CARISMAND
Culture And RISk management in
Man-made And Natural Disasters

Culture and disaster risk management -
Citizens' reactions and opinions during Citizen Summit
in Utrecht, Netherlands.

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1. Introduction

The analyses and results in this document are based on the data collected during the sixth Citizen Summit held in Utrecht, the Netherlands on May 12th, 2018. Like the previous five Citizen Summits held in Romania, Malta, Italy, Germany, and Portugal, 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[1] 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 (Deliverable D5.9) 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 2-10 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, 89 citizens participated in the Netherlands' event. The total sample shows a relatively even gender and age distribution, which is unsurprising given the target quotas[2] that were requested from

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[1] 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..

[2] Target gender split: 50% female / 50% male; target age split: 20% 18-24 years, 40% 25-44 years, 40% 45+ years; total target of approximately 90-100 participants.

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[3]	18-24	25-34	35-44	45-54	55-64	65+	No answer
89	43	44	2	20	19	15	16	13	5	1

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[4]. Almost three out of five respondents (58.1%) indicated that they, or a close friend or family member, have experienced a disaster, whereas only one out of five (20.7%) felt that they are currently living in an area that is specifically prone to disasters, but 44.2% 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	58.1%	53.7%	61.4%
Q6	Feel that living in a disaster area	20.7%	16.3%	25.6%
Q7	Know of vulnerable groups particularly exposed to disasters	44.2%	46.3%	40.9%

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 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.

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[3] In each question, the participating citizens were given the answer option "choose not to say".
[4] 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 Dutch market research agency[5], 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 Dutch. Accordingly, the Citizen Summit presentations, as well as the group discussions were held in Dutch[6], 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, in addition to assistance from experienced staff of the local project partner (RUG).

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[7], 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[8] were run for all results.

After the presentations and questions, the audience was split up into smaller groups of 8-9 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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[5]Rountable Research, Amsterdam
[6]Some presentations were held in English but with simultaneous translation into Dutch.
[7] Clik-a-pad system with ppvote software; for further information see http://www.clikapad.com.
[8]T-tests for potential differences between female and male responses; Tukey's range test in conjunction with ANOVA (post-hoc analysis) for potential differences between age groups.

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++	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.

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 that points particularly at recent research findings regarding the ambivalent relationships between perceived disaster preparedness and actual preparedness[9]. 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, many participants of the Dutch Citizen Summit expressed a strong lack of knowledge about what to do in case of a disaster, with 45% of respondents feeling not informed or not informed at all; though 38% felt reasonably informed, and 8% felt informed or well informed.

Figure 1
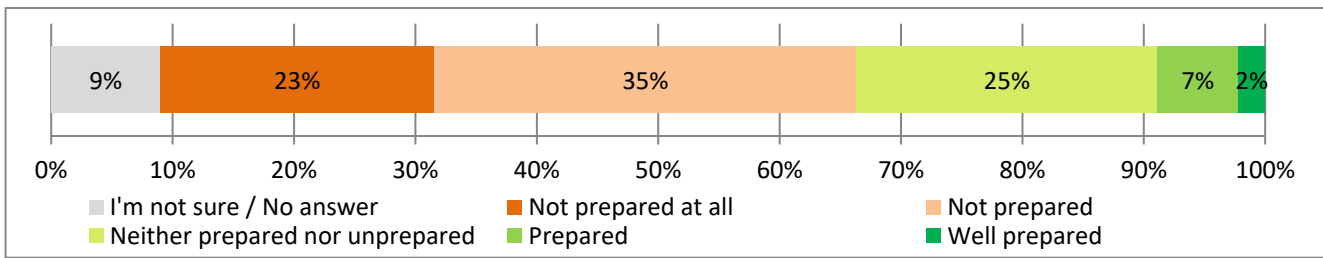**Feeling informed about what to do in case of a disaster**
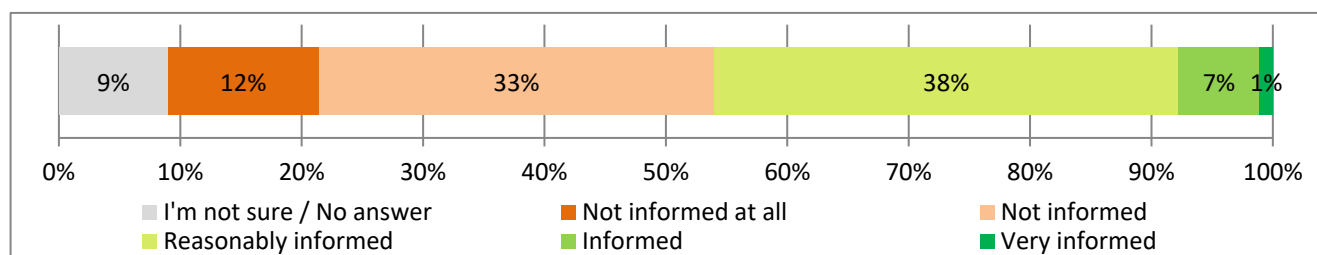
Q11- How informed do you feel by the authorities (for example Civil Protection, local police, emergency services) of what you have to do in case of a disaster?

At the same time, almost three out of five participants expressed their feelings of not being prepared or not being prepared at all (58%), whereas only a small minority (9%) feel prepared or well prepared, and there is only a weak[10] correlation (*R*=.291) between feeling informed and feeling prepared.

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[9] 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.

[10] 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

| 9% | 23% | 35% | 25% | 7% | 2% |

- ☐ I'm not sure / No answer
- ☐ Not prepared at all
- ☐ Not prepared
- ☐ Neither prepared nor unprepared
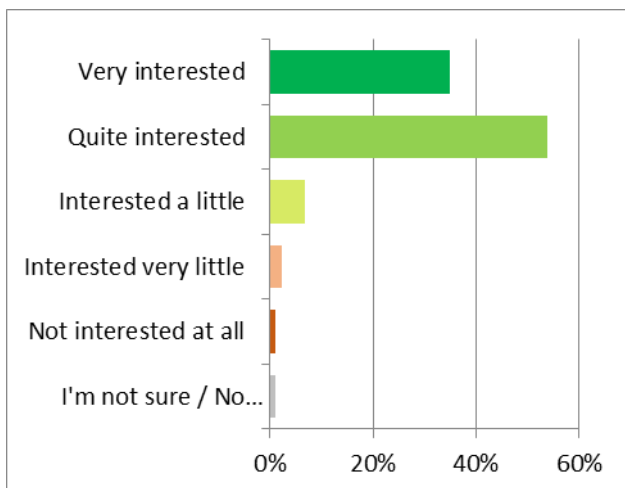- ☐ Prepared
- ☐ Well prepared

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 89% of participants indicating they were quite or very interested in information about disaster preparedness, although only one out of four (26%) indicated strong intentions to prepare for disasters (prepare quite a lot or a lot). There is a moderate correlation (R=.496) between the respondents' interest in information and their intentions to prepare themselves, although there seems to be a clearly stronger interest in information about disaster preparedness than actual intentions to prepare.
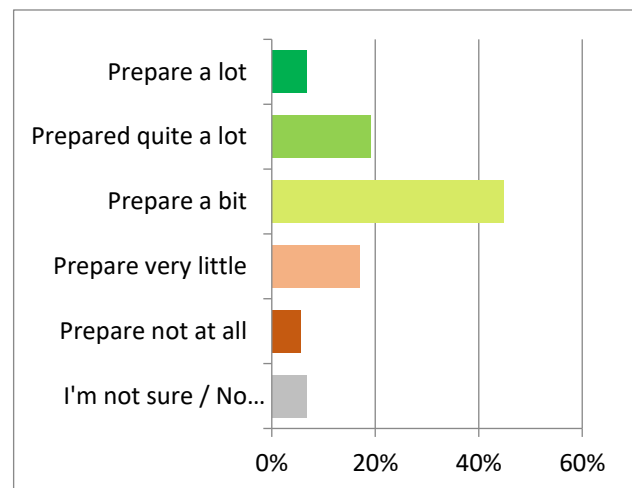
Figure 3
Interest in information about disaster preparedness

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. The answers to these questions provide a more detailed picture (see Tables 3 and 4 below). Close to two out of three participants (65%) would like to **receive at least once per year information** about how to prepare themselves and their family/friends for a disaster. In addition, almost half (47%) would like to **participate at least every 1-2 years in training activities** (e.g., emergency drills or workshops) that would help improve their own and their family's/friends' safety in case of a disaster. Not surprisingly, the results of these two questions are strongly correlated (R=.558).

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	2%
Only when there is an increased disaster risk	33%
Once per year	27%
Once every 6 months	28%
At least once every 3 months	7%
Not sure / no answer	3%

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	9%
Only when there is an increased disaster risk	29%
Every 3-5 years	15%
Every 1-2 years	25%
At least once per year	16%
Not sure / no answer	6%

There are no statistically significant differences between female and male responses in all questions related to disaster preparedness, with the exception of Q11 where female participants feel less informed by the authorities about what to do in case of a disaster than male participants. Regarding differences between age groups, the 18-24 years old participants would like to participate in training activities (Q14) less often than those 55+ years old.

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[11]. 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 only 2% of the participating Dutch citizens perceive a high or very high risk of a disaster in their area, whereas three out of four (77%) believe this risk to be low or very low. Accordingly, levels of worry or concern at the beginning of the event are very low as well - 77% of participants disagreeing that they are worried about potential disasters in their area (Q9; see Table 5 below). However, as the event progressed, this perception seemed to change. When asked later, only 36% disagreed totally or disagreed that they feel concerned when they think of disasters in the area where they live, which may be an effect of increased risk awareness due to the information provided during the course of the event. Whereas there are no statistically significant differences between age-groups and male and female perceptions of disaster risk, females felt significantly more concerned than males about disasters in their area. Respondents in the youngest age group (18-24 years) felt significantly less worried about disaster than the 45-64 year olds.

Table 5
Disaster risk perception II

Questions		Total		Female		Male	
		Mean	STD	Mean	STD	Mean	STD
Q8	Perceived disaster risk in my area	2.00	0.778	2.12	0.640	1.86	0.878
Q9	Worried about disasters in my area	1.90	0.895	2.00	0.894	1.79	0.914
Q17	Concerned about disasters in my area	3.08	1.191	3.53	1.037	2.71	1.209

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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).

Furthermore, the perceived level of disaster risk is only very weakly connected with any previous experience of disasters. This may, potentially, be explained by the participating citizens' experience being based on experiences of close friends or family members[12]. Nor is the perceived level of disaster risk related to any increased interest in receiving information about disaster preparedness measures

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[11]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). However, Citizen Summit 6 results have to take into consideration that the research referred to was conducted in an area with existing disaster (flood) risk, whereas Utrecht can be seen to be a, generally, low-hazard area.

[12]In the discussion group session, a number of participants explained that they have family members in the Caribbean or in Southeast Asia.

or any preparedness intentions. On the other hand, feelings of worry and concern show some moderate correlations to interest in receiving information about preparedness measures (R_S=.372[13]), and to preparedness intentions (R_S=.485).

Accordingly, given that worries and concerns are related to interest and potential behavioural change, but risk perception is not, motivating Dutch citizens to improve their disaster preparedness may require appealing to their emotions rather than merely providing information about disaster risks.

Figure 5
Relationship between different factors related to risk perception

Spearman's Correlations

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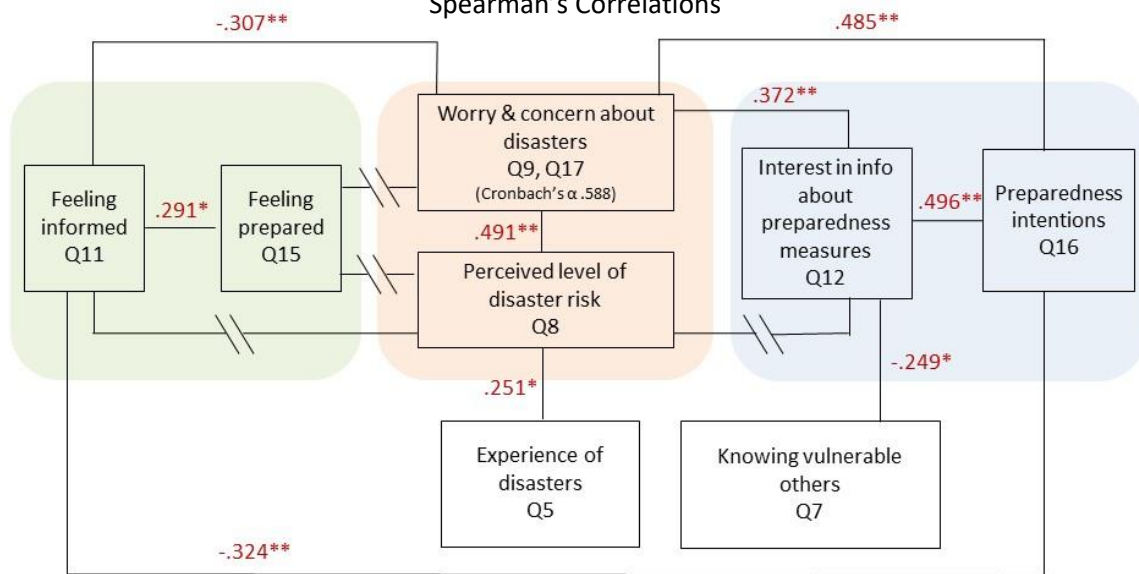
* Significance p<.05
**Significance p<.001

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[13]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.

3.3. Usage of Social Media and Mobile Phone Apps

This set of questions builds on the 2nd Stakeholder Assembly results, 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". 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 considerable proportion of Dutch 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 (67% likely or very likely), followed by the likelihood of use for receiving messages/alerts (63%) and submitting information about disasters or disaster risks to authorities (50%). The picture is very similar for the use of social media in disaster situations, with the likelihood of using social media to inform oneself about disasters or disaster risks being the most likely (70%). However, only one out of three participants (33%) would be likely or very likely to use social media to submit information to authorities. Interestingly, it appears to be more likely that information is submitted to authorities in disaster situations through mobile phone apps than through social media.

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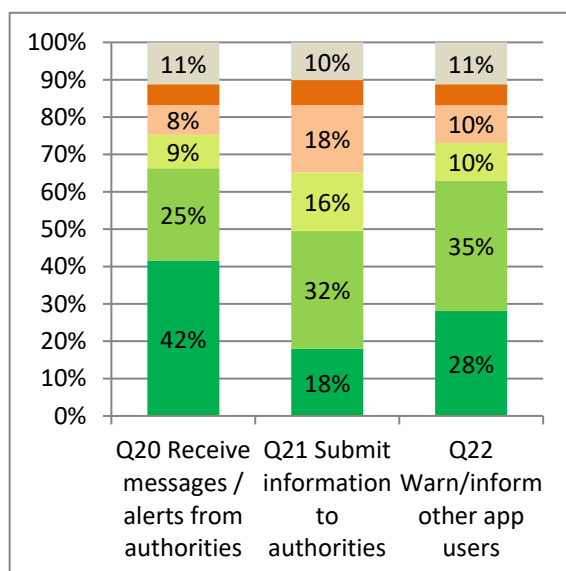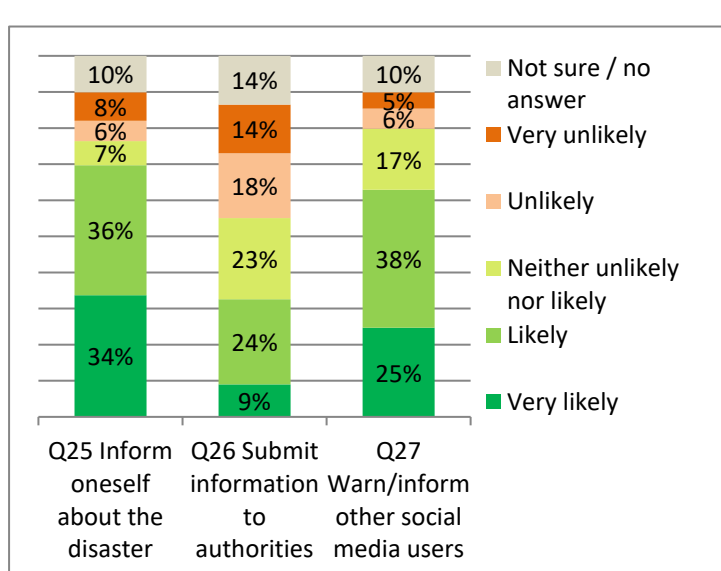**Likelihood of mobile phone app usage in disaster situations**

Figure 7
Likelihood of social media usage in disaster situations

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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)

There were no statistically significant differences between female and male responses or age groups in either mobile phone apps or social media use.

Regarding the relationships between the different types of usage (see Table 6 below), firstly, participants, who indicated that they are likely to use one function of such mobile phone apps (e.g., to receive alerts), were also likely to use any of the other functions (submit information to authorities, warn other app users). Correlations between using social media for different disaster related functions are similarly high. Participants who responded that they are likely to use a social media site for informing themselves / receiving information, were also very likely to warn or inform other social media users and to submit information to authorities.

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	0.657				
Q22 Mobile phone apps: warn other app users	0.582	0.668			
Q25 Social media: receive information	0.319	0.261	0.233		
Q26 Socal media: submit information	0.220	0.582	0.351	0.554	
Q27 Social media: warn other users	0.231	0.363	0.280	0.593	0.613

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

There are, mostly, only weak or very 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 strong correlation was revealed, which points at the possibility that such intended behaviour is linked more to general attitudes, i.e., attitudes towards authorities, than to the type of medium.

4. Qualitative Data Analysis

As outlined in Chapter 1, the group discussions held in the afternoon of this sixth 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, the discussions triggered ambivalent responses amongst the participating citizens. Most recommendations in both sets were perceived as generally useful, and some participants explained that, despite perceiving the Netherlands as a rather safe location, they felt a need to improve their awareness and prepare themselves better:

> "I noticed that I actually have zero awareness about this issue, and that I always feel very secure. So then I thought; we are very privileged, but at the same time there are a number of things that I should be more aware of." (P3/G7[14])

> "There's a lot of information out there, but it is our responsibility to find it. And that's where it's lacking. I would like to know more about that." (P4/G8)

However, the prevailing attitude amongst a majority of participants in most groups was that, due to a perception of their home country (or home city) as a "safe place", many recommendations were not applicable in the Netherlands but were more important when going abroad. Additionally, many participants expressed a strong belief that it is the government's responsibility to inform and motivate citizens:

> "It is good to develop this personal culture of preparedness, but I believe that the most important recommendation would need to be for each country to develop a policy and a strategy on the highest level to make sure we as citizens are becoming more assertive, more articulate and better prepared with regard to these issues […]I don't like listening to the government, but in this case I think they should provide us with the most important recommendations." (P3/G7)

Across all age groups, the topic of discussing personal emergency plans, meeting points and "safe spots" with family members and friends was perceived to be the most important, together with an increased awareness of emergency signs and the need for more participation in training events. The latter was seen by many participants as useful for both the improvement of skills and for an improved understanding of community members from different cultural backgrounds.

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[14]Participant number 3, Group number 7. This abbreviation will be used throughout this document. In some cases where the recording quality did not allow the transcriber to identify the voice of the respective speaker, the participant will be marked as "P-".

4.1. Developing a personal "culture of preparedness"

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 an attitude amongst most participants which oscillated between inertia and interest. Many felt that *"the government should inform us better"* (P4/G8), although *"they [the government] should still tell us what we can do ourselves; they don't have to do everything for us"* (P-/G6), and that citizens needed *"to be a bit more aware, I do acknowledge that"* (P1/G8). A minority expressed their scepticism *"that citizens will discuss these things of their own accord"* (P4/G1). On the other hand, a considerable number of participants expressed their specific interest in information about disaster risks and preparedness when going to other countries.

The following aspects were mentioned most often in all discussion groups and perceived to have the strongest 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: *"I think it's more the smaller things that can lead to a higher impact. It's such a small effort for us to do these things"* (P4/G2); and
- **Discussing with family members** emergency procedures, safe spots and meeting points in case of a disaster, again because it was seen to be an effective measure that requires little effort.

The individual recommendations for implementation were discussed in detail and evaluated as shown bellow.

H		Toolkit recommendations for citizens - set 1: Develop a personal "culture of preparedness"	Participants' evaluation
A		• 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. • Make a point of reading and memorising such information, and encourage people who are accompanying you, especially children, to do the same.	+
B		• Identify and memorise "safe spots" or "safe zones" in your homes, your workplaces, and your local area. • Keep in mind that such safe places may be different for different types of disaster. • Share and discuss these safe places with family members, friends and colleagues.	+
C		• 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. • Download this information or ask the authorities to send you any available brochures. • Update yourself at least once a year.	+/-
D		• Set up personal emergency plans together with your family and friends by discussing emergency contacts, meeting points, means of communication etc. • 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).	++
E		• 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. • Make sure you know how to access them, bookmark the links and test them regularly. • Encourage and help other family members and friends to do the same.	+/-
F		• 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. • Become familiar with the features of such apps and test them frequently. • Encourage friends and family members to download and use this app as well.	+
G		• 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. • 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.	+
H		• 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. | |
| | • If you use mobile phone apps, find our whether there is a "disaster app" available in the countries where you travel, which provides emergency-related information and guidance in your language. | |

Recommendation A, generally, received support as one of the most important measures, although participants in some groups expressed their scepticism that people would actually do it. However, a number of them also outlined that they already had changed their behaviour – *"following the shooting [in Paris] I by default check the emergency exits, especially in busy places"* (P5/G2) – or intended to do so: *"I will be paying more attention from now on […] These things need to become ingrained. It just needs to become a simple fact"* (P5/G8).

Recommendation B was perceived by many participants as useful. However, similarly to the participants in the previous Citizen Summit 5 in Lisbon, Portugal, participants across all discussion groups indicated an explicit need for more information to be provided by the respective authorities.

Recommendations C and E, which were often discussed in combination, revealed some opposing points of view. Whereas participants across all age groups found them useful, some felt that seeking information would not be needed due to the Netherlands being a safe place, and others perceived it as too much effort. *"The local council, in my case it is located 30 minutes from where I live. I will not go there for information, it's too far away"* (P7/G1). Of those who would be interested, in particular regarding online information, many showed a lack of knowledge regarding potential sources: *"How do you know it exists?"* (P4/G8). Those who would be interested in or willing to obtain online information outlined that this information should be either concentrated on one site, or websites with disaster-related information should at least be connected via links to each other: *"Why not just one excellent website containing links and everything?"* (P2/G9).

Recommendation D was perceived by many participants as very useful and, again similar to the Citizen Summit 5 results, seen to be the potentially most impactful amongst all presented recommendations. In particular (but not only) younger participants expressed their opinion that it would be successful because it was easy to take it up.

> *"I have put this recommendation as number 1. It is very simple and you do not have to look up all kind of complicated things[…] There is a lot of power in this recommendation."* (P4/G1)

> *"Having meetings with your parents and agreeing on meeting places etc. that is very useful, not only in cases of a disaster, but also at other moments when communication is not possible. It is a very simple agreement that can have big consequences."* (P5/G2)

> *"There is not a lot to stop you doing it. There is not a lot that you have to do, and there are no costs involved."* (P4/G2)

> *"You can just discuss it over dinner."* (P3/G2)

> *"This is it, this is what I would like the government to help me with: I would like them to tell me these simple things, things that stick with you."* (P-/G7)

Recommendation F was perceived as useful by most participants and, in comparison to websites, *"more compact and faster"* (P5/G8). Several participants across all ages strongly agreed that, to be

effective, such mobile phone app should be *"developed by the government and not by private parties"* (P8/G2).

> *"I think that it is indeed good if the government does that. It also helps for a uniform approach […]The fact that it comes from the government makes it clear for everybody that it is reliable information."* (P9/G2)

> *"I think there should be one app from the government, then you know what to expect, then there's no need to doubt whether you should report something or whether you're reporting it too late, one app containing all information."* (P7/G7)

> *"I would appreciate it if there was an app from the government."* (P6/G8)

Some even went further and explained that *"it would have to be a European app for me, so for instance when you are in Italy, the information you'll find on that app matches your Italian location at that particular moment."* (P-/G6).

Recommendation G was also mostly supported.

> *"I am sure it works. If they're good enough, it is all about quality, if it is any good and exciting, this could work well, I think […] I myself am not playing any games, but I can imagine that this group who plays a lot, well, if these games are well developed I think it is a perfect way to create awareness."* (P3/G7)

> *"I am seriously going to check out what games there are, and their differences, and what is relevant for adults."* (P4/G8)

Some perceived the idea as of minor importance, or they felt that it would not be suitable for older people: *"According to me, this is aimed mostly at children and not at adults [...] But with children, I do see it as a tool, just like language or maths. And you can also do it with this in a playful way. Every little bit could help"* (P6/G3). Interestingly however, one of the oldest participants expressed a very different opinion: *"I am 60 plus and I have good computer skills. I don't like computer games at all, but perhaps I would play that game to discover what to do"*(P3/G10). In particular middle-aged participants appreciated the recommendation as very useful for parents: *"I think this is very good. Especially with regard to our sons who don't really care about these disaster plans, a game like this could work for them"* (P6/G9).

Finally, recommendation H triggered mixed responses though generally more positive than negative. On the one hand, some participants in the younger age groups outlined that informing oneself about local risks before going abroad would be "self-evident" and does not need to be specifically targeted. On the other hand, participants in all age groups supported this recommendation, because they felt that people are increasingly travelling to places that are more prone to (natural) hazards than the Netherlands: *"What makes it difficult is that the Netherlands is pretty safe as a country. You're just not used to take a lot of things into consideration. And then, when you go to France, you'll be ignorant, and you'll be like: 'It's like the Netherlands so it will all be okay', but the situation is different there"* (P8/G7). In addition to different levels and types of risk, some participants outlined that procedures in case of an emergency or disaster may be different: *"We didn't have to deal with disasters whilst growing up, but we do travel around the world. What if you're abroad, what are the rules there?"* (P3/G9). In this context, some suggested that information about disaster risks and emergency contacts abroad could be provided by travel agencies:

"I think that when you do travel to a country like that, you should see it as your own responsibility. I've noticed a couple of times that people just go to a country without proper preparation. Perhaps travel agencies can take this on board and provide a little more guidance to people. Make people aware that they're going to a certain country where there are certain risks." (P1/G8)

4.2. Taking part in disaster preparedness and response activities

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 four out of the six suggested recommendations. The **strongest appreciation** and interest were expressed for **recommendation B (participation in training events to learn or refresh skills whilst improving cultural awareness)**, followed by the activities suggested in recommendations D (participation in disaster simulation exercises) and E (developing an awareness of useful personal skills). Often, these three recommendations were seen in combination, and in particular E was seen as an important part in activities related to both B and D.

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

	Toolkit recommendations for citizens - set 2: Taking part in disaster preparedness and response activities	Participants' Evaluation
A	- Find out whether there are community workshops in your area on how to prepare for, and respond to, disasters. - If none are organised, ask your local council or civil protection authority to organise such workshops. - 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. - 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.	+
B	- 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. - Such events are also an opportunity to train with fellow citizens from other cultural backgrounds, learn to identify and respect their specific cultural needs.	++
C	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.	+/-

	• Your participation will help practitioners learn about cultural differences <u>before</u> a disaster occurs and adapt the respective guidelines and procedures accordingly.	
D	• 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. • Encourage friends and family members to do the same.	+
E	• 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.	+
F	• 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. • 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.	+/-

Recommendation A was found to be useful by the majority of participants in most discussion groups, independent of their age, although some outlined that, in their opinion, *"in many countries this may still need to be developed, but we can be proud that this already happens in the Netherlands"* (P4/G1). A minority feared that such workshops would not be "professional" enough and may *"end up in some kind of sensational story telling session"* (P7/G7), but more often participants felt not only that sharing memories and experiences were important, but also that it should play a role in all types of training activities. Additionally, some participants suggested that more people may be attracted to such workshop if it was part of a larger public event, e.g. a summer festival:

> *"It is like this with these community workshops: I hear people say like nobody would be interested in taking part in these things, but if you turn it into kind of an event or festival… When I was little, my dad worked at the fire brigade in The Hague, and they had this annual National Fire Brigade Day. Children could practise extinguishing small fires, how to get out of the house and such. If you could organise a day like that […] the result would be an educational and fun day."* (P-/G6)

Recommendation B was strongly appreciated by a majority in all age groups with the exception of group 1 (participants aged 18-20 years) who appreciated the training opportunity itself but felt that the "cultural part" would be "too complicated". Many participants believed *"it is very useful in many situations, and besides that it helps you to be aware of different cultural aspects and values"* (P5/G2). They showed an awareness that *"in such training you look at your own norms and values, that this can be an obstacle in providing aid. Some sort of awareness of your own norms and values and that that can clash. You do not have to know all cultural backgrounds and have manuals for them, it is not realistic. It is more of becoming aware of your own baggage, the tinted glasses, that you are aware of that and which obstacles it can form"* (P-/G4).

In particular middle-aged and older participants highlighted the additional importance of this topic for the Netherlands as a genuinely multicultural society, and spoke about their personal experiences:

"It is so important for people to get to know one another in a community. We need to find proper ways to communicate with each other. Take for instance Amsterdam, that's where I live, a city with so many different languages. That's why it is important to communicate well with each other. These things are important. That's why we need to coordinate this, you need to organise it well. If not, people will all go into different directions, except for the right one." (P2/G10)

"That's also my experience. I used to live in a multi-cultural environment and I my children are mixed race. You're all in this together." (P1/G10)

"I think the more you know about each other the more tolerant you'll become." (P8/G7)

"It could be interesting as well because we live in a multicultural society, in my area anyway. So that I know that when there's an emergency I can ask this person for help. I would think it's useful to know who I can approach within my area." (P5/G8)

"I've noticed the same thing. We have a lot of people from different cultural backgrounds in my neighbourhood [...] So that's why I am particularly interested in this, because it is closely related to my situation, I'd like these people to know that we can all count on each other, regardless of where you're from. They're not only dependent on each other but we, their Dutch neighbours, we can also help them when they're in need. I would like to break the barriers that exist in my neighbourhood. I do believe that these barriers could indeed be broken by these kinds of training events." (P5/G8)

"A sense of community. I live in an area where there are a lot of Moroccan people and there's not a lot of contact with them [...] But it is interesting to get to know and understand each other about these matters [...] I think this is a really important issue. There are a lot of Muslims, Polish people, Moroccans, and it is important to know how they feel about these things. I am really curious about that." (P8/G9)

"I think this is a good thing, I would take part [...] I would almost be inclined to do it for the sake of getting to know the people who live in my neighbourhood. Instead of a barbeque we could have this as a social and cultural event." (P2/G9)

The quotes above show the potential of such training events not only serving the purpose of an improved disaster preparedness, but also improving social cohesion at a more general level.

In contrast, the discussions around recommendation C produced mixed responses. Some participants showed a generally positive attitude towards volunteering; however, they specifically outlined that *"volunteering is good, but volunteers should not play the main role"* (P3/G8). Other participants rejected the idea that citizens may be able to contribute in disaster planning, again others exhibited a "good-for-others-but-not-for-me" attitude, or general avoidance: *"I don't like misery"* (P6/G6).

Recommendation D was viewed as generally useful; however, participants in several groups felt that such exercises which include citizens were not needed in the Netherlands, because there was already a good trust relationship between citizens and Dutch authorities. At the same time, though, they speculated that this may not be the case in other countries, though some participants expressed their interest if the event was organised on a local level and for a specific local situation.

"I would do this for sure if they were to organise something like that in my community. Especially if they organised a large event, because it enables you to learn about all the services

that could help out when something actually happens. And it will tell me what the specific risk factors are in my community, I must admit that I don't know about these, actually. It adds great value if each district would organise a big event like that from time to time. I would really like to take part." (P1/G8)

Recommendation E met particularly the acceptance of younger participants, who felt that *"it would be good to learn from each other and each other's skills. Sometimes you don't know that you already possess certain skills"* (P3/G1), and *"if it's only a small contribution everybody can do something"* (P4/G2). Additionally, some participants suggested providing specific examples to facilitate the process of self-identification.

> *"Maybe even more examples or something like that. Because only when those examples came [in the morning presentation during the Citizen Summit], you started to think about yourself. If there were more examples, more people would probably feel involved […] Standard roles that you can identify yourself with. The taxi driver who knows the way is a very concrete example that people can recognise themselves in. What people could do, how they can use it. You can list clear roles that are necessary in a disaster situation."* (P1/G3)

Others suggested to combine recommendation E with the activities suggested in recommendation D, because *"if you are not afraid and you know what you can do, you have practiced it, that can help a lot […] maybe reduce the chaos"* (P6/G3).

> *"I think it would be good if people would be aware of the different roles they could fulfil, but don't just think about it, you also need to act upon it. These roles don't always need to be practical, you could also think along the lines of 'oh, this person is good at calming people down, and this other person knows how to remember where we can find the emergency exit' […] Basically, believe in your own strength, think about how you can contribute […] Taking these qualities into consideration helps you to fulfil your role. Implement these things in these exercises."* (P-/G6)

However, a minority of older participants expressed words of caution explaining that people may overestimate their skills and obstruct the work of professionals.

Recommendation F received both positive and negative feedback. As was the case in reactions to recommendation G in set 1, some participants expressed their belief that online games would be more suitable for younger than for older people. However, many others felt that those people who play online games would do so predominantly for entertainment purposes, and they questioned whether a game with a task as serious as disaster preparedness training would raise the same interest. On the other hand, supporters of the idea expressed their opinion that using online games may be more efficient than involving citizens in real-life exercises, because *"if it is properly developed you can simulate any kind of situation at any given moment without the need to mobilise half the population. It is easily accessible, and you don't need to make an appeal to all these people, nor do you need a lot of material, so it is a sustainable option"* (P4/G7). One participant , a playwright who used to develop games for schools, felt that the development of educational games for disaster preparedness would fit well with the school curriculum.

5. Summary & Conclusions

"I consider 'preparedness' as 'be aware where the emergency exits are' – more of this kind of preparedness. And not: 'Everybody can be a terrorist.' Gathering information and brochures is preparedness going too far: you are constantly busy with this. Be aware in small moments." (P6/G3)

The quantitative data collected during this sixth, and final, Citizen Summit held in the Netherlands revealed that almost half of the participants feel they lack knowledge about what to do in case of a disaster and even three out of five participants stated that they are either not prepared. However, the results also demonstrated a considerable "gap" between the participating citizens' very high interest in information about disaster preparedness (89% indicated they were quite or very interested in information about disaster preparedness), and their actual intentions to prepare themselves (26% intending to prepare quite a lot or a lot). This gap may be explained by both the quantitative and the qualitative results, which showed that most participants perceived the Netherlands as a rather safe place to live. Further, many expressed their opinion that it was the respective authorities' responsibility to provide relevant information rather than citizens seeking such information themselves, which may additionally affect the comparatively low level of active preparedness intentions.

At the same time, almost two out of three participants (65%) would like to receive at least once per year information about how to prepare themselves and their family/friends for a disaster, and the groups discussions showed some desire for online information that is easily accessible and, ideally, concentrated in one site.

In addition to receiving information at least annually, almost half of the participants (47%) 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. In particular those recommendations related to the participation in training activities (i.e., Set 2 recommendations B and D) were perceived as useful or very useful, not only for the learning or refreshing of specific skills, but also to enhance social cohesion amongst citizens from different cultural backgrounds. However, the participants did not see the need to improve citizens' trust in disaster management authorities via participation in disaster scenario exercises, as they felt that there was already a good trust relationship.

On the other hand, these training 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, albeit in a somewhat more challenging environment, given that a number of participating citizens expressed their feelings of living in a low-hazard area, the high level of trust in disaster management authorities' preparedness, and their opinion that it is the authorities' responsibility to provide relevant information rather than citizen seeking such information themselves.

Regarding the usage of social media and mobile phone apps in a disaster situation, the results of the quantitative data analysis were partially supported by the qualitative results. 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, and some participants in the discussion groups were of the opinion that a "disaster app" would be better suited to inform them about what they need to know, rather than being expected to actively search online for relevant information. A certain level of inertia expressed in the discussion groups may, thus, be related to the comparatively low proportion of participants who indicated that they would use social media or mobile phone apps not only to receive but also to submit disaster-related information to authorities.

Regarding other new technologies, in particular the use of educational online games for disaster preparedness, the discussions revealed divergent points of view. Participants were either enthusiastic or 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, even though some of them were imagined to be more useful in a context outside the Netherlands. In particular, those recommendations that were seen to be "little things" which required little effort but may have a high impact, and those which were seen to be useful not only in disaster contexts but also in other emergency-related situations, met the participants' greatest acceptance.

Based on the participants' suggestions during this Citizen Summit, the following proposed changes and amendments will be taken up in the respective "mirror" recommendations for disaster practitioners:

- To either concentrate disaster-related information on one official website or connect official websites with disaster-related information via links to each other.
- To integrate training activities for citizens in larger public events, e.g., summer festivals.
- To encourage travel agencies to include disaster risk and emergency-related information in their booking confirmations.
- To provide specific roles and examples when encouraging citizens to think about their personal skills that could be useful in a disaster situation.

The revised sets of CARISMAND Toolkit recommendations 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.	**Welcome & logistics** **Intro presentation: The CARISMAND project**	**15 min.**
15 min.[15]	**Question Set I: Demographics & disaster experience** *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)[16]. 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.* 1.1 Gender *(1=female, 2=male, 3=choose not to say)* 1.2 Age *(numeric)* 1.3 Have you, or a close friend or family member, ever experienced a disaster? *(1=yes, 2= no, 3=I'm not sure)* 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)* 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)* 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)* 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)*	

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[15]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.

[16]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).

	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)*	**30 min.**
15 min.	**Presentation:** **The CARISMAND Toolkit**	**45 min.**
15 min.	**Question Set II: Disaster preparedness** *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[17], 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 2nd and 3rd 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.* 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)* 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)* 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)* 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)* 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)*	

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[17]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).

	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)* 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)*	**60 min.**
30 min.	**Presentation of Toolkit recommendation:** *"Develop a personal "culture" of preparedness"*	**1h** **30 min.**
15 min.	**Presentation & video:** Disaster scenario exercise with citizens in Malta	**1h** **45 min.**
30 min.	**Presentation of Toolkit recommendation:** *"Take part in disaster preparedness and response activities"*	**2h** **15 min.**

15 min.	**Question Set III: Social media use in disasters**
	 This set of questions builds upon the results from Citizen Summits 3 and 4 in 2017, the 2nd 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.
	
	 1.16 Do you use a mobile phone? *(1=yes, 2=no)*
	 1.17 Do you use mobile phone apps? *(1=yes, 2=no, 3=I don't know)*
	 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:
	     18.1 receive alerts, warnings or emergency-related information from local authorities / emergency services.
	     18.2 submit information about disaster risks or disasters to local authorities / emergency services.
	     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)
	 1.19 Do you use the internet? *(1=yes, 2=no)*
	 1.20 Do you use social media? *(1=yes, 2=no, 3=I'm not sure)*
	 21. In the case of a disaster, how likely are you to use social media to:
	     21.1 inform yourself about the disaster.
	     21.2 submit information about disaster risks or disasters to local authorities / emergency services.
	     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)
		2h
		 30 min.

90 min.	**Lunch break**	**4h**
120 min.	**Discussion group session**	**6h**

30 min.	**Coffee break** (and return to general assembly room)	**6h** **30 min.**
20 min.	**Final presentation:** **Overview of real-time results from participants' responses** **via the audience response system** *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.*	**6h** **20 min.**
2 min.	**22. Final question:** How likely are you to use the CARISMAND Toolkit website to find information how you, your family and friends can better prepare for disasters? *(1=very unlikely, 2=unlikely, 3=neither unlikely nor likely, 4 likely, 5=very likely, 6=I'm not sure)*	**6h** **22 min.**
8 min.	**Final conclusions**	**6h** **30min.**

Appendix B

Objectives	Discussion guideline – Briefing
Welcome and introduction *[about 10 min.]* - *Welcome participants* - *Obtain signed consent forms (if required)* - *Start recording the meeting* - *Thanking participants* - *Introduction of the moderator* - *Duration* - *Confidentiality* - *Ground rules for the discussion* - *Brief introduction of the participants*	*Welcome the participants, assign them a seat, and provide them with name cards.* *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.* 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. 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. " **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.** 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: • We are interested in the opinion of each individual and we would therefore like to hear from all the people in the group. • There are no wrong or right answers. There are only different opinions. Consequently, we request that you mutually respect each other's opinions. • 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. • I would also kindly request that you silence your mobile phones and thus provide for an uninterrupted discussion.

	Do you have any comments or other suggestions for these ground rules? Do you have any other important general questions before we start?" […] "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…" *Running total: 10 min.*
	Warm-up exercise
0.Word association exercise *[about 5 min.]* *Question aims:* *- Warm-up*	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. **Read Out (one at a time):** - Responsibility - Trust - Safety **This is a warm up exercise. Do not discuss.** *Running total: 15 min.*

	Discussion Topics

1. Spontaneous reactions [about 10 min]
 	
Question aims:
 	
- *Determine what:*
- *Resonated i.e. is highly relatable to their personal experience*
- *Surprised – and why, i.e. is it because they feel it is irrelevant, or they would find it difficult to do etc.*
	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>.
	
	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?
	
	Probe and explore fully
	
	In this set of questions, the participants should be encouraged to elaborate the underlying reasons for their reactions.
	  - *<u>Resonance</u> will give us 'easy wins' and effective comms messages*
	  - *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?*
	
	Running total: 25 min.

2. Overall reactions to the recommendations [about 10 min] *Question aims:* - *Determine that recommendations are clear and make sense* - *Which will make the most noticeable difference and why*	Now, I'd like to understand your reactions to the recommendations we're proposing. **Share SHOWCARD 1, reading out further detail from the Recommendations document to ensure full recall and understanding.** Looking at this, is there anything that does not make sense? **Where unclear determine why e.g. is it the wording or that participants do not understand the reasons behind the recommendation, etc.** Looking at these recommendations, is there any one (or more) that you feel will make more of a difference? Why? **Identify the top recommendation participants feel will have most impact and explore why.** *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.* *Running total: 35 min.*

3. Detailed reactions to the individual recommendations [about 25 min] *Question aims:* - *Validate the recommendations – are they useful?* - *Identify ease of putting them into practice; are there any barriers?* - *Suggestions for improvement*	Now, I'd like to go through each of these individual recommendations and get your reactions to each one. For each recommendation ask: - How useful do you think is this recommendation to you and your family and/or friends? - Can you see it being put into practice? Would there be any difficulties around this? Which? **Explore barriers and determine what can be done to address these.** - What will be the benefits of doing this? **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.** - Can it be improved? How and why? *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.* **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.** *Running total: 60 min.*
[5-10 min]	**Short break** *Running total: 70 min.*
4. Spontaneous reactions [about 10 min] *Question aims:* - *Determine what:* - *Resonated i.e. is highly relatable to their personal experience* - *Surprised – and why, i.e. is it because they feel it is irrelevant, or they would find it difficult to do etc.*	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> 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? **Probe and explore fully** *In this set of questions, the participants should be encouraged to elaborate the underlying reasons for their reactions.* • *Resonance will give us 'easy wins' and effective comms messages*

	• *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?*
	Running total: 80 min.
5. Overall reactions to the recommendations [about 10 min] *Question aims:* - *Determine that recommendations are clear and make sense* - *Which will make the most noticeable difference and why*	Now, I'd like to understand your reactions to the recommendations we're proposing. **Share SHOWCARD 2, reading out further detail from the Recommendations document to ensure full recall and understanding.** Looking at this, is there anything that does not make sense? **Where unclear determine why e.g. is it the wording or that participants do not understand the reasons behind the recommendation, etc.** Looking at these recommendations, is there any one (or more) that you feel will make more of a difference? Why? **Identify the top recommendation participants feel will have most impact and explore why.** *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.* *Running total: 90 min.*
6. Detailed reactions to the individual recommendations [about 25 min] *Question aims:* - *Validate the recommendations – are they useful?* - *Identify ease of putting them into practice; are there any barriers?* - *Suggestions for improvement*	Now, I'd like to go through each of these individual recommendations and get your reactions to each one. For each recommendation ask: - How useful do you think is this recommendation to you and your family and/or friends? - Can you see it being put into practice? Would there be any difficulties around this? Which? **Explore barriers and determine what can be done to address these.** - What will be the benefits of doing this? **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.** - Can it be improved? How and why? *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. **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.** *Running total: 115 min.*
7. Suggestions for improvement [about 5 min] *Question aims:* - *To identify any gaps/recommendations that can be added that are likely to make an impact*	Finally, thinking, do you think there are any recommendations or guidelines that could be added that have not been included here? **Allow for spontaneous response, encourage participants to think of their own experience and probe for motivations and benefits of any suggestions made.** *Running total: 120 min.*
8. Conclusion	We are coming to an end of this working group which, I think, has revealed some very interesting insights. Is there anything that you would like to add? 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"

A) Look out for publicly displayed information about disaster preparedness.	
B) Identify and memorise "safe spots" or "safe zones" in your homes, your workplaces, and your local area.	
C) Search online for information about disaster preparedness and keep yourself updated, or ask your local council for brochures about disaster preparedness.	
D) Set up personal emergency plans together with your family and/or friends, and don't rely on a paper-less "internet culture".	
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.	
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.	
G) Train yourself and encourage others to learn about disaster preparedness via serious games.	

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

A) Take part in community workshops to share your experiences and memories of disasters.	
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.	
C) Volunteer to get involved in the planning of emergency and disaster response activities.	
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.	
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.	
F) Help disaster managers to employ virtual reality as a training method.	

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 ………………………………………………………….