once every 3 months	33%
Not sure / no answer	0%

**Table 4**  
**Desired frequency of participating in training activities**

Q14 How often would you like to participate in training activities, e.g. emergency drills or workshops, that will help improving your and your family's/friends' safety in case of a disaster?	% of respondents
Never	1%
Only when there is an increased disaster risk	12%
Every 3-5 years	12%
Every 1-2 years	27%
At least once per year	48%
Not sure / no answer	0%

There are no statistically significant differences between female and male responses in all questions related to disaster preparedness, with the exception of Q14 where female participants would like to participate in training activities slightly more often than male participants. Regarding differences between age groups, the 18-24 year old participants appeared to be slightly less interested in receiving information about disaster preparedness (Q12) and would like to participate in training activities (Q14) less often than participants in all other age groups.

## **3.2. Citizens' Feelings and Perceptions of Disaster Risk**

Participants were asked about their feelings and perceptions of disaster risk at different points during the event<sup>10</sup>. Risk perception is one of the overarching topics of the CARISMAND project, and these questions complement the data collected during the previous Citizen Summits for a cultural comparison in the final synthesised report of this Work Package. The results show that about a third of the participating Portuguese citizens perceive a high or very high risk of a disaster in their area (36%), whereas one out of five (21%) believe this risk to be low or very low. Levels of worry/concern are very high, with about nine out of ten participants agreeing that they are worried or concerned about potential disasters in their area (see Table 5 below). Again, slight differences between male

<sup>10</sup>In order to achieve adequate internal consistency but without using exactly the same wording, these questions are based on the 5-item measure developed by Kellens et al (2011) with a Cronbach's Alpha of 0.80 for the perception of flood risk, adapted to disasters in general (see Kellens, W., Zaalberg, R., Neutens, T., Vanneuville, W., & De Maeyer, P. (2011). An analysis of the public perception of flood risk on the Belgian coast. *Risk analysis*, 31 (7), 1055-1068).

and female results were found to be not statistically significant ( $p>=.05$ ), and there are also no statistically significant differences between age groups.

**Table 5**  
**Disaster risk perception II**

Questions		Total		Female		Male	
		Mean	STD	Mean	STD	Mean	STD
Q8	Perceived disaster risk in my area	3.23	0.866	3.29	0.842	3.23	0.891
Q9	Worried about disasters in my area	4.13	0.933	4.17	0.893	4.07	0.997
Q17	Concerned about disasters in my area	4.21	0.809	4.27	0.953	4.10	1.069

Q8: How high or low do you think is the risk that a disaster occurs in the area where you live? (5-point Likert scale with 1=very low, 5=very high).

Q9: How much do agree, or disagree, with the following statement “I am worried about disasters in the area where I live.” (5-point Likert scale with 1=totally disagree, 5=totally agree).

Q16: How much do agree, or disagree, with the following statement: “When I think of disasters in my area, I feel concerned.” (5-point Likert scale with 1=totally disagree, 5=totally agree).

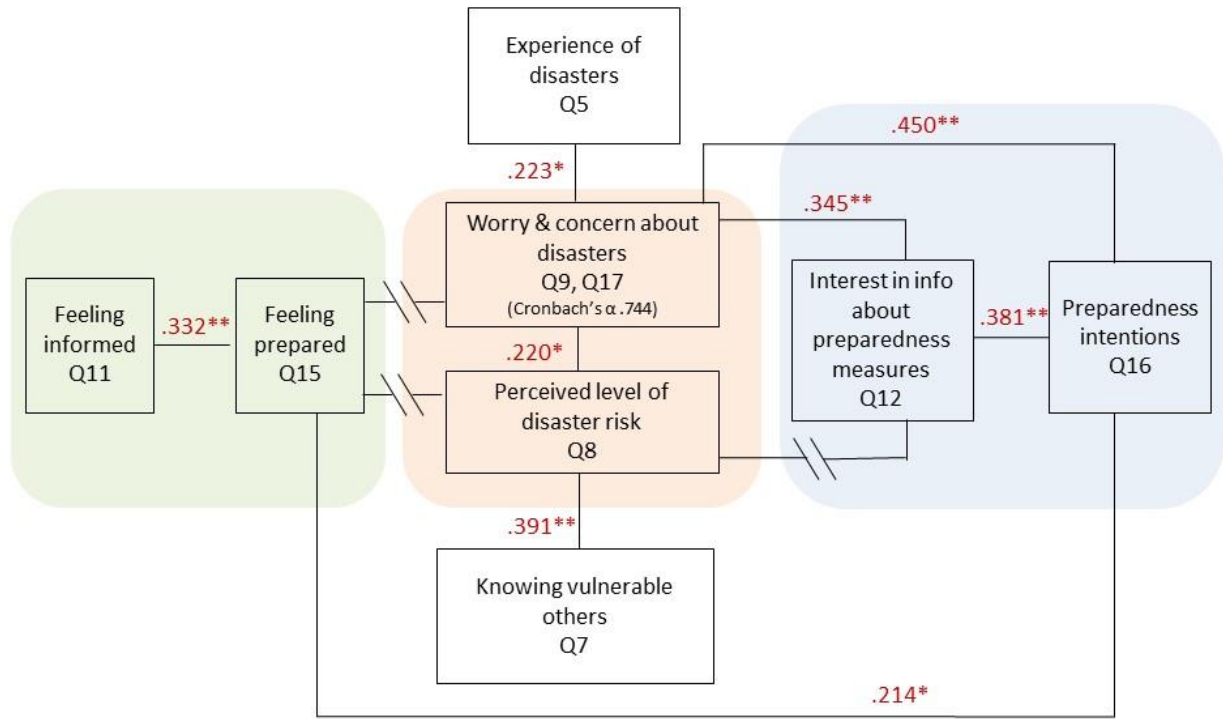
However, the perceived level of disaster risk appears not to be connected with any previous experience of disasters – which may, potentially, be explained by the participating citizens’ experience being based on experiences of close friends or family members<sup>11</sup> – neither is it related to any increased interest in receiving information about disaster preparedness measures or any preparedness intentions. On the other hand, feelings of worry and concern show some moderate to strong correlations to interest in information about preparedness measures ( $R_s=.345^{12}$ ), and to preparedness intentions ( $R_s=.450$ ).

These findings suggest that mobilising participation in disaster preparedness activities, through citizens’ interest in preparedness-related information, may require appealing to emotions rather than merely providing information about disaster risks or relying on citizens’ experience of disasters.

<sup>11</sup>Given that the proportion of participants answering Q5 (Have you, or a close friend or family member, ever experienced a disaster?) with ‘yes’ was rather high (91%) but the proportion of those answering Q6 (Do you feel you are living in an area that is specifically prone to disasters?) with ‘yes’ was lower (54%).

<sup>12</sup>As some of the questions related to risk perception are yes-no questions, for this part of the analysis Spearman correlations ( $R_s$ ) rather than Pearson’s ( $R$ ) have been used, given that the Spearman test has been found to be more meaningful for binary data. For a complete overview see Figure 5 below.

**Figure 5**  
**Relationship between different factors related to risk perception**  
 Spearman's Correlations



\* Significance  $p < .05$   
 \*\*Significance  $p < .001$

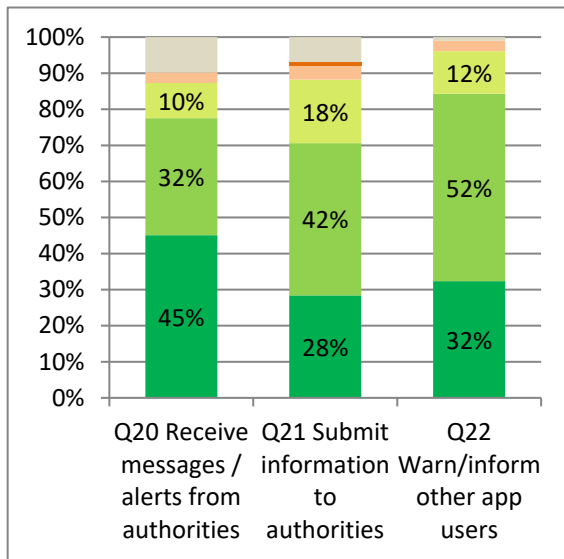
### 3.3. Usage of Social Media and Mobile Phone Apps

This set of questions builds on the 2nd Stakeholder Assembly results, the Work Package 3 and 8 Deliverables which show the uptake of social media by citizens in disaster situations to gather information, but also the increasing usage of specifically designed “disaster apps”. These questions also follow on from the results from the third and fourth Citizen Summits in 2017. Accordingly, Q20 to 22 and Q25 to 27 intentionally differentiate between social media and mobile phone apps, because there is still little research which explores the different possible functions expected, or desired by citizens.

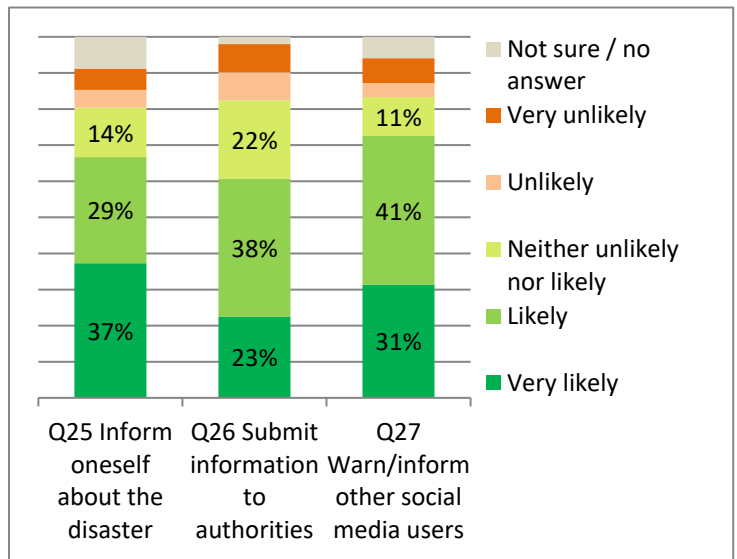
The results show that a large proportion of Portuguese participants are likely or very likely to use both mobile phone apps and social media in disaster situations. The likelihood of using mobile phone apps to warn or inform other app users is highest (84% likely or very likely), followed by the likelihood of usage for receiving messages/alerts (77%) and submitting information about disasters or disaster risks to authorities (70%). The picture for the use of social media in disaster situations is very similar, though at a somewhat lower level. The likelihood of using social media to warn or inform other social media users showing the highest results (72%) and usage to submit information to authorities the lowest, though more than half of the participants (61%) still indicated they would be likely or very

likely to do so. Interesting, here, is that the likeliness to submit information to authorities in disaster situations appears to be higher when using mobile phone apps than when using social media.

**Figure 6**  
Likelihood of mobile phone app usage in disaster situations



**Figure 7**  
Likelihood of social media usage in disaster situations



In the case of a disaster, how likely are you to use a mobile phone app that is specifically made for disaster situations to...  
 Q20: receive alerts, warnings or emergency-related information from local authorities / emergency services.  
 Q21: submit information about disaster risks or disasters to local authorities / emergency services.  
 Q22: warn/inform other app users.  
 In the case of a disaster, how likely are you to use social media to...  
 Q25: inform yourself about the disaster.  
 Q26: submit information about disaster risks or disasters to local authorities / emergency services.  
 Q27: warn/inform other social media users.  
 (Answers for all questions provided on a 5-point Likert scale with 1=very unlikely and 5=very likely)

Female respondents were found to be significantly more likely to use social media to inform themselves, submit information to the authorities, and warn other app users than male respondents. However, there were no statistically significant gender differences in mobile phone apps usage, and no statistically significant differences between age groups in either mobile phone apps or social media use.

Participants who indicated that they are likely to use one function of mobile phone apps (e.g. to receive alerts), were also likely to use the other functions (submit information to authorities, warn other app users). Similarly, participants who are likely to use social media in disaster situations are likely to make use of social media for informing themselves / receiving information, as well as to warn or inform other social media users and to submit information to authorities (see Table 6 below).

**Table 6**  
**Relationship between different type of mobile phone apps and social media use in disasters**  
 Pearson's Correlations

	Q20 Mobile phone apps: receive information	Q21 Mobile phone apps: submit information	Q22 Mobile phone apps: warn other app users	Q25 Social media: receive information	Q26 Social media: submit information
Q21 Mobile phone apps: submit information	0.677				
Q22 Mobile phone apps: warn other app users	0.761	0.794			
Q25 Social media: receive information	0.239	0.293	0.370		
Q26 Social media: submit information	0.247	0.314	0.400	0.801	
Q27 Social media: warn other users	0.079	0.300	0.269	0.801	0.729

Note: Significance  $p < .001$  for all correlations except for those marked in green.

Finally, there are, mostly, only weak correlations between the different types of usage of mobile phone apps and the corresponding types of social media usage, with the exception of submitting information to authorities. There, a moderate correlation was revealed, which points at the possibility that such intended behaviour is linked more to general attitudes than to type of medium.

## 4. Qualitative Data Analysis

As outlined in Chapter 1, the group discussions held in the afternoon of this fifth Citizen Summit focused on the two sets of Work Package 9 Toolkit recommendations that were specifically developed for citizens. These recommendations, in turn, were developed by building upon the results from Work Packages 2-8 and, wherever meaningful and possible, they “mirrored” the Toolkit recommendations for practitioners discussed during the Stakeholder Assembly 3 held in Lisbon in February 2018. Accordingly, after a “warm-up” up phase, the participants were asked to discuss topics around developing a personal “culture of preparedness”, and regarding citizens’ participation in disaster preparedness and response activities.

Generally, almost all recommendations in both sets were perceived as useful, and some participants explained that, in their opinion, cultural factors play a more important role in disaster preparedness than they do in disaster response. Some younger participants perceived a number of recommendations as not specific enough for the Portuguese context, and they would have wished for a stronger focus on wildfires rather than earthquakes<sup>13</sup>. However, the majority of participants in all groups appreciated the broader aim of this event. Many expressed their feelings of being “*totally unprepared*”, but “*glad and proud to take part in this, and to see that people are already thinking [...] I imagine that Civil Protection is prepared and informed, but we are not*” (G5). They also perceived cultural factors not solely as related to “others” (e.g., ethnic minorities) but also as applying to themselves, in the sense of a specific set of attitudes and practices – “*I think it’s more about being open to the idea that things like this can happen and taking preventative measures*” (G1) – and of awareness:

<sup>13</sup> During the presentations in the morning, flooding and earthquakes were used in a number of examples (e.g., regarding family discussions of safe spots). A country-specific focus was intentionally avoided, given that the same content was to be presented and discussed in the sixth Citizen Summit held in Utrecht/Netherlands.

*“What caught my attention today is that we have access to so much, and we're not looking for anything. I began to think: What are the safe spots in my house? Under the doorframes? Apparently not [...] I don't know very well. And even on the street, I don't know which the safe spots are.”*

*“What struck me the most was something that we don't even think much about it in our day-to-day lives, but it's that there are actually means available to us where there is some information. Maybe not as much as we'd like, but it does exist, and oftentimes it's there just a click away.” (G4)*

Across all age groups, the topic of discussing safe spots and meetings points with family members was perceived to be the most important; additionally, older participants expressed their desire for more drills and exercises, and a (self-critical) need to be more proactive in the search for information both online and offline.

## 4.1. Developing a personal “culture of preparedness”

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People who are informed about local hazards and know how to prepare for, and respond to, disasters that may happen in their locality are more likely to be able to keep themselves and their families safe in the event of a disaster. Information about how citizens can prepare disasters is available from many different media. By making a habit of keeping an eye out for such information, actively collecting and discussing it with others on a frequent basis, and assuming the responsibility to do so, citizens have the opportunity to develop a personal “culture of preparedness”.

The discussions around this topic revealed general agreement amongst the great majority of participants in all groups that the development of such a “culture of preparedness” was desirable. At the same time, they expressed their opinion that some recommendations for implementation will require a change of mindset, and that *“the difficulty is in ourselves”* (G5). However, they also felt that such cultural change was possible over time; as an example, many elaborated upon the changing attitude towards waste recycling amongst the Portuguese population. As another example, the awareness and acceptance of safety procedures in airplanes was brought up:

*“Everybody who travels by plane knows that they make those gestures with their hands, in terms of prevention. And even if we make jokes, we all know the exits, we know where the safety vests are, we know where the oxygen mask drops off from. We know everything, and nobody complains about them doing that at the beginning.” (G1)*

**The following aspects were mentioned most often in all discussion groups** and perceived to have the highest impact on improving citizens’ disaster preparedness:

- **Changing the “little things”**, such as reading signs that contain emergency-related information or putting up emergency numbers with a fridge magnet, because they were seen as requiring comparatively little effort; and

- **Discussing with family members** emergency procedures, safe spots and meeting points in case of a disaster, because the participants felt that the safety of their loved ones is something they are responsible for.

In detail, the individual recommendations for implementation were discussed, and evaluated, as follows:

	<b>Toolkit recommendations for citizens - set 1: Develop a personal “culture of preparedness”</b>	<b>Participants’ evaluation</b>
A	<ul style="list-style-type: none"> <li>• Be always on the look-out for publicly displayed information about how to prepare for disasters, which is often displayed in public places, e.g., posters and signs in buses, waiting halls, entrance areas of sports stadiums, shopping centres, concert halls or hotel lobbies.</li> <li>• Make a point of reading and memorising such information, and encourage people who are accompanying you, especially children, to do the same.</li> </ul>	++
B	<ul style="list-style-type: none"> <li>• Identify and memorise “safe spots” or “safe zones” in your homes, your workplaces, and your local area.</li> <li>• Keep in mind that such safe places may be different for different types of disaster.</li> <li>• Share and discuss these safe places with family members, friends and colleagues.</li> </ul>	++
C	<ul style="list-style-type: none"> <li>• Search online for reliable sources of information (e.g., the Civil Protection website) or ask your local council for information about how to prepare yourselves and your family and friends for disasters.</li> <li>• Download this information or ask the authorities to send you any available brochures.</li> <li>• Update yourself at least once a year.</li> </ul>	+
D	<ul style="list-style-type: none"> <li>• Set up personal emergency plans together with your family and friends by discussing emergency contacts, meeting points, means of communication etc.</li> <li>• Use simple reminders to have these emergency plans and information readily available (e.g., as a pic on your mobile phone, in your purse, or to stick on the fridge).</li> </ul>	++
E	<ul style="list-style-type: none"> <li>• Find out which information channels can be used in case of a disaster, e.g. websites or social media sites of your local police force, Civil Protection etc.</li> <li>• Make sure you know how to access them, bookmark the links and test them regularly.</li> <li>• Encourage and help other family members and friends to do the same.</li> </ul>	+
F	<ul style="list-style-type: none"> <li>• If you have a smart phone, find out what mobile phone apps are available in your country and local area that are specifically designed for disaster communication, such as providing warnings and alerts, recommendations for appropriate disaster preparedness and response, and important points of contact in case of a disaster.</li> <li>• Become familiar with the features of such apps and test them frequently.</li> <li>• Encourage friends and family members to download and use this app as well.</li> </ul>	+
G	<ul style="list-style-type: none"> <li>• If you enjoy playing online games, find out what serious games for disaster preparedness and response are available in your country and language; train yourself by playing them and encourage others to do the same.</li> <li>• If there are such games that were specifically designed for children, encourage your children to play them, or play them together; ask teachers or kindergarten staff to play them with the children regularly.</li> </ul>	++/-
H	<ul style="list-style-type: none"> <li>• If you travel abroad, make it a habit to gather in advance information about local emergency procedures, e.g. via websites of Civil Protection, Red Cross, your country’s local embassy, or by asking at the hotel reception of your travel destination.</li> <li>• If you use mobile phone apps, find out whether there is a “disaster app” available in the countries where you travel, which provides emergency-related information and guidance in your language.</li> </ul>	+

Recommendation A, generally, received strong support as a “*simple thing that can make a big difference*” (G7), although some younger participants felt that people would “*simply not do it*” (G3). Others explained that, in their opinion, it would be easiest to catch people’s attention in places



*“where people do nothing”* (G5), e.g., in waiting rooms, the subway, or where people queue. Additionally, they suggested changing the wording of this recommendation, i.e. use “make an effort to” or “pay attention to” rather than “always be”, as they felt that such a change would reduce the pressure and make the suggested behaviour more acceptable. One participant further elaborated how a smartly-worded sign in their workplace had improved awareness amongst staff: *“In my company there is a poster that says ‘In case of a disaster, don’t read the instruction manual. Read it now.’ It’s such a simple message, and I think many of us have already been to this safety link”* (G8).

Recommendation B was perceived by many participants as “paramount” (G7). However, despite the strong support for this recommendation, participants across all discussion groups felt that it would be difficult to implement at the moment, because they were unsure what the correct safe spots actually are. Here, they indicated an explicit need for more information from the respective authorities.

Recommendation C revealed some mixed (but more often positive) opinions: Whereas some participants expressed their doubts that, in particular, their local Council would have such disaster preparedness-related information available<sup>14</sup>, or that such information should be provided rather than sought, many also felt that *“reminding us every year doesn’t hurt anyone”* (G1), and that it can initiate change: *“Let us be bombarded with this information, as it was with recycling. Something that reaches everyone”* (G5). Additionally, some participants suggested combining measures, e.g., sending out information leaflets together with fridge magnets that indicate emergency contact numbers, or to disseminate disaster preparedness information together with other regular mandatory information, such as bank statements or utility bills. Others suggested including a “culture of preparedness” in their respective City Council’s cultural agenda, and/or merging it with cultural events in a broader sense: *“I’m from the theatre and dance field, and it could be a good idea to prepare performances in this area”* (G1).

Recommendation D was perceived by many participants as very useful and, potentially, the most impactful amongst all presented recommendations. In particular younger participants expressed their intention to take it up immediately: *“I’m going to start doing it”* (G1); *“I’m going to talk to my parents about it”* (G3); *“I’ll leave from here and go home and tell my mother for us to think about it”* (G4). In contrast, despite their general openness and strong interest in the topic of disaster preparedness, some of the older participants were reluctant to take up this recommendation. They felt it would not be accepted because, in their family circle, talking about disasters was perceived as bringing bad luck. However, the majority of participants in most groups did not only see it as an opportunity to improve their and their loved ones’ safety, but also imagined a snowball effect: *“If there is just one person who pushes for it at home, I think if there’s already good communication at home, things will flow. At least even if, I mean, not to be talking about it all the time, but to talk about it, even if it’s just in informal conversations”* (G2).

Recommendations E and F were both perceived as useful or very useful by most participants, with several agreeing that, generally, social media was a resource that is already well established, but mobile phone apps were seen to be the more effective. Some of the youngest participants felt that certain social media (e.g., Facebook) were already over-used and, therefore, *“if they [disaster management authorities] put specific things there about prevention or disasters, no one would*

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<sup>14</sup> However, the participants of Group 3 where this topic was raised also admitted that they had never tried to contact their local Council, nor had they ever visited the Civil Protection website.

*notice*" (G1). Some of the older participants were sceptical about whether social media channels would work in a disaster situation or felt that such media were generally *"not for older people"* (G9). A number of these older participants also highlighted their preference for mobile phone apps and expressed their opinion that *"the more tools you have the greater the chance of survival"* (G8). Participants in the middle age groups particularly outlined their expectation that such apps would have to be free of charge.

Recommendation G produced mixed reactions. Some participants perceived it as of minor importance, they themselves did not like playing online games, or they felt that, similar to the use of social media, it would not be suitable for older people. Interestingly however, one of the oldest participants expressed a very different opinion: *"In the area where I live many elderly people go to libraries for computers. It would be an opportunity to play games on computers to encourage the elderly"* (G10). The majority of participants, in particular those in the middle age groups, appreciated the recommendation as very useful for parents:

*"For those who have small children, it's important. I'm not going to sit on the couch with her and tell her that I have recommendations to give her. She's 4 years old. It's an interesting, and more playful, simpler way for her to internalise perfectly while she is playing and learning. For me it's very important. Maybe one of these days I'll go to her school and tell the teacher that there is an interesting game that would be important to disseminate."* (G5)

These participants also suggested increasing the availability of such games by providing links on reliable public websites.

Recommendation H also triggered mixed responses, but more positive than negative. On the one hand, some participants in the younger age groups outlined that they would not want to think about disasters in their holiday and preferred leaving the responsibility of providing such information to travel agencies and hotels. On the other hand, it was also young participants who strongly supported this recommendation, because they felt that people are increasingly travelling to more *"exotic"* places that are prone to natural hazards. They suggested that information about disaster risks and emergency contacts could be provided as an attachment to online booking confirmations and, in this context, showed strong interest in an at least EU-wide mobile phone app.

## 4.2. Taking part in disaster preparedness and response activities

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Disaster preparedness and response training activities should take into account different cultural factors and the needs of different cultural groups in a disaster situation. To be successful, such activities require the active support of citizens from different cultural backgrounds. Citizens should participate in such disaster training programs on a regular basis. Additionally, they can contribute to the success by getting actively involved in the planning process, and by encouraging others to do the same.

This second main topic was also thoroughly discussed in all groups, and the majority of participating citizens supported the suggested recommendations. The **strongest appreciation** and interest were expressed for **recommendations A (community workshops) and E (develop an awareness of useful personal skills)**, followed by the training events suggested in recommendations B and D.

On the other hand, despite the participants' generally positive attitude towards the presented recommendations, there were several comments about **perceived difficulties in implementation**, in particular:

- A perceived lack of information about the availability of such training events;
- A general feeling that information about disaster-related training should be provided by the relevant authorities and not sought by citizens;
- A low level of trust in the local Councils' capabilities, and knowledge, to organise volunteering and/or such events;

Interestingly, only very few participants revealed a "good-for-others-but-not-for-me" attitude or expressed time issues which, in their perception, would inhibit the participation in the suggested activities.

In detail, the following individual recommendations for implementation were discussed, and evaluated, in this set:

	<b>Toolkit recommendations for citizens - set 2: Taking part in disaster preparedness and response activities</b>	<b>Participants' Evaluation</b>
A	<ul style="list-style-type: none"> <li>Find out whether there are community workshops in your area on how to prepare for, and respond to, disasters.</li> <li>If none are organised, ask your local council or civil protection authority to organise such workshops.</li> <li>Take part in these workshops and use this opportunity to share your experiences of past disasters; discuss values and traditions that played an important role in these situations.</li> <li>The active participation in such community workshops will help community members learn from each other about local hazards and disaster risks, and so strengthen community spirit for improve community responses in the event of a disaster.</li> </ul>	++
B	<ul style="list-style-type: none"> <li>Find out about training events in your area, e.g. First Aid and CPR training, where you can participate; use these events to learn new skills or refresh old skills.</li> <li>Such events are also an opportunity to train with fellow citizens from other cultural backgrounds, learn to identify and respect their specific cultural needs.</li> </ul>	+
C	<ul style="list-style-type: none"> <li>Volunteer to get involved in the planning of emergency and disaster response activities (e.g., by contacting your local council, or Civil Protection), and encourage fellow citizens from different cultural backgrounds to do the same.</li> <li>Your participation will help practitioners learn about cultural differences <u>before</u> a disaster occurs and adapt the respective guidelines and procedures accordingly.</li> </ul>	+/-
D	<ul style="list-style-type: none"> <li>If there is the opportunity, participate regularly in disaster simulation exercises, which will help strengthening a sense of community, and increase the mutual understanding and trust between disaster practitioners and citizens.</li> <li>Encourage friends and family members to do the same.</li> </ul>	+
E	<ul style="list-style-type: none"> <li>When you participate in disaster training activities, use these opportunities to think about and discuss with other participants and your trainers the personal skills you already have that could be helpful in a disaster, e.g. technical skills, communication skills, organising talent or detailed local knowledge.</li> </ul>	++
F	<ul style="list-style-type: none"> <li>If you are involved in digital gaming design, for example as the developer of multi-player online games, a lecturer or a student in this area, help disaster managers to employ virtual reality as a training method.</li> <li>This could be achieved by using serious game design for disaster preparedness as a study goal, or by including the theme of appropriate disaster response in the design of multi-player games.</li> </ul>	+/-

Recommendation A was found to be very useful by the majority of participants in most discussion groups, independent from their age:

*“Participating in workshops and sharing experiences - I think it's very important [...] in our country we will always have memories of something that happened. ” (G2)*

*“I think it would be useful if there were such workshops. It's precisely in that sharing of experiences and other knowledge that sometimes we even put an end to certain myths. Someone who has experienced this can contribute to a real situation that happens; the person knowing how to react.” (G8)*

Some participants additionally suggested that more people may be attracted to such workshop if it was part of a larger public event, e.g., a summer festival.

Recommendation B was also appreciated by many participants, though to a somewhat lesser degree by the middle-aged groups who felt that they may have difficulties to make time in their busy lives between work and family responsibilities. Both younger and older participants also showed awareness of ethnicity-related issues which, however, they felt to be both important and possible to overcome:

*“We have Syrian refugees in Portugal, but nobody has ever explained how the Muslim religion is, what's the type of care. There was a lot of talk about hosting families and so on, but there was no training. I received a family and had to learn everything by myself. They arrived, and I didn't know what I was supposed to do.” (G2)*

*“I think this is important because nowadays, especially in Lisbon, it is a city where many communities are living together. And sometimes we are not aware of our neighbours, we live quite apart from them, and maybe this meeting of cultures would also be important. Even in order not to develop conflicts, especially during difficult times, not to enter into such conflicts. And then we realise something, which is that when we need someone, it doesn't matter what colour or what country they come from, it's whomever is the first person next to us. So, we have to be there for them, and they have to be there for us. That's a little bit this feeling of community, of belonging. We are all at risk, therefore automatically that community feeling, I think, gets stronger.” (G8)*

The discussions around recommendation C revealed mixed responses. A number of participants expressed their opinion that, generally, *“volunteering is not for everyone”* (G2). Others, however, did feel that it was part of their responsibility as citizens to take up initiative: *“It has to be a concern also coming from citizens and not only of requesting obligations from public bodies [...] We need to be proactive in looking for prevention information, in safety planning”* (G3). More importantly, though, even those who would like to volunteer to get involved in the planning of emergency and disaster response activities expressed little trust that their local Parish Councils would have the required knowledge or money to put this recommendation into practice, and they were unsure where to direct their interest: *“What door should I knock at?”* (G10).

Recommendation D was particularly appreciated by participants aged 45-55, and they understood the suggested participation in disaster simulation exercises not so much as an event where they would learn actual skills, but as a trust-building opportunity: *“For instance, I might be very sceptical about the entities, and maybe leave with a very positive opinion, that after all they work quite well, and that I can trust them. This is all very useful”* (G8). However, several participants in all age groups were unsure how and where to express their interest; accordingly, the suggestion was brought forward that authorities should provide citizens on a regular basis with a list of which disaster or emergency-related activities and exercises were available for citizens to participate in.

Recommendation E met very strong acceptance, particularly when participants imagined it in combination with recommendation A (community workshops), which they appreciated as an opportunity to *“get the ball rolling”*:

*“We can see from the conversations we are having, especially here at the table, that the fact that we are talking about these matters has already awakened us to do other things. That is, this*

*experience that we are having here now, when we leave from here, we'll have another vision of things. So, it makes perfect sense, maybe going to our authority, whether the Parish Board or whatever, to hold a course, a workshop, to involve people.” (G8)*

Recommendation F received both positive and negative feedback. Some participants expressed, again, their belief that online games would be more suitable for younger than for older people; others felt that *“a game is always a game”* (G7) and, thus, online games would not be appropriate for a task as serious as disaster preparedness training. However, about half of the participants did support the idea, and some suggested that using online games may, actually, be even more effective in reaching out to larger numbers of people: *“In a drill you can reach about 100 people, without extras. In virtual reality, by selling games, or by making them available anywhere, it's a reality that reaches many more people”* (G5).

## 5. Summary & Conclusions

*“Keep up with these initiatives, and don't give up. This event is not a training initiative, but for us it already had that effect!” (G7)*

As in all previous Citizen Summits, the quantitative data revealed that most participants of the Portugal Citizen Summit feel they have a strong lack of knowledge about what to do in case of a disaster. This result reflects the lack of knowledge expressed by most participants in the discussion groups when providing feedback on the recommendations related to awareness of, and gathering information about, emergency procedures and how to prepare for a disaster situation. The participants' strong desire for access to information, which was expressed throughout the group discussions, is also consistent with the results from the quantitative study, which found that 96% were quite or very interested in information about disaster preparedness. A similarly large majority (93%) would like to receive, at least once per year, information about how to prepare themselves and their family and/or friends for a disaster. The qualitative data revealed that a majority of participants are willing to follow the recommendation to search for relevant information themselves, but many of them felt rather unsure where to look and what they could consider reliable sources. Generally, they felt that in disaster preparedness there is no such thing as “too much information”, and they would appreciate a combination of paper-based and paperless sources.

In addition to receiving information at least annually, three out of four participants would like to participate in training activities at least every one to two years, e.g., emergency drills or workshops, that would help improve their and their families' and/or friends' safety in case of a disaster. Again, this strong interest, documented in the quantitative data, is supported by the qualitative findings in the discussion groups. There, all recommendations related to participation in disaster awareness and training activities were perceived as useful or very useful, and in particular community workshops and disaster scenario exercises were seen to promote social cohesion, strengthen solidarity between the participating citizens and hold the potential to improve citizens' trust in disaster management authorities. These events were also perceived as an opportunity to become aware of personal skills that may be useful in both disaster preparedness and disaster response, which was reflected in the participants' positive response to the respective recommendation. These results provide a valuable context for citizen empowerment actions as outlined in the Work Package 7 Deliverables.

The results of the quantitative data analysis regarding the use of social media and mobile phone apps in a disaster situation were also supported by the findings from the discussions. Whereas a large proportion of participants indicated that they were likely or very likely to use both mobile phone apps and social media, the likelihood of apps usage was slightly higher than the likelihood of social media usage. In the discussion groups some participants expressed their expectation of a “disaster app” being more effective than social media in such situation. However, the recommendations to inform oneself about and use relevant social media sites and available mobile phone apps were both perceived as useful. The discussions revealed divergent views on the use of educational online games for disaster preparedness; participants were either very enthusiastic or rather sceptical about their usefulness.

Generally, though, most recommendations in both sets (Set 1: *“Developing a personal culture of preparedness”* and Set 2: *“Taking part in disaster preparedness and response activities”*) were seen

by the participating citizens as useful or very useful, and their final statements revealed a strong willingness to take the initiative and follow the recommendations immediately, in particular those that were seen to be “little things” with a high impact, and those that were related to their circle of families and friends:

*“It's leaving from here today and not letting even one more day go by. I'll get home and just do it!” (G7)*

*“I'll talk to my family. Especially to my grandmother, because she lives on her own.” (G1)*

*“I'll talk to my family [...] I'll check the Civil Protection website to get informed.” (G1)*

*“I'll put the numbers on the fridge. Tonight, I'll have dinner, and this will be the topic of conversation.” (G1)*

*“I'll try to talk to my family. Do this thing of the numbers. Search for workshops.” (G1)*

*“I'll start with my family. I'll talk at my company about drills. Numbers on the refrigerator, namely for the fire brigade and of close people.” (G1)*

*“I never even accessed the Civil Protection webpage. But now I'm curious.” (G7)*

*“I will try to find out if there is any website that gives details about which spots are the safest.” (G4)*

*“We'll certainly start looking and paying more attention to that [publicly displayed emergency information]. Of course, we won't be able to memorise it immediately. For example, I always get out at the same subway station, and with time I'll remember.” (G5)*

*“After today's session, I will sincerely talk to a friend who works for the Parish Council on this issue of disaster preparedness [...] I want to know what the Parish Council of [name of area where participant lives] will do regarding this matter.” (G7)*

*“I'm going to divide it into two stages. I'll first see where the emergency exit stairs are, check the safe spots at home, get ready, and get better informed. At a second stage, I'll try to influence others at home, at work, and when I'm with friends. I'll give examples or try to explain what they should do.” (G1)*

*“At least when we leave here today, let's share this with our family and friends, and let's see what they have to say [...] These 102 people from today, in a few hours will already become thousand because we will pass the word on to our friends.” (G9)*

Based on the participants' suggestions during this Citizen Summit, the following changes and amendments will be implemented:

- The recommendation regarding an improved attention to, and awareness of, disaster/emergency-related information in public spaces will be reworded in order to reduce the perceived pressure and make the suggested behaviour more acceptable.
- The participants' suggestion to combine different measures when providing disaster preparedness-related information will be taken up in the respective “mirror” recommendation for stakeholders, including the examples given.



- The participants' suggestion to provide links to educational online games on the websites of disaster authorities will be taken up in the respective "mirror" recommendation for stakeholders.
- The participants' suggestion to encourage travel and online booking agencies to include disaster risk and emergency-related information in their booking confirmations will be taken up in the respective "mirror" recommendation for stakeholders.
- The participants' suggestion to provide citizens on a regular basis with a list of disaster or emergency-related activities and exercises where they can participate will be taken up in the respective "mirror" recommendation for stakeholders.

The complete sets of revised CARISMAND Toolkit recommendations for both citizens and practitioners will, directly, inform Work Package 9.

## Appendix A

Time	Detailed Schedule & Content	Total running
[60 min.]	Participant registration / Collecting consent forms / Handing out voting keypads	
15 min.	<b>Welcome &amp; logistics</b> <b>Intro presentation: The CARISMAND project</b>	<b>15 min.</b>
15 min. <sup>15</sup>	<p><b>Question Set I: Demographics &amp; disaster experience</b></p> <p><i>The first 5 questions in this set (Q1 – Q5) are taken directly from the recruitment questionnaire and provide some demographic and other basic participant information. Q6 asks for citizens’ disaster risk perception, whereas Q7 asks for citizens’ emotions (worry/concern)<sup>16</sup>. Q8 explores the likeliness of participants using a website where they can find recommendations how to improve their disaster preparedness. This question is, intentionally, asked <u>before</u> the CARISMAND Toolkit will be introduced; a similar question will be asked in the very end of this event to investigate the likeliness of citizens specifically using the CARISMAND Toolkit.</i></p> <p>1.1 Gender (1=female, 2=male, 3=choose not to say)</p> <p>1.2 Age (numeric)</p> <p>1.3 Have you, or a close friend or family member, ever experienced a disaster? (1=yes, 2= no, 3=I’m not sure)</p> <p>1.4 Do you feel you are living in an area that is specifically prone to disasters? (1=yes, 2=no, 3=I’m not sure)</p> <p>1.5 Do you know of any other people in your area where you live who you think are particularly vulnerable or exposed to disasters? (1=yes, 2=no, 3=I’m not sure)</p> <p>1.6 How high, or low, do you think is the risk that a disaster occurs in the area where you live? (1=very low, 2=low, 3=neither low nor high, 4=high, 5=very high, 6=I’m not sure)</p> <p>1.7 How much do you agree, or disagree, with the following statement: “I am worried about disasters in the area where I live.” (1=I totally disagree, 2=I disagree, 3=I neither disagree nor agree, 4=I agree, 5=I totally agree, 6=I’m not sure)</p>	

<sup>15</sup> The time for this (as well as for each following) set of questions is generously planned, allowing per question for app. 1 min. (for yes-no questions) and 2 min. (for Likert scale questions). The presenter will read each question and all answer options out loud to the audience whilst they are shown on the presentation screen.

<sup>16</sup> This type of question is going to be posed to the audience a second time, i.e. at the end of question set II (Information & disaster preparedness). In order to achieve adequate internal consistency but without using exactly the same wording, these questions are based on the 5-item measure developed by Kellens et al (2011) with a Cronbach’s Alpha of 0.80 for the perception of flood risk, adapted to disasters in general (see Kellens, W., Zaalberg, R., Neutens, T., Vanneuville, W., & De Maeyer, P. (2011). An analysis of the public perception of flood risk on the Belgian coast. Risk analysis, 31 (7), 1055-1068).

	<p>1.8 How likely are you to use a website where you can find information about how you, your family and friends can better prepare for a disaster? (1=very unlikely, 2=unlikely, 3=neither unlikely nor likely, 4 likely, 5=very likely, 6=I'm not sure)</p>	30 min.
15 min.	<p><b>Presentation:</b> <b>The CARISMAND Toolkit</b></p>	45 min.
15 min.	<p><b>Question Set II: Disaster preparedness</b> <i>This set of questions builds upon the design of and results from Citizen Summits 3 and 4 in 2017. In detail, Q9 introduces the topic of disaster preparedness through asking for awareness of disaster-related behaviours; Q10, Q13 and Q14 measure citizens' disaster preparedness intentions<sup>17</sup>, with Q11 and Q12 operationalising the results from Q10 for guidance to disaster managers (the need of training activities rather than the mere provision of information was specifically pointed out by participants in the 2<sup>nd</sup> and 3<sup>rd</sup> Stakeholder Assembly). Additionally, the results of Citizen Summit 4 (Germany) demonstrated that measuring merely citizens' abstract preparedness intentions may not reveal the full picture, as there appear to be cultural differences in the perception of what "prepare little" or "prepare a lot" actually means. Q15 is the second measure of citizens' feelings as outlined in question set I.</i></p> <p>1.9 How informed do you feel by the authorities (for example Civil Protection, local police, emergency services) of what you have to do in case of a disaster? (1=not informed at all, 2=not informed, 3=reasonably informed, 4=informed, 5=very informed, 6=I'm not sure)</p> <p>1.10 How much are you interested in information about disaster preparedness? (1=not interested at all, 2=interested very little, 3=interested a little, 4=quite interested, 5=very interested, 6=I'm not sure)</p> <p>1.11 How often would you like to receive information about how to prepare yourself and your family/friends for a disaster? (1=never, 2=only when there is an increased disaster risk, 3=once per year, 4=once every 6 months, 5=at least once every 3 months, 6=I'm not sure)</p> <p>1.12 How often would you like to participate in training activities, for example emergency drills or workshops, that will help improving your and your family's/friends' safety in case of a disaster? (1=never, 2=only when there is an increased disaster risk, 3=every 3-5 years, 4=every 1-2 years, 5=at least once per year, 6=I'm not sure)</p> <p>1.13 How well do you personally feel prepared for a disaster in your area? (1=not prepared at all, 2=not prepared, 3=neither prepared nor unprepared, 4=prepared, 5=well prepared, 6=I'm not sure)</p>	

<sup>17</sup> Questions are based on the 3-item measure (Cronbach's Alpha 0.86) developed by Terpstra (2011) for flood preparedness intentions. (see Terpstra, T. (2011). Emotions, trust, and perceived risk: Affective and cognitive routes to flood preparedness behavior. Risk Analysis, 31 (10), 1658-1675).

	<p>1.14 To what extent do you intend to prepare for disasters? (1=Not prepare at all, 2=Prepare very little, 3=Prepare a bit, 4=Prepare quite a lot, 5=Prepare a lot, 6=I'm not sure)</p> <p>1.15 How much do you agree, or disagree, with the following statement: "When I think of disasters in my area, I feel concerned." (1=I totally disagree, 2=I disagree, 3=I neither disagree nor agree, 4=I agree, 5=I totally agree, 6=I'm not sure)</p>	60 min.
30 min.	<p><b>Presentation of Toolkit recommendation:</b> "Develop a personal "culture" of preparedness"</p>	1h 30 min.
15 min.	<p><b>Presentation &amp; video:</b> Disaster scenario exercise with citizens in Malta</p>	1h 45 min.
30 min.	<p><b>Presentation of Toolkit recommendation:</b> "Take part in disaster preparedness and response activities"</p>	2h 15 min.
15 min.	<p><b>Question Set III: Social media use in disasters</b> <i>This set of questions builds upon the results from Citizen Summits 3 and 4 in 2017, the 2<sup>nd</sup> Stakeholder Assembly as well as the Work Package 3 Deliverables which show the uptake of social media by citizens in disaster situations to gather information, but also the increasing usage of specifically designed "disaster apps". Q18 and Q21 intentionally differentiate between social media and mobile phone apps, because there is yet little research which explores the different possible functions expected, or desired, by citizens.</i></p> <p>1.16 Do you use a mobile phone? (1=yes, 2=no)</p> <p>1.17 Do you use mobile phone apps? (1=yes, 2=no, 3=I don't know)</p> <p>1.18 In the case of a disaster, how likely are you to use a mobile phone app that is specifically made for disaster situations to:</p> <p>18.1 receive alerts, warnings or emergency-related information from local authorities / emergency services.</p> <p>18.2 submit information about disaster risks or disasters to local authorities / emergency services.</p> <p>18.3 warn/inform other app users. (1=very unlikely, 2=unlikely, 3=neither unlikely nor likely, 4=likely, 5=very likely, 6=I'm not sure)</p> <p>1.19 Do you use the internet? (1=yes, 2=no)</p> <p>1.20 Do you use social media? (1=yes, 2=no, 3=I'm not sure)</p> <p>21. In the case of a disaster, how likely are you to use social media to:</p> <p>21.1 inform yourself about the disaster.</p> <p>21.2 submit information about disaster risks or disasters to local authorities / emergency services.</p> <p>21.3 warn/inform other social media users (1=very unlikely, 2=unlikely, 3=neither unlikely nor likely, 4=likely, 5=very likely, 6=I'm not sure)</p>	2h 30 min.
90 min.	<b>Lunch break</b>	4h
120 min.	<b>Discussion group session</b>	6h

30 min.	<b>Coffee break</b> (and return to general assembly room)	<b>6h</b> <b>30 min.</b>
20 min.	<b>Final presentation:</b> <b>Overview of real-time results from participants' responses via the audience response system</b> <i>During the breaks and the group discussions, the participants' responses will undergo a quick analysis and be collated in a presentation which visualises the results via graphs and in short descriptive statements. Additionally, the final presentation will provide some information about the results from the previous four Citizen Summits.</i>	<b>6h</b> <b>20 min.</b>
2 min.	<b>22. Final question:</b> How likely are you to use the CARISMAND Toolkit website to find information how you, your family and friends can better prepare for disasters? <i>(1=very unlikely, 2=unlikely, 3=neither unlikely nor likely, 4 likely, 5=very likely, 6=I'm not sure)</i>	<b>6h</b> <b>22 min.</b>
8 min.	<b>Final conclusions</b>	<b>6h</b> <b>30min.</b>

## Appendix B

Objectives	Discussion guideline - Briefing
<p><i>Welcome and introduction</i> [about 10 min.]</p> <ul style="list-style-type: none"> <li>- Welcome participants</li> <li>- Obtain signed consent forms (if required)</li> <li>- Start recording the meeting</li> <li>- Thanking participants</li> <li>- Introduction of the moderator</li> <li>- Duration</li> <li>- Confidentiality</li> <li>- Ground rules for the discussion</li> <li>- Brief introduction of the participants</li> </ul>	<p><i>Welcome the participants, assign them a seat, and provide them with name cards.</i></p> <p><i>Participants should have signed the consent form on registration. However, please check and collect any outstanding forms if required. Explain to them that an audio recording of the discussion is necessary so as not to miss any of the comments given during the discussions. Start recording the meeting and inform the participants that the recording has begun.</i></p> <p>Welcome and thank you for agreeing to participate in this working group. My name is _____ and I will be moderating this group discussion. Our session will last about one hour and fifteen minutes.</p> <p>Since we will be audio recording the discussion, I would kindly ask you to speak in a clear voice. Your opinions, experiences and suggestions are very important to this project, and we do not want to miss any of your comments. “</p> <p><b>At this stage, do not to provide any additional details on the content of the working group in order to avoid influencing and biasing the discussion.</b></p> <p>As explained and stated on the signed consent form, everything that will be recorded during this session will be kept confidential, i.e. the recorded comments might be used in scientific publications and reports, but only as anonymous quotes. I want you to make sure that you are comfortable enough to share your opinions with all the participants in the group. In order to facilitate this, I would like to ask everyone present to follow these ground rules:</p> <ul style="list-style-type: none"> <li>• We are interested in the opinion of each individual and we would therefore like to hear from all the people in the group.</li> <li>• There are no wrong or right answers. There are only different opinions. Consequently, we request that you mutually respect each other's opinions.</li> <li>• It is important for us that only one person speaks at a time. Each opinion is important and I would kindly request that you don't speak when others are speaking, otherwise it will be difficult for us to capture all of your opinions.</li> <li>• I would also kindly request that you silence your mobile phones and thus provide for an uninterrupted discussion.</li> </ul> <p>Do you have any comments or other suggestions for these ground rules? Do you have any other important general questions before we start?” [...]</p> <p>“So, let us start with each member of the group briefly introducing themselves. Let us go around the table. Tell us, please, your name, or nickname if you prefer, and a few basic things about yourself, such as your approximate age, occupation, where you come from, etc. Let me start by introducing myself...”</p>

	<i>Running total: 10 min.</i>
	<b>Warm-up exercise</b>
<p><b>0. Word association exercise</b> [about 5 min.]</p> <p><b>Question aims:</b></p> <ul style="list-style-type: none"> <li>- Warm-up</li> </ul>	<p>I would like to begin our discussion with a short warm-up. I will read out a word and I would like you to say the first word or two that spring to your mind when you hear it. Let's try an example first: What is the first thing that comes to mind if I say the word "fire"? Preferably, try to think about single words or short phrases.</p> <p><b>Read Out (one at a time):</b></p> <ul style="list-style-type: none"> <li>- Responsibility</li> <li>- Trust</li> <li>- Safety</li> </ul> <p><b>This is a warm up exercise. Do not discuss.</b></p> <p style="text-align: right;"><i>Running total: 15 min.</i></p>

	<b>Discussion Topics</b>
<p><b>1. Spontaneous reactions</b> [about 10 min]</p> <p><b>Question aims:</b></p> <ul style="list-style-type: none"> <li>- Determine what:</li> <li>- Resonated i.e. is highly relatable to their personal experience</li> <li>- Surprised – and why, i.e. is it because they feel it is irrelevant, or they would find it difficult to do etc.</li> </ul>	<p>During this first part of the discussion, I'd like to talk about how you, as "normal" citizens, can improve your and your family's and friends' disaster preparedness by <u>developing a personal "culture of preparedness"</u>.</p> <p>Firstly, I'd like to talk about the presentation you heard this morning. Was there anything in the presentation that struck you? Maybe you felt that something resonated strongly with your personal expectations, your personal experience or something that you were surprised by?</p> <p><b>Probe and explore fully</b></p> <p><i>In this set of questions, the participants should be encouraged to elaborate the underlying reasons for their reactions.</i></p> <ul style="list-style-type: none"> <li>• <u>Resonance</u> will give us 'easy wins' and effective comms messages</li> <li>• Anything which provokes <u>surprise</u> may be due to either a lack of relevance, or a lack of conviction that the approach is feasible. If the latter, Why?</li> </ul> <p style="text-align: right;"><i>Running total: 25 min.</i></p>
<p><b>2. Overall reactions to the recommendations</b> [about 10 min]</p> <p><b>Question aims:</b></p> <ul style="list-style-type: none"> <li>- Determine that recommendations are clear and make sense</li> <li>- Which will make the most noticeable difference and why</li> </ul>	<p>Now, I'd like to understand your reactions to the recommendations we're proposing.</p> <p><b>Share SHOWCARD 1, reading out further detail from the Recommendations document to ensure full recall and understanding.</b></p> <p>Looking at this, is there anything that does not make sense?</p> <p><b>Where unclear determine why e.g. is it the wording or that participants do not understand the reasons behind the recommendation, etc.</b></p> <p>Looking at these recommendations, is there any one (or more) that you feel will make more of a difference? Why?</p> <p><b>Identify the top recommendation participants feel will have most impact and explore why.</b></p> <p><i>After a refreshing recall of the full set of recommendations, this will help confirm resonance or otherwise and determine a ranking in terms of perceived likely impact.</i></p> <p style="text-align: right;"><i>Running total: 35 min.</i></p>
<p><b>3. Detailed reactions to the individual recommendations</b> [about 25 min]</p> <p><b>Question aims:</b></p> <ul style="list-style-type: none"> <li>- Validate the recommendations – are they useful?</li> </ul>	<p>Now, I'd like to go through each of these individual recommendations and get your reactions to each one.</p> <p>For each recommendation ask:</p> <ul style="list-style-type: none"> <li>- How useful do you think is this recommendation to you and your family and/or friends?</li> <li>- Can you see it being put into practice? Would there be any difficulties around this? Which? <b>Explore barriers and determine what can be done to address these.</b></li> </ul>



<ul style="list-style-type: none"> <li>- Identify ease of putting them into practice; are there any barriers?</li> <li>- Suggestions for improvement</li> </ul>	<ul style="list-style-type: none"> <li>- What will be the benefits of doing this? <b>Probe for tangible differences to outcomes as identified by participants. Encourage participants to give examples from their own experience where doing this would have made a difference.</b></li> <li>- Can it be improved? How and why?</li> </ul> <p><i>This section should explore reactions to each recommendation in depth determining drivers, barriers, benefits and suggestions for improvement. These questions should enable us to validate the recommendations, or otherwise.</i></p> <p><b>If any suggestions for other recommendations are spontaneously mentioned over the course of the discussion, discuss these with the rest of the group to determine relevance and validate accordingly.</b></p> <p style="text-align: right;"><i>Running total: 60 min.</i></p>
<p style="text-align: center;">[5-10 min]</p>	<p style="text-align: center;"><b>Short break</b></p> <p style="text-align: right;"><i>Running total: 70 min.</i></p>
<p><b>4. Spontaneous reactions</b> [about 10 min]</p> <p><b>Question aims:</b></p> <ul style="list-style-type: none"> <li>- Determine what:</li> <li>- Resonated i.e. is highly relatable to their personal experience</li> <li>- Surprised – and why, i.e. is it because they feel it is irrelevant, or they would find it difficult to do etc.</li> </ul>	<p>Now, in this second part of the discussion, I'd like to talk about how you, and citizens in general, <u>can get engaged and take part in disaster preparedness and response activities.</u></p> <p>Firstly, I'd like to talk about the other presentation you heard this morning. Was there anything in that presentation that struck you? Maybe you felt that something resonated strongly with your personal expectations, your personal experience or something that you were surprised by?</p> <p><b>Probe and explore fully</b></p> <p><i>In this set of questions, the participants should be encouraged to elaborate the underlying reasons for their reactions.</i></p> <ul style="list-style-type: none"> <li>• <u>Resonance</u> will give us 'easy wins' and effective comms messages</li> <li>• Anything which provokes <u>surprise</u> may be due to either a lack of relevance, or a lack of conviction that the approach is feasible. If the latter, Why?</li> </ul> <p style="text-align: right;"><i>Running total: 80 min.</i></p>
<p><b>5. Overall reactions to the recommendations</b> [about 10 min]</p> <p><b>Question aims:</b></p> <ul style="list-style-type: none"> <li>- Determine that recommendations are clear and make sense</li> <li>- Which will make the most noticeable difference and why</li> </ul>	<p>Now, I'd like to understand your reactions to the recommendations we're proposing.</p> <p><b>Share SHOWCARD 2, reading out further detail from the Recommendations document to ensure full recall and understanding.</b></p> <p>Looking at this, is there anything that does not make sense?</p> <p><b>Where unclear determine why e.g. is it the wording or that participants do not understand the reasons behind the recommendation, etc.</b></p> <p>Looking at these recommendations, is there any one (or more) that you feel will make more of a difference? Why?</p>








	<p><b>Identify the top recommendation participants feel will have most impact and explore why.</b></p> <p><i>After a refreshing recall of the full set of recommendations, this will help confirm resonance or otherwise and determine a ranking in terms of perceived likely impact.</i></p> <p style="text-align: right;"><i>Running total: 90 min.</i></p>
<p><b>6. Detailed reactions to the individual recommendations</b> [about 25 min]</p> <p><b>Question aims:</b></p> <ul style="list-style-type: none"> <li>- <i>Validate the recommendations – are they useful?</i></li> <li>- <i>Identify ease of putting them into practice; are there any barriers?</i></li> <li>- <i>Suggestions for improvement</i></li> </ul>	<p>Now, I'd like to go through each of these individual recommendations and get your reactions to each one.</p> <p>For each recommendation ask:</p> <ul style="list-style-type: none"> <li>- How useful do you think is this recommendation to you and your family and/or friends?</li> <li>- Can you see it being put into practice? Would there be any difficulties around this? Which? <b>Explore barriers and determine what can be done to address these.</b></li> <li>- What will be the benefits of doing this? <b>Probe for tangible differences to outcomes as identified by participants. Encourage participants to give examples from their own experience where doing this would have made a difference.</b></li> <li>- Can it be improved? How and why?</li> </ul> <p><i>This section should explore reactions to each recommendation in depth determining drivers, barriers, benefits and suggestions for improvement. These questions should enable us to validate the recommendations, or otherwise.</i></p> <p><b>If any suggestions for other recommendations are spontaneously mentioned over the course of the discussion, discuss these with the rest of the group to determine relevance and validate accordingly.</b></p> <p style="text-align: right;"><i>Running total: 115 min.</i></p>
<p><b>7. Suggestions for improvement</b> [about 5 min]</p> <p><b>Question aims:</b></p> <ul style="list-style-type: none"> <li>- <i>To identify any gaps/recommendations that can be added that are likely to make an impact</i></li> </ul>	<p>Finally, thinking, do you think there are any recommendations or guidelines that could be added that have not been included here?</p> <p><b>Allow for spontaneous response, encourage participants to think of their own experience and probe for motivations and benefits of any suggestions made.</b></p> <p style="text-align: right;"><i>Running total: 120 min.</i></p>
<p><b>8. Conclusion</b></p>	<p>We are coming to an end of this working group which, I think, has revealed some very interesting insights.</p> <p>Is there anything that you would like to add?</p>

Anything else that you would like to tell the CARISMAND project team about this topic?

**THANK AND CLOSE**

## Appendix C

### Showcard 1: Develop a personal “culture of preparedness”

<p>A) Look out for publicly displayed information about disaster preparedness.</p>	
<p>B) Identify and memorise “safe spots” or “safe zones” in your homes, your workplaces, and your local area.</p>	
<p>C) Search online for information about disaster preparedness and keep yourself updated, or ask your local council for brochures about disaster preparedness.</p>	
<p>D) Set up personal emergency plans together with your family and/or friends, and don't rely on a paper-less “internet culture”.</p>	
<p>E) If you use the internet, find out which information channels can be used in case of a disaster, and make sure you know how to access them.</p>	
<p>F) If you have a mobile phone, inform yourself what “disaster apps” for mobile phones are available in your country/area, download and familiarise yourself with them.</p>	
<p>G) Train yourself and encourage others to learn about disaster preparedness via serious games.</p>	

H) If you travel abroad, make it a habit to gather in advance information about local emergency procedures.



## Showcard 2:

### Take part in disaster preparedness and response activities

<p>A) Take part in community workshops to share your experiences and memories of disasters.</p>	
<p>B) Participate in training events in your area, for example First Aid and CPR, train together with citizens from other cultural backgrounds, and learn to identify and respect different cultural needs.</p>	
<p>C) Volunteer to get involved in the planning of emergency and disaster response activities.</p>	
<p>D) Volunteer in disaster scenario exercises, which will help strengthening a sense of community and increase mutual understanding and trust between disaster practitioners and citizens.</p>	
<p>E) Use disaster training activities to think about and discuss with others the personal skills you already have that could be helpful in a disaster.</p>	
<p>F) Help disaster managers to employ virtual reality as a training method.</p>	

# Appendix D

## CARISMAND Citizens Summits Recruitment Questionnaire

Participant name: \_\_\_\_\_

1. Gender:             Female     Male

2. Age:              \_\_\_\_\_ years

3. Have you, or a close friend or family member, ever experienced a disaster?  
 Yes     No             I'm not sure.

4. Do you feel you are living in an area that is specifically prone to disasters?  
 Yes     No             I'm not sure.

5. Do you know of any other people in your area where you live who you think are particularly vulnerable or exposed to disasters?  
 Yes     No             I'm not sure.

6. Do you work as a volunteer in a community or self-help group?  
 Yes     No             I'm not sure.

7. Do you use social media?  
 Yes     No             I'm not sure.

8. I am working in a profession that is related to disaster management (e.g. Emergency Services).  
 Yes     No             I'm not sure.

Participant signature: \_\_\_\_\_

Date: \_\_\_\_\_



# Appendix E

## CARISMAND Citizens Summits Consent Form for Participation in Discussion Groups

Name of participant: \_\_\_\_\_

ID-card number: \_\_\_\_\_

I hereby give consent to the audio-recording of the discussions within the working groups and I commit to keep secret and confidential any information that I may gain access to during these discussions.

I have been informed that these Working groups are part of the CARISMAND project (Culture and Risk Management in Man-made and Natural Disasters) – a collaborative project co-funded by the European Union under the Horizon2020 programme.

I agree that my opinions and ideas expressed during these Working groups will only be used for the purposes of the CARISMAND project in an anonymised form by CARISMAND project members and other researchers. All my answers will be kept in a secure way.

My participation is voluntary and I understand that I am free to withdraw at any time, without giving any reason.

I hereby declare that I understand the participation conditions and that I agree to take part in these Working Groups.

I consent that a copy of this consent form is passed on to the CARISMAND team for due diligence purposes.

Date .....

Signature .....