# Short Report on Workshop 1, Case Study Earthquakes in Turkey

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## Acknowledgement

# Preamble

TACTIC (Tools, methods And training for CommuniTIes and society to better prepare for a Crisis) aims to increase preparedness to large-scale and cross-border disasters amongst communities and societies in Europe. Throughout its two-year duration (May 2014 – April 2016), TACTIC will analyze risk perceptions and behavior to identify pathways from risk perception to preparedness, and will develop a preparedness audit that communities can use to assess how prepared they are for different types of crises. Additionally, TACTIC will focus on identifying and categorizing good practices of communication and education practices for preparedness. The audit, communication and education practices will be discussed and analyzed with stakeholders in a series of workshops as part of TACTIC's case studies on four types of crises: terrorism, floods, epidemics, and earthquakes. Subsequently, a long-term learning framework for improving community preparedness to a range of crisis situations will be developed. All of TACTIC's outputs will be presented in a web-based platform.

This document aims to provide a summary of the first workshop for the case study earhquakes in Turkey (Task 7.3). The first part of this document provides an introduction to the first workshop in Kaynaşlı and to the case study area focusing on earthquakes, other hazards, and risk governance setting. The introduction also includes the summary of the twenty pre-workshop in-depth interviews conducted with various stakeholders in the case site. In the second part of this document, the concept of the first case study workshop including the workshop participants, the workshop schedule, and the methods used in the workshop is described. The third part of this document gives the workshop results obtained from questionnaire on risk communication, poster exercise on goals and methods of risk communication, and group discussion on the self-assessment tool in the morning session as well as open discussion on the library of good practices and the TACTIC learning and training web-based platform and also the workshop evaluation questionnaire in the afternoon session. In the last part of this document, the workshop findings are discussed with regard to their implications for the TACTIC online platform including the self-assessment tool and the library of good practices and also for the second case study workshop.

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# Contents

# 1 Introduction

As stated in the DoW, the earthquakes case study in Turkey focuses on individual, community, and organizational preparedness for earthquakes, and the secondary hazards related to earthquakes (e.g., fires) and other hazards (e.g., floods, landslides, forest fires, and chemical spills related to transportation accidents) in Kaynaşlı, which was hit by the 1999 earthquake. There are four main objectives of this case study. The first objective is to identify key stakeholders both governmental and non-governmental institutions and organizations. The second objective is to evaluate lessons learnt from previous disasters, good practices of community participation, and hindering factors related to this participation based on an examination of research findings and grey literature as well as the findings of the pre-workshop in-depth interviews with stakeholders and the first workshop in this case study. This includes also cross-border issues, when meaningful. The third objective is to evaluate the facilitating and hindering factors which affect community preparedness for multiple hazards. The fourth and final objective of this case study is to provide a case through which to develop, test and validate the community preparedness audit (i.e., self-assessment tool) (WP2), the communication and education material and practices (WP3), and the overall long-term learning framework (including evaluation) (WP8).

## 1.1 The first case study workshop

The first case study workshop on preparedness for earthquakes was conducted in Kaynaşlı, Turkey on March 26, 2015. The workshop focused particularly on the earthquake hazard in the case study area. Public officials from the local (district) and provincial levels responsible for disaster management in Kaynaşlı as well as representatives of non-governmental organizations were invited to the workshop.

The aims of the first case study workshop were (1) to assist organizations to evaluate and/or review their status regarding their current work on community preparedness; (2) to optimize the usability of the self-assessment tool for community preparedness focusing on communication and education strategies developed so far in TACTIC by gaining feedback and advice of practitioners; (3) to receive feedback on a catalogue of good practices of communication and education for preparedness to earthquakes and to identify the types of material and practices required to increase preparedness; and (4) to present the current status of a training and learning web-based platform for learning about preparedness for large-scale and cross-border disasters and to receive feedback for improvements from the workshop participants.

## 1.2 Introduction to the case study area (Kaynaşlı)

Kaynaşlı, administratively a district of Düzce Province, is located in northwestern Turkey (see Figure 1). It comprises seven neighborhoods in township center and twenty villages nearby with a population of 20,833 people (center 9857, villages 10976) (TUIK, 2014). Kaynaşlı is a regular settlement with a history dating back to 1330s when it became a part of Ottoman Empire. It received Municipality status in 1968 and District status in December 1999. Kaynaşlı is located on the side of the highway (D-100) that connects far west and east ends of Turkey, hence, is among the most important crossroads and stopover routes. A view of Kaynaşlı can be seen in Figure 2.

Figure 1. Location of Kaynaşlı (Google Maps, 2015)



Figure 2. A view from Kaynaşlı



### 1.2.1 Earthquake as a hazard in the case study area

Kaynaşlı is located on complex lines and its surface area lies within the highest seismic hazard zone of Turkey. Due to its high seismic risk, Kaynaşlı is prone to the effects of earthquakes. Historically, the region surrounding Kaynaşlı has experienced many earthquakes including the 12 November 1999 Düzce earthquake (Mw=7.2) (USGS, 2013). Kaynaşlı was the epicenter of this devastating earthquake. It caused 316 casualties and 543 wounded in the district. The earthquake also had significant impact on the physical structure of Kaynaşlı. During the earthquake, 90% of public service buildings, 72% of total households, 70% of enterprises, and all township infrastructure (drinking water, road, communication networks) collapsed. After the 12 November 1999 earthquake, with the support and

collaboration of governmental, non-governmental, and private institutions, recovery and rebuilding work were started immediately in Kaynaşlı and continues since then.

### 1.2.2    Other hazards in the case study area

Stated as general information locally, among the other hazards that pose significant risk for Kaynaşlı apart from earthquakes are floods and flash floods, landslides, fires and forest fires, and chemical spills related to transportation accidents. The settlement area alongside riverbanks in Kaynaşlı is especially vulnerable to flood risk. The district greatly suffered from flash floods due to excessive precipitation that took place in 1995 and 2005 which caused substantial financial damage in the district. Landslides are another locally important hazard in the case study area. Due to the recent negative effects of global warming, the district center and its villages experience heavy snow and with the movement of the saturated soil, many landslides occur, especially during winter and spring in mountain villages and plateau roads around Kaynaşlı. In fact, during the 1999 Düzce earthquake, a landslide occurred on the D-100 highway side interrupting the intercity traffic. Forest fire is another hazard experienced in the case study area. Because the district center and its villages are surrounded by forestland, risk of forest fires due to stroke of lightning and/or human factors is high in Kaynaşlı. The district is also at risk for chemical spills due to transportation accidents. The D-100 highway that passes through Kaynaşlı is an intersection point for intercity and international transportation and having gas stations near stopover places alongside the route. Hence, tanker traffic that contains chemical-hazardous material (e.g., fuel oil, lpg, etc.) especially poses risk for Kaynaşlı. In the recent years, tanker accidents have caused fatality and injuries and have also endangered road safety in the district.

### 1.2.3    Risk governance setting

In order to understand risk governance setting in Kaynaşlı, disaster management in Turkey in general needs to be considered. Two devastating earthquakes in 1999, namely Marmara (17 August) and Düzce-Kaynaşlı (12 November) earthquakes, became a major turning point for disaster management in Turkey. The focus of disaster management before the 1999 earthquakes was mostly on the response and recovery phases. In the aftermath of striking levels of loss of life and property along with economic, social and environmental damage during the 1999 earthquakes, *Disaster Risk Reduction* approach started to gain importance throughout entire disaster management processes and practices over the traditional post-event healing policies. Hence, after the catastrophe experienced in 1999, the mitigation of the risk posed by seismic hazard became the focus of governmental policies in Turkey (GFDRR, 2012).

Based on the lessons drawn from the fieldwork after the devastating 1999 earthquakes, the administrative structure and disaster management system in Turkey were reorganized including the establishment of the Disaster and Emergency Management Authority (AFAD) in 2009 as a central coordinating agency, the formation of the emergency relief and aid teams, and civil defense units for search-and-rescue operations under municipalities (OECD, 2004). These changes were further supported through legislative measures, such as the introduction of the compulsory disaster/earthquake insurance, control of construction processes, and proficiency in constructional professions. The Decree on Building Construction on the enforcement of earthquake-resistant building codes, the National Earthquake Strategy and Action Plan to ensure earthquake preparedness, the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project, the Integrated Urban Development Strategy Action Plan, and the regulation of building construction in earthquake zones, and the introduction of building inspection regulations by private firms are some of the milestones of

disaster management and mitigation in Turkey (GFDRR, 2012). The approval of compulsory earthquake insurance for newly built residential buildings and offices in 2000 was an ambitious step for the disaster management system in Turkey. In fact, Turkish Catastrophe Insurance Pool (TCIP) was introduced in 2010 with the technical and financial support of the World Bank. TCIP is the first national insurance in World Bank client countries, and it provides a standalone earthquake insurance coverage to homeowners and to small and medium sized enterprises in Turkey.

Further efforts concerning the disaster management system in Turkey included (i) improving multi-sectoral approach for overall risk reduction, mitigation, preparedness, response, and recovery processes; (ii) strengthening disaster resilience through empowering community, including all stakeholders, increasing technical, institutional capacities and mechanisms; (iii) developing and standardizing national and local risk assessments based on reliable hazard data and specific vulnerability information; and (iv) integrating disaster risk considerations into social and economic development planning and implementation at all levels, including recovery-reconstruction planning in disaster-hit sites. Moreover, after the catastrophe in 1999, voluntary and non-governmental activities and community mitigation resources have increased in the region.

After the 1999 Düzce earthquake, recovery and reconstruction projects were carried out in Kaynaşlı. The projects focused on reconstruction of infrastructure (schools, healthcare facilities, drinking water network, sewage system, etc.), revitalizing local economy (introducing open feeding lot system for cattle, beekeeping, etc.), and supporting human development (e.g., psycho-social support, education and training for improvement of knowledge and skills, etc.). These projects were initiated and/or realized by Kaynaşlı District Governorate in collaboration with the Municipality and other public, non-governmental, private and voluntary institutions and initiatives. Further work conducted in Kaynaşlı for risk reduction involved reducing vulnerability of physical settlement, reducing vulnerability of local economy, and strengthening community awareness and coping mechanisms.

In view of the actors involved in disaster management activities in Kaynaşlı, the District Governorate, the Municipality, and other public, non-governmental, private and voluntary institutions and initiatives were identified as the main bodies of the stakeholder network in the case study area.

## 1.3    Summary of the pre-workshop in-depth interviews

Twenty in-depth interviews with various stakeholders in the case study area were conducted before the first case study workshop (February-March 2015) to facilitate the development of the workshop agenda and to define workshop aims. The participants included representatives of local public administration responsible for managing earthquakes and other risks in Kaynaşlı as well as representatives from non-governmental organizations including professional associations, NGOs, and also representatives of Provincial Directorate of Disaster and Emergency Management (AFAD).

The interviews further aimed to map the networks (actors and relationships) that exist within (and potentially outside) the case study area as well as to draw out the governance structures (laws, roles and responsibilities, etc.) involved in risk management in Kaynaşlı. The interviews also had the aim of mapping out the varying needs of the local stakeholders in Kaynaşlı in regards to learning needs and styles. The interview questions were as follows:

1. *To what extent do you think that Kaynaşlı is prepared for earthquakes? In which areas is it prepared (strengths) and in which areas is it not (weaknesses - areas that can improved)?*
2. *What do you think can be done to increase community preparedness to earthquakes in Kaynaşlı?*
3. *What work is your institution conducting to increase community preparedness in Kaynaşlı?*
4. *What alternative work do you think your institution can conduct?*
5. *With which institutions is your institution collaborating with to increase community preparedness in Kaynaşlı? Do you think that this collaboration is effective?*
6. *What are the needs of your institution for its work in increasing community preparedness in Kaynaşlı? What might be of help?*
7. *What would you like to learn about increasing community preparedness?*

The main findings for each interview question are listed below.

## To what extent do you think that Kaynaşlı is prepared for earthquakes? In which areas is it prepared (strengths) and in which areas is it not (weaknesses - areas that can improved)? (Question 1)

*Strengths*

- Kaynaşlı has experience and memory on earthquakes
- Disaster risk perception is higher than before the earthquake
- Earthquake experience increased public awareness (e.g., construction safety)
- Disaster education is given
- After the earthquake, buildings were constructed in accordance with the laws and legislations
- Disaster preparedness is considered to be more important, there are studies.
- The hazards and risks of the district are known on both scientific and application basis.

*Weaknesses*

- Earthquake is forgotten.
- The public is not sufficiently sensitive to trainings and education on earthquake preparedness.
- Buildings constructed before the earthquake are not safe.
- Stabilization of furniture is not commonly applied.
- What to do after an earthquake is not widely known.
- Technical capacities and resources (especially economic resources) are not sufficient.
- Training and education on preparedness should also be given to vulnerable groups (housewives, unemployed adults, etc.)

## What do you think can be done to increase community preparedness to earthquakes in Kaynaşlı? (Question 2)

- Earthquake safety education and awareness programs should be given.
  - Content: Earthquake risk in Kaynaşlı, stabilizing furniture, first aid, what to do during and after an earthquake, etc.
  - Target audience: Education should be especially given to children and youth in schools
  - Methods: Different education methods can be used (visual short films, seminars, conferences, theoretical courses in schools, drills, etc.).
  - Sustainability of education is important.
- Earthquake memory should be refreshed with education.

- Structural preparedness measures should be taken (e.g., urban transformation projects, transfer of settlement in risk-prone areas to earthquake-safe areas, construction in earthquake-safe areas, buildings constructed in accordance with earthquake legislations, etc.).
- Building codes should be strictly applied.
- Supervision for compliance with the building codes should be carried out.
- Financial support can be provided to public for building earthquake-safe buildings (license fees can be reduced).
- Checklists can be developed to reduce vulnerability – standardization is important.

### *What work is your institution conducting to increase community preparedness in Kaynaşlı? (Question 3)*

- Training and education on earthquake preparedness to increase awareness and knowledge
    - Mosques, Quran courses, sermons and khutbah, home visits
    - Disaster risk reduction, disaster preparedness, first response, safety behaviors
    - Provision of financial aid to people who are in need (e.g., building construction, building safety, coal, etc.)
- Identification of animals (important for insurance)
- Building safety (e.g., urban transformation, reduction of number of floors, increase in the number and quality of construction materials, etc.)
- Logistic support (e.g., digger, grayder, etc.)

### *What alternative work do you think your institution can conduct? (Question 4)*

- Training and education on earthquake preparedness to increase awareness and knowledge
    - Education should be given to both community members and the public staff.
    - Education should be especially given to children.
    - Earthquake drills should be conducted in schools.
    - Earthquake simulation should visit schools (in cooperation with AFAD)
- Education and training given by central institutions (AFAD) to local institutions
- Collaboration between institutions
- Preparation of emergency action plans (building, neighborhood, public institution)
- Establishment of rescue teams in villages
- Information sharing on the demographic characteristics of the population
- Reserve areas for temporary settlement areas
- Increasing earthquake safety of risky buildings
- Provision of financial resources
- Work on new and potential disaster risks related to climate change

### *With which institutions is your institution collaborating with to increase community preparedness in Kaynaşlı? Do you think that this collaboration is effective (Question 5)*

- District Governorate and its units
- Municipality
- District Police Department
- District Gendarmerie Command
- District Directorate of Civil Defense
- Municipal Fire Department
- Ministry of Environment and Urbanization
- Düzce AFAD

- Red Crescent
- NGOs
- Kaynaşlı Vocational School of Düzce University
- Different views on the effectiveness of collaboration between the institutions (effective; not sufficiently effective )

*What are the needs of your institution for its work in increasing community preparedness in Kaynaşlı? What might be of help? (Question 6)*

- Training of staff by professionals
- Audiovisual resources prepared by professionals (films, presentations, etc.)
- Earthquake simulator
- Establishment of centers in villages and neighborhoods
- Facilitation of collaboration between institutions
- Financial and technical resources (education and training activities, urban transformation, professional staff)
- Information sharing on the demographic characteristics of the population
- A specialized institution or institutional unit working on increasing preparedness

*What would you like to learn about increasing community preparedness? (Question 7)*

- Training of public staff on first aid, earthquake-safe behavior, etc. so that they can give training to the public
    - Trainings should be regularly given for refreshment of information
- International information on indicators of life safety
- Guides and indicators based on local analysis (development of these is important)

Overall, the main findings of the in-depth interviews can be summarized as follows:

- Having awareness and risk perception on earthquakes is important.
- Having earthquake experience is important.
- Kaynaşlı has disaster memory, particularly for the 1999 earthquake, but memory fades – it needs to be reinforced especially for new settlers and new generations.
- Transfer of organizational and community memory on earthquakes to future generations is essential.
- Raising awareness and giving education is important.
    - Demand for and participation to education activities should be higher.
    - Education, particularly, disaster safety education, should be given on a sustainable basis.
    - Public can be informed through regular institutional work (e.g., occupational groups, religious staff, etc.)
    - Earthquake memory should be kept alive.
    - Giving education to children is especially important.
    - Content of education should include non-structural safety, first aid, how to act safely before, during, and after an earthquake, etc.
    - Collaboration between organizations/institutions is important.
- Implementation and inspection of laws within the scope of legal framework is important.
- Financial resources and expertise are needed.

- Resistance of buildings to earthquakes is important (Kaynaşlı is more prepared in terms of building stock).

In general, participants seemed to particularly emphasize the need to give education and training both to the public and to institutions on earthquakes to reinforce awareness in Kaynaşlı. The need for training of trainees was also stressed. Such emphasis is relevant for understanding current risk communication activities of institutions as well as their perception of what can be done to improve their functions. Participants elaborated on different aspects of education on earthquake preparedness on the basis of which they mentioned areas that need to be improved regarding their current risk communication activities. They seemed to share the notion that institutional risk communication strategies (or implementations), particularly on earthquake and disaster safety education, can be improved in terms of its components, content, goals, methods, target groups, effectiveness, and sustainability.

## 2   Workshop concept

The workshop was conducted in a meeting hall at Fenerbahçe Sports Club Topuk Plateau Facilities. All technical equipment and materials (e.g., flipcharts) as well as hot beverages and a variety of cookies and pastries for the coffee break and lunch were provided. The METU team offered the participants promotional pens, notebooks, files, and handbags customized with METU logo. Participation in the workshop was free of charge and the workshop language was Turkish. The workshop was organized as a six-hour event structured in two subsequent sessions (one morning and one afternoon session) (see Appendix 1 for the workshop agenda).

### 2.1   Workshop participants

Public officials from the local and provincial levels responsible for disaster risk management and governance as well as representatives from non-governmental organizations were invited to the first case study workshop. In total, 21 out of 29 invited stakeholders attended the workshop. Table 1 presents a list of the participating organizations/institutions. Of the 21 workshop participants, 17 also took part in the pre-workshop interviews. Due to the conditions stated in the informed consent forms, the names of the participants are not given in this report.

| Organization/Institute |
|---|
| **Representatives of State Institutions and Organizations** |
| District Governor |
| District Municipality, Mayor |
| District Municipality, Town Council Member |
| District Municipality, Directorate of Technical Works Representative |
| District Police Department, Director |
| District Muftu, Muftu (District religious authority) |
| District Muftu, Imam |
| District Governorate Social Assistance and Solidarity Foundation, Director |
| District Registry Office, Director |
| District Directorate of Youth Services and Sports, Acting Director |
| District Directorate of Food, Agriculture, and Livestock Office, Director |
| District Directorate of National Education, Director |
| District Directorate of National Education, Head Teacher |
| District Directorate of Public Education, Director |
| Provincial Directorate of Disaster and Emergency Management (AFAD), Director |
| Provincial Directorate of Disaster and Emergency Management, Chief of Education Department |
| **Representatives of Non-governmental Institutions** |
| Former Mayor of District Municipality (on duty during and after 1999 Earthquake) |
| Chamber of Shop Owners and Artisans, Chairperson |
| Emergency Support Foundation, Executive Board Member |
| Turkish Red Crescent Western Black Sea Regional Disaster Management Center, Director |
| Turkish Red Crescent Kaynaşlı Branch, Chairperson |
| **Research Team** |
| A. Nuray Karanci  (METU) |
| Şerife Yılmaz (METU) |
| Canay Doğulu (METU) |
| Christian Kuhlicke (UFZ) |
| Hüseyin Bayraktar  (Kaynaşlı Vocational School of Düzce University) |
| Assistant Student (Volunteer from Kaynaşlı Vocational School of Düzce University) |
| Assistant Student (Volunteer from Kaynaşlı Vocational School of Düzce University) |
| Assistant Student (Volunteer from Kaynaşlı Vocational School of Düzce University) |
| Assistant Student (Volunteer from Kaynaşlı Vocational School of Düzce University) |

## 2.2 Workshop schedule and methods used

The workshop was conducted in two subsequent sessions (one morning and one afternoon session) and lasted six hours as planned. An overview of the workshop agenda and methods used is presented in Table 2.

The morning session started with an opening speech by Nuray Karanci who acted as the main facilitator. Upon introducing herself and members of the research team in TACTIC, she expressed her gratitude and thanked all the participants for their attendance to the workshop. Then, NK proceeded

with information on the informed consent form (see Appendix 2) which was delivered to the participants by the research assistants. In particular, participants were assured of confidentiality and anonymity and they were required to read and sign the written form for participation. Karanci specifically asked for participants' permission for photographing of the workshop for archival reasons. They were informed that they could leave the workshop any time if they felt uncomfortable. Later, Karanci invited the District Governor to deliver his opening speech. After the Governor's speech, she invited Christian Kuhlicke for his introductory presentation on the project which was simultaneously translated to Turkish by her. Following the presentation by Kuhlicke, Karanci made an introduction to the case study with her presentation on the project aims and case studies, aims of the earthquakes case study, definition and components of preparedness, preparedness in the case study area, and aims of the first case study workshop in Kaynaşlı. Then, Canay Doğulu introduced the topics of risk communication strategy for preparedness and the self-assessment tool. She explained the goals, methods, and target groups of risk communication and also explained the online platform including the self-assessment tool and the library of "good" practices. The morning session ended with workshop activities for the participants, which included filling out of the questionnaire on risk communication, poster exercise on goals and methods of risk communication, and group discussion on the self-assessment tool. The activities in the morning session first focused on institutional evaluation of their risk communication strategy and then proceeded with focus on the self-assessment tool. During the lunch break, a group photo was taken with the workshop participants and the research team (see Figure 3).

The afternoon session started with a presentation by Şerife Yılmaz with an introductory presentation on the library of good practices. She explained the potential users and aims of the library, its relation to the self-assessment tool, and categorization of practices. She also gave examples of "good" practices from the library and further discussed the issue of the sustainability of the library. The afternoon session proceeded with the open discussion on the library of good practices which was facilitated by Karanci. The discussion then focused on the TACTIC learning and training web-based platform including the self-assessment tool and the library of good practices. Following the discussion, Karanci wrapped up the workshop by summarizing the main results and the important points. Then, she distributed the workshop evaluation questionnaire to the participants. In the end, the research assistants delivered the certificates of appreciation (see Appendix 3) which thanked the participants for their attendance and valuable contribution to the workshop conducted as part of the TACTIC project.

Table 2. The workshop schedule along with the methods used

| | | |
|---|---|---|
| **Morning Session** | | |
| 10.05 - 10.25 | Welcome and Introduction | • Opening speech by Nuray Karanci (METU); introduction of the research team; delivery of informed consent forms<br>• Welcome speech by Kaynaşlı Governor<br>• Presentation by Christian Kuhlicke (UFZ) on **TACTIC** (introduction to the project, examples from the Floods workshop) – simultaneous translation by Nuray Karanci |
| 10.25 – 10.55 | Introduction to the Case Study | Case study presentation by Nuray Karanci (METU)<br>• Project aims; case studies<br>• Aims of the earthquakes case study<br>• Preparedness: Definition and Components<br>• Preparedness in the case study area (Kaynaşlı): Findings from a PhD Thesis (Şakiroğlu, 2011) and the 20 in-depth interviews<br>• Aims of the first case study workshop |
| 10.55 – 11.05 | Introduction to risk communication strategy for preparedness and the self-assessment tool | Presentation by Canay Doğulu (METU)<br>• Risk communication: Goals, methods, and target groups<br>• The self-assessment tool<br>• TOTAP (**TACTIC** online training and auditing platform) |
| 11.05 – 11.20 | *Coffee break* | |
| **Afternoon Session** | | |
| 11.20 – 11.40 | Questionnaire on risk communication | The questionnaire filled in by each participant to evaluate<br>• organizations' current work on earthquake risk communication<br>• organizations' work on earthquake risk communication that needs to be improved |
| 11.40 – 12.00 | Poster exercise on goals and methods of risk communication | Participants asked to place green and blue dot stickers regarding the goals and methods of risk communication as well as targeted groups<br>Green: Current work on risk communication, Blue: Potential need for improvement in risk communication |
| 12.00 – 12.30 | Group discussion on the self-assessment tool | • Who can use the self-assessment tool? (organizations, public)<br>• Which topics should be included in the self-assessment tool?<br>• How should the self-assessment tool be designed?<br>• Which resources and capacities are needed to use the tool?<br>• What are the possible strengths and weaknesses of the tool? |
| 12.30 – 13.30 | *Lunch break* | |
| 13.45 – 14.00 | Introduction to the Good Practices Library | Presentation by Şerife Yılmaz (METU)<br>• The library: Users, aims, relation to the self-assessment tool<br>• Categorization of practices<br>• Examples of "good" practices:<br>*Master of Earthquake* Online Game, *Shaking Chair* Theatre Play<br>• Sustainability of the library |
| 14.00 – 15.30 | Open discussion with Nuray Karanci as the facilitator | Discussion on the good practices library<br>• What should be the area of use for the library of 'good' practices and who should use it?<br>• What kind of information and sources should be included in the library?<br>• How should it be designed/structured for its use by the public and organizations?<br>• Which resources and capacities are needed to use the library?<br>• What are the possible strengths and weaknesses of the library of 'good' practices?<br>General discussion on the **TACTIC** learning and training web-based platform including the self-assessment tool and the library of good practices |
| 15.30 – 15.45 | End of the workshop | • Wrap-up of the workshop by Nuray Karanci<br>• Distribution of Workshop Evaluation Questionnaire (see Appendix 6)<br>• Presentation of certificates of appreciation (see Appendix 7) |

Figure 3. Group photo with the workshop participants and the research team



# 3    Workshop results

In this section, results obtained from the questionnaires (questionnaire on risk communication and workshop evaluation questionnaire), poster exercise on goals and methods of risk communication, group discussion on the self-assessment tool, and open discussion on the library of good practices) are presented in line with the workshop schedule.

## 3.1    Morning session

The morning session mainly consisted of three activities, namely, questionnaire on risk communication, poster exercise on goals and methods of risk communication, and group discussion on the self-assessment tool.

### 3.1.1    Questionnaire on risk communication

Questionnaires on risk communication (see Appendix 4), which were adapted from the one used in the first case study workshop on floods, were distributed to the participants to receive feedback on institutional risk communication strategies particularly on earthquakes. The questionnaire had two parts. The first part focused on the evaluation of institutions' current work on earthquake risk communication and the second part focused on what needs to be improved. The questionnaires were filled in by each participant. In the following section, results of the questionnaire for each question are summarized.

Figure 4. Participants filling out the questionnaire on risk communication



Part 1: Current work on earthquake risk communication

*What are the goals of your earthquake risk communication activities?*

The results mainly pointed out that the goal of earthquake risk communication activities was to increase preparedness and risk awareness. Collaboration with related institutions, reaching more people, disseminating information on appropriate actions that need to be taken (not only before an earthquake but also after an earthquake) and encouraging people to behave accordingly are among the prominent goals. Moreover, some specific goals in risk communication activities were mentioned with regard to agenda of represented institutions such as (please note that the numbers in parentheses indicates the frequency of the answer given by the participants):

- Information on personnel education and training (2)
- Promoting construction safety (2)
- Activities targeting internalization of disaster prevention/protection culture
- Providing information for institutions as well as for families as basis for decision making processes
- Collaboration with related institutions (i.e., multi-stakeholder information)
- Developing examples aiming "safe/appropriate behaviors" at all levels of disasters
- Disaster risk assessment
- Supporting survivors' adaptation process to life after an earthquake (i.e., multi-faceted recovery)
- Solidarity and cooperation after an earthquake (i.e., considering social dimensions)

Overall, the emphasis was on the importance of preparedness in relation to unpredictability of timing of an earthquake as well as on the importance of communication activities to reduce losses.

*What key messages do you communicate (e.g., how to prepare an emergency kit) to achieve those goals?*

The following messages were reported by the workshop participants as key messages of their risk communication:

- Information on earthquakes and what to do before, during, and after (7 participants)
- Information on structural and non-structural risk reduction measures
- Unpredictability of timing of an earthquake, thus to be ready at all times
- Living in a 'high earthquake risk' area (on the fault line)
- Avoiding information pollution, presenting objective information
- Importance of construction safety
- Importance of conducting soil (ground) survey
- Importance of inspection of buildings

*Who are your target audiences?*

A wide range of audiences were stated as target groups of risk communication due to the variability of participating institutions as well as of their fields of practice. The list of target groups given is presented below, with the number of participants mentioning them given in parentheses.

- Students (9)
- General public (6)
- Children (5)
- Schools (5)
- NGOs (5)
- Teachers (3)
- Families (4)
- Youth (4)
- Public officials (2)
- Vulnerable groups (disabled, elderly) (2)
- Volunteers
- Males in mosques
- Females and children in Quran courses
- Farmers
- Private companies
- Neighborhood and Village Headmen
- Unemployed people
- Families of public staff (e.g., police officers and their families)
- Women (both in town center and villages)
- Low SES people
- Religious staff

*Which methods does your institution currently use to communicate earthquake risk to each target audience?*

The list of methods used is presented below, with numbers of participants mentioning them given in parentheses.

- Face to face communication (7)
- Visual aid (brochures, leaflets) (5)
- Public presentations (5)
- Educational activities (4)
- Earthquake practices (sirens, emergency exercises) (4)
- Public meetings (seminars, conferences) (3)
- Informing with an official document (3)
- Sermons/khutbah in mosques (2)
- Surveys (scientific and technical)
- Demonstrative classes in schools
- Home visits
- Statistical data
- SMS notifications
- Geological, geo-technical surveys
- Commands, instructions, notices

*What are the strengths of your institution in risk communication?*

The list of strengths given is presented below, with numbers of participants mentioning them given in parentheses.

- Informative activities (4)
- Sufficient equipment and materials (4)
- Sufficient technical staff (4)
- Organizational experience (3)
- Addressing a wide range of people from different age and social groups (communicative strengths) (3)
- Psychosocial support (2)
- Raising awareness (2)
- Soil (ground) classification (2)
- Collaboration (2)
- Providing statistical data (2)
- Availability of educative visual materials concerning earthquake moments
- Availability, accessibility
- Economical resources
- Sustainability of activities
- Having related disciplines and/or units in the university

*What are possible weaknesses of your organization's current risk communication?*

In general, insufficiency in reaching public through different channels to disseminate earthquake risk communication was the most pronounced weakness stated by the workshop participants. Lack of resources and monitoring of implemented practices as well as getting feedback from the public were also mentioned. All the reported weaknesses are listed below, with the number of participants mentioning them given in parentheses.

- Lack of monitoring (4)
- Insensitivity of the public and forgetting (4)
- Inadequate staff/technical staff qualities (3)
- Implementation deficiency (2)
- Under-use of media
- Disseminating activities via press
- Misunderstandings/miscommunication
- Communication problems
- Lack of regular cooperation between public institutions and NGOs and the resulting prejudice
- Efforts to build trust
- Gaps in receiving regular feedback
- Lack of proper equipment
- Rotation of educated staff

Part 2: Needs for improvement

*Are there alternative goals your institution should pursue to improve the risk communication?*

Based on the results, it seems that more interactive activities and more active participation of public in decision making processes could be targeted to improve institutional risk communication on earthquakes. The list of alternative goals is presented below, with the number of participants mentioning them given in parentheses.

- Exchange of knowledge and experiences with disaster-prone areas, sharing field experiences with others (2)
- Effective use of visual aids (short films) and televise it via local channels (2)
- Public meetings (2)
- Collaboration with related institutions and organizations
- Establishing 'earthquake simulation center' in the district
- Earthquake corners in the schools
- Introduce practical tools (like simulators) into the education system
- Need to concentrate on 'applied' practices

- Active participation of parents in decision making processes regarding their own and child's safety
- Urban regeneration information
- Projects could be proposed (e.g., "role and experiences of police officers in disasters")
- Distributing brochures
- Educating staff of all sectors

- Preparing education programs promoting self-education
- Evaluation of vulnerability at the household level
- Taking advantage of printed and visual media channels

## *Which target groups do you think you should pay more attention to?*

Along with the currently targeted groups, general public and children were particularly emphasized in this question. The target groups given are listed below, with the numbers of participant mentioning them given in parentheses.

- General public (8)
- Youngsters (3)
- Schools (2)
- Students (2)
- Children and their parents (2)
- Public officials

- Low SES people
- People living in villages
- Families
- Vulnerable people (disabled, older, unemployed)
- Females

## *Which alternative communication methods should/could be used to improve the risk communication of your institution?*

The results showed that, in addition to currently used methods, use of social media and benefiting from technology were the pronounced methods that could be used for improving institutional risk communication on earthquakes. The list of alternative communication methods given is presented below, with the number of participants mentioning them given in parentheses.

- Visuals (e.g., posters) (5)
- Social media (3)
- Meetings (3)
- Web-based systems (3)
- Television (2)
- Face to face communication (word of mouth) (2)
- Leaflets (2)
- SMS notifications
- Cartoon-movies

- Classes
- Announcements
- Billboard
- Expert participation in notifications
- Focus group discussions
- Showcases
- Statistics
- Establishing 'Central sermons system' reach wider audience in the center and in the village

## *What are the barriers for developing alternative emphases of your risk communication?*

Knowledge appeared as the most important barrier for the participating institutions' risk communication activities. Besides, finances and motivation seemed to pose hindrances. The list of barriers given is presented below, with the number of participants mentioning them given in parentheses.

- Knowledge (12)
- Finances (8)
- Motivation (8)
- Personal (4)

- Skills (3)
- Others (organizational neglect/apathy, lack of technical staff, insensitivity of the public, geographical location)

### 3.1.2 Poster exercise on goals and methods of risk communication

The poster exercise was adapted from the one used in the first case study workshop on floods, and converted into earthquakes and included target groups information in addition to the goals and methods of risk communication (see Figure 5). The columns were the goals of risk communication whereas the rows were the methods of risk communication. The target groups of risk communication were placed as a column (in the grey area) at the far right of the poster. Participants were asked to place green dot stickers for their institutions' current work on risk communication and blue dot stickers for work that they would potentially like to improve in risk communication. Particularly, participants were asked to evaluate their institutions' risk communication activities in terms of goals, methods, and target groups (see Figure 6). In the following sections, based on the frequency (the number of dots placed by the participants on the poster, see Figure 7) for current risk communication activities and for risk communication activities that need improvement, a summary of the goals, methods, and target groups of institutions' risk communication on earthquakes are given. However, as can be seen by a quick inspection of the poster, the participants seemed to mark a wide variety of goals, methods, and target groups, reflecting a versatile approach to communication.
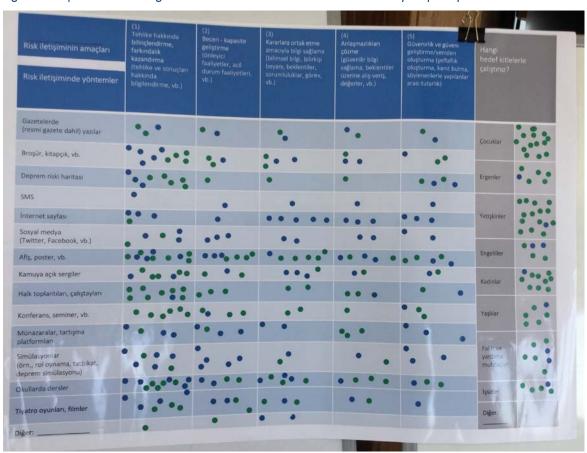
Figure 5. The poster exercise on goals and methods of risk communication

Figure 6. Participants during the poster exercise



Figure 7. The poster exercise on goals and methods of risk communication as filled by the participants

Institutions involved in disaster management in Kaynaşlı were mainly concerned with raising awareness on earthquakes, for instance, by providing information on the hazard and its consequences (see Table 3). Risk communication activities of institutions in Kaynaşlı also aimed at, though not primarily, strengthening capacity to act (i.e., having knowledge on and resources for what to do before, during, and after an earthquake), providing information as a basis for decision-making (e.g., scientific knowledge, expert evidence, expectations, responsibilities, and role, etc.), resolving disputes/conflicts (providing credible information, exchange on expectations, values, etc.), and (re)building credibility and trust (creating transparency, fact finding, consistency between words and actions, etc.). However, participants seemed to agree that these goals could be strengthened so as to improve institutions' risk communication strategy.

Table 3. Frequency for risk communication goals in the poster exercise

| Risk communication goals | Frequency for current risk communication activities | Frequency for risk communication activities that need improvement |
|---|---|---|
| Raising **awareness** for a hazard (information about hazard and consequences, etc.) | 50 | 40 |
| Strengthening **capacity to act** (preventive actions, emergency actions, etc.) | 22 | 24 |
| Providing information as basis for **decision-making/participate in decision-making** (scientific knowledge, expert evidence, expectations, responsibilities, role, etc.) | 20 | 24 |
| Resolving **disputes/conflicts** (providing credible information, exchange on expectations, values, etc.) | 17 | 17 |
| (Re)-building **credibility and trust** (creating transparency, fact finding, consistency between words and actions etc.) | 14 | 23 |

Posters and banners were the most commonly used risk communication methods reported by the participants (see Table 4). Public workshops and meetings, courses in schools, and conferences and seminars were among the other commonly used methods. In general, participants were using a variety of risk communication methods. Still, they seemed to agree that they could learn more about these methods to improve their risk communication strategy. Although debates and discussion platforms along with simulations (e.g., role-playing, drills, earthquake simulation, etc.) were not used widely, participants were interested in using these methods for their risk communication activities. SMS, website, and social media were rarely used, however, participants were eager to learn more about these methods, especially the two internet mediums, for improving institutional risk communication strategy.

As for the target groups, participants indicated that their institutions have mostly worked with children and adults in their risk communication activities (see Table 5). Women, needy people (poor, unemployed, etc.), adolescents, and elderly were among the other target groups that the participants have focused on their risk communication activities. Institutional activities targeting disabled (handicapped) people were relatively less. The poster exercise further revealed that there was not a great interest in improving risk communication work to address the specified target groups.

Table 4. Frequency for risk communication methods in the poster exercise

| Risk communication methods | Frequency for current risk communication activities | Frequency for risk communication activities that need improvement |
|---|---|---|
| Publications in newspapers (including official gazette) | 6 | 5 |
| Brochures, Leaflets, etc. | 11 | 11 |
| Official seismic risk maps | 10 | 5 |
| SMS | 0 | 5 |
| Website | 1 | 15 |
| Social media (Twitter, Facebook, etc.) | 1 | 12 |
| Posters, banners, etc. | 20 | 13 |
| Public exhibitions | 10 | 8 |
| Public workshops, meetings | 16 | 3 |
| Conferences, seminars, etc. | 14 | 2 |
| Debates, discussion platforms | 5 | 11 |
| Simulations (role-playing, drills, earthquake simulation, etc.) | 4 | 15 |
| Courses in schools | 15 | 12 |
| Theatre plays, films | 8 | 9 |
| Other (not specified) | 2 | 2 |

Table 5. Frequency for target groups in the poster exercise

| Target Group | Frequency for current risk communication activities | Frequency for risk communication activities that need improvement |
|---|---|---|
| Children | 15 | 0 |
| Adolescents | 5 | 1 |
| Adults | 14 | 1 |
| Disabled | 3 | 2 |
| Women | 9 | 1 |
| Elderly | 5 | 1 |
| People in need (poor, unemployed, etc.) | 9 | 3 |

In conclusion, institutions seemed to be employing a variety of methods in their risk communication activities such as posters and banners and public workshops and meetings. These risk communication methods were mostly used with the goal of raising awareness on earthquakes. However, participants also considered other goals, (namely, strengthening the capacity to act, providing information as basis for decision-making, resolving disputes/conflicts, and (re)building credibility and trust) as being essential for improving institutions' risk communication strategy. Moreover, participants were interested in learning more about the methods using SMS, websites, social media, debates and discussion platforms, and simulations. The pattern for the interplay between risk communication methods and goals is notable in that participants viewed the two internet mediums (namely, websites and social media) as critical for improving risk communication strategy, especially for providing information as basis for decision-making processes.

### 3.1.3    Group discussion on the self-assessment tool

The group discussion focused on the development of the self-assessment tool. Participants were divided into three groups by considering the hierarchical order and relevance of organizations for disaster risk management (see Figure 8). The first two groups consisted of representatives from governmental institutions, only differed in terms of hierarchy status of the institutional representatives (e.g., administrators and practitioners). The third group consisted of representatives of NGO's. In total, five questions were presented to the group members. Results of the discussions from the three groups are presented in Table 6.

Figure 8. Participants during the group discussion on the self-assessment tool

Table 6. Results of group discussion on the self-assessment tool

| Questions | Groups | | |
|---|---|---|---|
| | Group 1 | Group 2 | Group 3 |
| Who can use the self-assessment tool? (Institutions, public) | • Institutions | • Institutions (in the first place) | • Both institutions and public |
| Which topics should be included in the self-assessment tool? | • Preparedness levels before an earthquake<br>• Public awareness levels<br>• Structural and non-structural risk reduction<br>• Education materials for specific personnel working immediately after an earthquake (firefighters, police officers etc.) | • Local risks<br>• Construction techniques and risk analysis<br>• Information on disaster preparedness (before, during, after) | • Safety of life and property<br>• Sustainability of activities |
| How should the self-assessment tool be designed? | • The tool should be short, focused and understandable<br>• Visual<br>• Family emergency plan should be asked to the public<br>• Inspection and monitoring of the content of training and education | • Should be accessible/easy to access<br>• Easy to use/user friendly<br>• Visual aid | • Check lists consisting of main headings (also to be determined) should be prepared<br>• Monitoring is the most important aspect of the tool<br>• Safe areas should be indicated and displayed for public information |
| Which resources and capacities are needed to use the self-assessment tool? | • Video<br>• Cartoons<br>• Books<br>• Public service announcement<br>• Trusted people (community leaders)<br>• Religious organizations | • Elucidating via media/press<br>• Informing public via attractive brochures to direct them to the web site<br>• For common use of the tool, collaboration with NGOs and taking support is needed.<br>• 'Link' of the website should be announced in governmental organizations web page. | • All governmental, non-governmental and academic resources can be needed.<br>• Organizations should know capacities of others. |
| What are the possible strengths and weaknesses of the self-assessment tool? | • Strength: raising awareness, refresh recollection, learning new methods and information<br>• Weaknesses: sustainability | • Strength: Since it is web-based, institutional access to platform can be easy.<br>• Weaknesses: For public access, internet use could be challenging | • Strength: knowledge sharing through internet, and contribute to sustainability (easy access)<br>• Weaknesses: Limited computer use |

## 3.2 Afternoon session

The afternoon session consisted of three activities, namely, open discussion on the library of good practices, open discussion on the TACTIC learning and training web-based platform, and workshop evaluation questionnaire.

### 3.2.1 Open discussion on the library of good practices

During the discussion (see Figure 9), participants were asked some pre-structured questions. Their comments and feedbacks were manually noted by the project assistants. Participants' responses to these questions were as follows:

*What should be the area of use for the library of 'good' practices and who should use it?*
- Teachers can use the platform and give assignments to students. It is a way to reach parents as well.
- Adults

*What kind of information and sources should be included in the library of 'good' practices?*
- Examples of international practices on specific disasters
- Applicable information fitting to local needs (methods of stabilizing furniture that are acceptable by the housewives)
- Correct information, information that would be accepted by disasters experts.
- Need to be very careful about the accuracy of the information given, better to have no information rather than having wrong information.

*How should it be designed/structured for its use by the public and organizations?*
- It should be more attractive and user-friendly
- Use of too many filter points makes it unattractive and difficult to use
- Different interfaces for different target groups
- Different log-in options should be provided to attract and sustain different targets' attention
- The library itself and resources should be downloadable
- For the use of children, known/famous heroes or characters can be used in the interface
- A comment box should be placed under each 'good' practice. By this means, opinions of experts on a given practice can be included.
- Country-specific filter in accordance with local spiritual, value-based cultural considerations, to deliver religious specific applications

*Which resources and capacities are needed to use the library of 'good' practices?*
- A 'technical responsible supervision' is needed in the long run
- Economic resources should be supplied.
- Internet access
- Limited prevalence of Internet use among certain age groups (e.g., limited use among elderly people)
- The practices need to be translated into local language

*What are the possible strengths and weaknesses of the library of 'good' practices?*
Strengths
- Opportunity to know and benefit from other national and international disaster management implementations
Weaknesses/Suggestions
- Content of 'good' practices can be misleading. Therefore, an expert review on each material/practice entered to the system should be conducted before launching the platform for the use of public and organizations.
- Language/translation problems of international 'good practices' of each case study area

### 3.2.2    Open discussion on the TACTIC online platform

The discussion on the library of good practices then focused on the TACTIC learning and training web-based platform (including the self-assessment tool and the library of good practices) concerning responsible bodies for sustainability of the platform, resources and capacities needed to use the platform, and effective use of the platform.

As for the sustainability of the platform, different views were noted, namely, whether governmental or non-governmental organizations should take major operational responsibility. Participants reached a tentative consensus, such that provincial directorate of 'Disaster and Emergency Management Authority (AFAD), as the governmental agency responsible for taking required precautions for effective emergency management and coordinating disaster management at national and provincial levels in Turkey, could be the coordinator and operational responsibility could be shared among relevant public and non-governmental institutions based on their specific field of activities.

Regarding the dissemination of the platform, the discussion yielded the below listed views.
- Social media as an effective medium for disseminating platform information
- Promoting use of the platform through different sectors (e.g., private sectors, NGOs)
- Developing a mobile application of the platform
- Sending text messages to residents to inform about the existence of the platform
- Uploading the platform to 'Tablets' that are distributed to school age children at the very beginning of school terms
- Using 'local bulletin' or 'local magazine'
- Rewarding users to motivate non-users

Participants seemed to be eager to use the platform and be supportive of disseminating its use among public. They exchanged ideas, took each other's' perspectives, resolved conflicting points by giving support in proportion to capacities of their institutions. Aiming permanent change in public's preparedness behaviors' to disasters and the importance of monitoring was emphasized.

Overall, participants took part in decision making processes concerning the development of the online platform. Therefore, they seemed to have internalized the aim of the project. Good synergy and collaboration were observed at the end of the day. There were also some open questions on how the tool will be transferred to the local institutions after the termination of the TACTIC project and a possible need for local training on the maintenance of the on-line platform.

### 3.2.3    Workshop evaluation questionnaire

At the end of the workshop, participants were asked to fill out an evaluation questionnaire on the workshop which was also used in the first case study workshop on floods (see Appendix 5). In total, 11 out of 21 participants handed back their questionnaires. The feedback provided by the participants is listed below with the number of participants mentioning them given in parentheses.

*What did you find most interesting?*
- Participants' motivation and interest (3)
- Workshop participation
- Workshop location (Kaynaşlı - the case study area)
- Scientific quality of the  presentations and the workshop in general
- Brainstorming, being aware of common grounds
- Exchange of knowledge, sharing experiences
- Presentations, group works and discussions
- 'Web based' library of 'good' practices
- Motivation and presentations of organizers

*What was missing?*
- Time should be longer to increase productivity and efficiency
- Specific information on 'what to do after an earthquake'
- Translation of web site should be done
- Presentations were not comprehensive enough

*What would you like to have learned more about?*
- What to do before, during and after an earthquake (2)
- Education
- Personnel awareness in the organization level
- More examples on 'good' practices
- All the presented topics were valuable

*Would you say that the workshop has encouraged you to further work on your communication strategy (development, revision)?*
- Yes (8)

*How could the next workshop be enriched?*
- More people should be invited and therefore participation to the workshop should be increased (4)

- More use of visual materials (3)
- Brochure samples
- Anecdotes and sharing experiences
- Could be more practical
- Presentation of ideas collected in this workshop

*Are you interested in participating in a second workshop?*
- Yes (10)

According to results of the workshop questionnaire, 90% of the participants were interested in participating to the second workshop. 60% of the participants further reported their interest and readiness to provide further feedback and input to the project.

# 4   Discussion and implications

The findings of the first case study workshop are discussed with regard to their implications for the TACTIC learning and training web-based platform as well as for the second case study workshop. The discussion aims to evaluate and identify lessons learnt regarding the self-assessment tool and the library of good practices. Hence, the implications of the workshop findings will help to inform WP2 (the community preparedness audit; i.e., self-assessment tool), WP3 (the communication and education material and practices), WP8 (the long-term learning framework for a multi-hazard context), and WP9 (online training and audit platform).

In general, local stakeholders in Kaynaşlı, a district with previous earthquake experience, are very motivated to increase preparedness to earthquakes as well as to other hazards in the community and are already conducting a number of programs to facilitate preparedness. The need for continuous education and training addressing both the community and the institutions on earthquakes to further increase and consolidate awareness in Kaynaşlı was a commonly expressed view both in the pre-workshop interviews and the discussions during the workshop.

Participants were observed to be highly motivated to contribute to the workshop and participated actively in answering the questionnaires, the poster exercise, and the discussions. Their interest might be facilitated by the fact that the workshop date corresponded closely to the 15th year anniversary of the 1999 Düzce earthquake. The participants had their own views which they wanted to express as related to increasing preparedness of Kaynaşlı community to earthquakes as well as to other hazards in the case study area.

Since Kaynaşlı is a relatively small district, it seemed that all the key stakeholders present in the workshop knew each other quite well and there was consensus that all relevant stakeholders were present. This network seemed to be a very important strength for the case study site. Although some of them had a larger responsibility for communication and education, all participants attending the workshop showed a key interest. The students from the Kaynaşlı vocational high school who were present in the workshop mainly to support the logistics also showed a key interest in the project and expressed their desire to work for preparedness in their communities. This was an unplanned pleasant surprise for the research team, and showed that the youth can provide a valuable input for the sustainability of the project.

Findings on institutions' current risk communication strategies and the areas that can be improved revealed that collaborating with stakeholder institutions, reaching more people, disseminating information on appropriate actions that need to be taken (in anticipation, during and after an earthquake), and encouraging people for disaster safe behavior were the prominent goals of their current risk communication activities. Children and public in general were stated as the main "target audience" of their activities. In general, participants were using a variety of risk communication methods; posters and banners, public workshops and meetings, courses in schools, and conferences and seminars were among the other commonly used method. Besides, they seemed to be willing to improve their risk communication strategies in order to increase preparedness, risk awareness and risk reduction knowledge of the public. Though not much used till today, they clearly expressed their interest in using different channels besides existing local and traditional channels to disseminate risk communication such as SMS, website, and social media, especially the two internet mediums. Lack of adequate resources and applicable knowledge appeared as the main barrier of a more effective institutional risk communication, which was followed by insufficient financial resources and motivation. Insufficient monitoring of implementations and feedback from the public were also among the other barriers for conducting institutional risk communication as required.

## 4.1    Implications for the TACTIC online platform

With regard to self-assessment for preparedness, the first case study workshop where a draft version of the TACTIC online platform (including the self-assessment tool and the library of good practices) was presented to the local stakeholders enabled us to receive feedback on the content, structure, and usability of the self-assessment tool. In general, participants seemed to be keen to use the platform to increase preparedness of Kaynaşlı for earthquakes as well as to other hazards.

The most pronounced feedback concerned possible limitations of internet use in Kaynaşlı, particularly, the limitations in the access to the internet in some segments of the public (e.g., elderly and citizens with low levels of education may have limited access), as a factor that might hinder the use of the platform. In Kaynaşlı, about 70% of the households have access to the internet, so enabling those who do not use the internet to be involved in the assessment and the practices by suggesting alternative access strategies seems to be an important consideration for the project.

The workshop participants also provided feedback on what kind of material and practices they considered as needed in order to increase preparedness to earthquakes. Specifically, the presented design of the library of good practices was much scrutinized and somewhat criticized with regard to the content of the practices (e.g., consideration of local cultural habits in particular practices in the library, not having practices in the library that have debatable information in their content, incorporating local consensus of stakeholders, especially of experts for the inclusion of practices in the library, etc.). There were strong objections to some of the so called good practices as the participants attended to details that they considered vital for life safety and objected to some practices, stating an example of an earthquake household preparedness game of fixing furniture by saying that the placement of furniture in the room was not appropriate, not considering the fact that settees should not be placed in front of windows due to the danger of broken glass, etc. Such objections and raised concerns about the information/knowledge content of the practices pose the challenge of finding examples that will have 100 % consensus. One suggestion that came out of the discussions in this regard was having an interactive comment box under each practice in the library that would enable participants to convey their views and evaluations about practices. With the comment boxes provided,

users can evaluate the practices. This issue was a strong hindrance among some participants, stating that they were somewhat disappointed with the presented examples of good practices for earthquakes. This feedback on the library of good practices points out to the importance of choosing and placing the practices with real care and genuine evaluation of correctness and applicability. Participants pointed out that it is better to not have any information rather than having locally incorrect information. In regards to the filter criteria used for the practices, the participants suggested that it needs to be simplified and made more user-friendly and attractive.

Participants also suggested the development of a user training guide for the technical operation of the platform in order to promote the use of the platform. Such a user training guide was especially considered useful in the workshop because the good practices criteria were evaluated as being too complicated and not user friendly. Furthermore, the suggestions were centered around the need for a simple, short and easy presentation of the self-assessment tool and the library of good practices. The main focus of the feedback provided by the participants on increasing the use of the self-assessment tool was on its 'design'. Participants stated that the self-assessment tool should be short, focused and understandable, supported by visual aids, and should be accessible and also user-friendly. Different user interfaces for specific target groups (e.g., more attractive user face for children use), need for 'technical responsible bodies' in the long run, and translation of other countries' practices on different hazards were among the other suggestions given. A final concern was about the good practices and the need to evaluate and comment on the available practices by the users rather than taking them as good examples in all respects.

Taken together, the first case study workshop has provided valuable input regarding the functionality and the user interface of the TACTIC online platform which will contribute to its improvement as the project continues. The workshop showed that the self-assessment tool and the practice library approach is well accepted, however, issues regarding the selection of practices, training in the use of the platform, and the dissemination of the project outputs to case study stakeholders need to be carefully planned.

## 4.2    Implications for the second case study workshop

Establishment of relationships with local stakeholders before the workshop was advantageous for the workshop. In particular, firstly, a visit to the case site by the project team was conducted to meet the District Governor and relevant NGOs to enquire about the key actors responsible for facilitating the preparedness of public for earthquakes. Secondly, interviews were conducted with twenty key stakeholders from both the public institutions and NGOs enquiring about the networks/key stakeholders they collaborate with for communicating and educating on earthquakes. Overall, the establishment of relationships with local stakeholders before the workshop through the case site visit and the interviews helped to increase participation and interest of stakeholders in the workshop. Hence, for the second case study workshop, it seems important to maintain these relationships for promoting the interest and the participation of workshop participants.

The involvement of a local researcher from the case site in the TACTIC project was also helpful for the case study work conducted in Kaynaşlı. Dr. Hüseyin Bayraktar from Kaynaşlı Vocational School of Düzce University has been working as a member of the METU research team since December 2014. His collaboration in gathering data for the project (i.e., conducting in-depth interviews) and in organizing the workshop increased the participation and interest of stakeholders in the workshop.

Overall, with the workshop, we managed to facilitate the interest and motivation for collaboration of most of the stakeholders (i.e., local public organizations and NGOs) in the case study area about the project. It further led to reinforcing awareness on the importance of community preparedness and various aims and methods of risk communication. Some participants expressed their interest to continue the network between the participants and the research team established during the workshop. This interest in the project seemed to form a good basis of collaboration with the stakeholders in Kaynaşlı for future work in the TACTIC project and is also promising for the ownership and interest in the sustainability of the project outputs. Such motivation for collaboration is especially valuable for the second case study workshop which will be conducted in November 2015 with focus on multiple hazards.

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# Appendices

## Appendix 1 – Workshop Agenda

| Time | Session |
|---|---|
| 09.30-10.00 | *Registration* |
| 10.00-10.45 | • Introduction to the **TACTIC** Project (UFZ)<br>• Overview of the earthquakes case study in Kaynaşlı and the workshop aims (METU) |
| 10.45-11.00 | *Coffee break* |
| 11.00-11.45 | **Introduction:** Are we prepared for earthquakes? Current work and the self-assessment tool<br>**Group work 1:**<br>Institutions' evaluation of their current work<br>Views on the development of a self-assessment tool<br>• Who can use the self-assessment tool? (instituitions, public)<br>• Which topics should be included in the self-assessment tool?<br>• How the self-assessment tool shoud be designed?<br>• Which resources and capacities are needed to use the self-assessment tool?<br>• What are the possible strengthes and weaknesses of the self-assessment tool? |
| 11.45-12.00 | Presentation of the results for the group work 1 and discussion |
| 12.00-13.00 | *Lunch* |
| 13.00-13.30 | • The library of good practices (METU) |
| 13.30-14.15 | **Introduction:** Scope and components of risk communication on disaster preparedness<br>**Group work 2:** Views on the library of good practices<br>• What should be the scope of the library and who should use it? (institutions, public)<br>• What kind of information and sources should be included in the library?<br>• How should it be designed/structured for its use by the public and the institutions?<br>• Which resources and capacities are needed to use the library?<br>• What are the possible strengthes and weaknesses of  the library? |
| 14.15-14.30 | Presentation of the results for the group work 2 and discussion |
| 14.30-14.45 | *Coffee break* |
| 14.45-15.15 | *General discussion on the **TACTIC** learning and training web-based platform including the self-assessment tool and the library of good practices*<br>• Who is going to be responsible from the platform (sustainability, updating, etc.)?<br>• Which resources and capacities might be needed?<br>• How the effective use of the platform can be promoted? |
| 15.15-15.30 | • Next steps and discussion on the 2nd case study workshop<br>• Closing, delivery of certificates of appreciation |

## GÖNÜLLÜ KATILIM FORMU

Sayın Kurum/Kuruluş Temsilcisi,

Bu çalıştay, Orta Doğu Teknik Üniversitesi Psikoloji Bölümü'nden Prof. Dr. A. Nuray Karancı'nın proje ortağı olduğu ve Avrupa Komisyonu Yedinci Çerçeve Programı 'Toplumların Bir Krize Karşı Daha İyi Hazırlanması için Araçlar, Yöntemler ve Eğitim – TACTIC Projesi' kapsamında Kaynaşlı ilçesinde düzenlenmektedir. Projenin genel amacı, Avrupa'daki toplumlarda büyük ölçekli ve sınır ötesi afet ve krizler (terörizm, seller, salgın hastalıklar, depremler) karşısında hazırlığın artırılmasıdır. TACTIC projesi kapsamında, Türkiye'de Kaynaşlı'da vaka çalışması yürütülmekte olup, bu vaka çalışmasında 12 Kasım 1999 depreminden etkilenen Kaynaşlı'da depremler ve yanı sıra ikincil ve diğer tehlikelere karşı bireysel, toplumsal ve kurumsal olarak hazırlıklı olmak üzerine odaklanılmaktadır.

Çalıştayda, size daha önceden gönderilen davet mektubunda ayrıntılı olarak belirtildiği üzere; (1) halkın depremlere karşı hazırlıklı olmasıyla ilgili Kaynaşlı'da önceden yürütülen çalışma bulgularının paylaşılması ve (2) iletişim ve eğitim üzerine iyi uygulama örneklerine odaklanan toplumsal hazırlık değerlendirme kılavuzunun kullanımıyla ilgili görüş alınması amaçlamaktadır. Çalıştaydan elde edilen görüşler, söz konusu değerlendirme kılavuzunun geliştirilmesinde göz önünde bulundurulacak ve bilgiler yalnızca bilimsel araştırma ve yazılarda kullanılacaktır.

Çalıştay, depremlere karşı toplumsal hazırlık değerlendirme aracı ve iletişim ve eğitim üzerine iyi uygulama örnekleri üzerine grup çalışmaları, karşılıklı fikir alış verişi ve tartışma şeklinde yürütülecektir. Çalıştaydan elde edilen tüm bulgular bütün katılımcılar için grup halinde değerlendirilecek ve hazırlanacak rapora yalnızca grup bilgileri yansıtılacaktır. Çalıştay sırasında ses kaydı alınacaktır ve fotoğraf çekilecektir. Ses kaydı çalıştayın raporlanmasının kolaylaştırılması amacıyla alınacaktır ve buna yalnızca araştırmacıların erişimi olacaktır. Fotoğraflar ise, raporda çalıştayın görselleştirilmesi amacıyla kullanılacak olup, katılımcıların kimliğinin belli edilmemesine özen gösterilecektir. Katılımınıza dair kayıtlar tamamen gizli tutulacaktır. Kimlik bilgilerinize araştırmacılar dışında hiç kimsenin erişimi olmayacaktır.

Katılım tamamen gönüllüdür. Çalıştay, sabah ve öğleden sonra olmak üzere iki oturum halinde yürütülecektir. Çalıştay sırasında herhangi bir nedenle kendinizi rahatsız hissederseniz, çalışmayı yarıda kesebilirsiniz. Bu durumda çalıştayı yürüten araştırmacılara çalışmayı tamamlamayacağınızı söylemeniz yeterlidir.

Katılmayı kabul ediyorsanız lütfen aşağıdaki alanı doldurunuz.

| İsim, Soy İsim | Tarih | İmza |
|---|---|---|

| Temsil Ettiğiniz Kurum/Kuruluş | İşiniz/Göreviniz | Ünvanınız |
|---|---|---|

Katılımınız için çok teşekkür ederiz.

**Prof. Dr. A. Nuray Karancı (Proje yürütücüsü - ODTÜ Psikoloji Bölümü)**
**Öğr. Gör. Dr. Hüseyin Bayraktar (Araştırmacı - Düzce Ünv. Kaynaşlı Meslek Yüksekokulu)**
**Proje Asistanı Canay Doğulu (Araştırmacı - ODTÜ Psikoloji Bölümü)**
**Proje Asistanı Şerife Yılmaz (Araştırmacı - ODTÜ Psikoloji Bölümü)**

**İletişim:**
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# Appendix 3 – Certificate of Appreciation (in Turkish)

TEŞEKKÜR BELGESİ

TACTIC
TOOLS, METHODS AND TRAINING FOR COMMUNITIES
AND SOCIETY TO BETTER PREPARE FOR A CRISIS

Sayın

Avrupa Komisyonu 7. Çerçeve Programı dahilinde yürütülen "Toplumların Bir Krize Karşı Daha İyi Hazırlanması için Araçlar, Yöntemler ve Eğitim: TACTIC Projesi" kapsamında 26 Mart 2015 tarihinde düzenlenen toplumsal hazırlığın artırılması konulu Çalıştaya sağladığınız katkılardan dolayı teşekkür eder, saygılarımızı sunarız.

Prof. Dr. A. Nuray Karancı
Proje Yürütücüsü

# Appendix 4 – Questionnaire on Risk Communication (in Turkish)

**TACTIC**

Kaynaşlı Vaka Çalışması "Türkiye'de Depremler"
Çalıştay 1

Grup Çalışması 1: Kurum olarak deprem riski konusunda halkı bilgilendirme çalışmalarınız

Kurum/Kuruluş: ...............................

- Görev 1: Mevcut bilgi değerlendirmesi "Deprem riski konusunda halk ile iletişim"

| Sorular | | Lütfen cevaplarınızı, soruların karşısında bulunan alanlara yazınız. | | | | |
|---|---|---|---|---|---|---|
| 1 | Deprem riski üzerine iletişim /bilgilendirme faaliyetlerinizde/ çalışmalarınızda hedefleriniz nelerdir? | | | | | |
| 2 | Bu hedeflere ulaşmak için hangi konularda (örn., afet çantasının hazırlanması) çalışmalar yürütüyorsunuz? | | | | | |
| 3 | Hedef kitleleriniz kimlerdir? | | | | | |
| 4 | Kurumunuz hedef kitlelerini deprem riskiyle ilgili bilgilendirmek için hali hazırda hangi yöntemleri kullanmaktadır? | | | | | |
| 5 | Kurumunuzun deprem riskiyle ilgili halkı bilgilendirme amaçlı mevcut çalışmalarının güçlü yönleri nelerdir? | | | | | |
| 6 | Kurumunuzun deprem riskiyle ilgili halkı bilgilendirme amaçlı mevcut çalışmalarının zayıf yönleri nelerdir? | | | | | |

1

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**TACTIC**

- Görev 2: Geliştirilebilecek yönler

| Sorular | Lütfen cevaplarınızı, soruların karşısında bulunan alanlara yazınız. |
|---|---|
| 1 | Kurumunuzun, deprem riski konusunda halkı bilgilendirme çalışmalarını geliştirmek için takip edeceği alternatif hedefleri var mı? Varsa nelerdir? |
| 2 | Bu hedeflere ulaşmak için kurumunuz hangi konularda çalışmalar yürütebilir? |
| 3 | Sizce kurumunuz yürüteceği çalışmalarda daha çok hangi hedef kitlelere odaklanmalıdır? |
| 4 | Kurumunuzun, deprem riski konusunda halkı bilgilendirme çalışmalarınızda kullanabileceği alternatif iletişim yöntemleri nelerdir? |
| 5 | Deprem riski konusunda halkı bilgilendirme çalışmalarınız için alternatif odaklar geliştirmenizde engeller nelerdir? |

| Ekonomik | Kişisel | Bilgi | Beceri | Motivasyon | Diğer |
|---|---|---|---|---|---|
| | | | | | |

2

# Appendix 5 – Workshop Evaluation Questionnaire (in Turkish)



TACTIC

TOOLS, METHODS AND TRAINING FOR COMMUNITIES AND SOCIETY TO BETTER PREPARE FOR A CRISIS

## Çalıştay Değerlendirme Anketi

**Çalıştayın nasıl buldunuz?**

Lütfen uygun bulduğunuz kutuyu işaretleyiniz.

1 = Çok iyi    2 = İyi    3 = Orta    4 = Yetersiz    5 = Çok yetersiz/Eksik

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Bilginin içeriği | 1 | 2 | 3 | 4 | 5 |
| Sunumların niteliği | 1 | 2 | 3 | 4 | 5 |
| Tartışma/Grup çalışmaları için ayrılan vakit | 1 | 2 | 3 | 4 | 5 |
| Çalıştay programı | 1 | 2 | 3 | 4 | 5 |
| Çalıştayın yapıldığı yer | 1 | 2 | 3 | 4 | 5 |

**Çalıştayda en çok ne ilginizi çekti?**

**Çalıştayda eksik gördüğünüz, beğenmediğiniz noktalar nelerdir?**

**Hangi konu/konular hakkında daha fazla bilgi almak isterdiniz?**

**Bu çalıştayın sizi, halkın depreme hazırlıklı olma konusundaki çalışmalarınızda iletişim stratejisi (geliştirme, revize etme) üzerinde daha fazla çalışmaya teşvik ettiğini söyleyebilir misiniz?**

**Sizce, bir sonraki çalıştay nasıl zenginleştirilebilir?**

**İkinci çalıştaya katılmaya istekli misiniz?**

**Kendi çalışmalarınız ve/veya bizim projemiz ile ilgili fikir alış verişinde bulunmak istediğimizde size ulaşabilir miyiz? Yanıtınız EVET ise, lütfen isminizi ve iletişim bilgilerinizi (e-posta ve/veya telefon numarası) bizlere ayrıca verebilir misiniz?**