

A model implementation: Fire protection practices and competence-based training in historical buildings (protecting people and cultural heritage)

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Abstract: Fire has been a part of our needs in life and we now cannot live without it. It has been of much use now to us since man learned of its potentials and usage. But then again, uncontrollable spread of fire such as in historical building fire will lead to damage of our properties, our cultural heritage and worse, loss of life. Fire safety is a field where fire safety designs were designed for the sake of fire prevention and also whenever there is an event of fire; it functions as to control the spreading of fire and also for safe evacuation of the people. Fire safety engineering plays a significant role in the development of cost-effective fire-safety designs for buildings, manufacturing plants and industrial operations as it can provide a systematic approach to assessing fire safety and minimizing the risks associated with fire.

Historical buildings reflect the state of the art at the time of their construction. Materials were used that are often viewed critically today with regard to fire safety. The biggest challenge is to ensure optimal fire protection of the building structure and the interior (stucco, ceiling and wall paintings, panelling, furniture and chandeliers) as well as the historical artifacts inside a building, without affecting their aesthetic value and historical integrity. Fire safety in all buildings is a critical topic, but fire protection in historical buildings is also of great cultural importance. Fire and the consequential damage can result in monetary losses that run into the tens of millions of Euros and the loss of irreplaceable historical artifacts. Restoring these damaged buildings and items can be very costly and sometimes impossible.

The experts and staff working at Fire Brigade and Disaster and Emergency Unit located in cultural and historical protected cities don't have enough up-to-date knowledge and competencies in terms of Fire Safety Management (Prevention, Preparedness and Response). In this context, competency-based training module is an approach, which ensures that staff becomes competent and remains competent and that experience and changing demands are incorporated in the Fire Safety Management involved.

There is a need to identify and tackle Fire Safety Management in cultural and historical protected cities such as Safranbolu (TR), Frederikssund (DK), Marche (IT) and Ljubljana (SI). In order to decrease the effects of fire accident and irreplaceable historical artifacts, the task is to examine best practices in this area and thereby to develop a professional profile and training modules who can manage together with local policymakers' fire brigades, security and health institutions, VET, education, and emergency and safety concerns.

In particular the main aim of the FireSkills is to create a new profile and develop a Training Modules (EQF level 8) for experts/staff working specific sectors such as Fire Safety, Fire Accident, Security, Health, Emergency, Crisis Management and Firefighting in cultural and historical protected cities. The second main of the FireSkills project is to expand awareness and improved know-how, skills and knowledge of the fire safety management for inhabitants living in cultural and historical protected cities in terms of preparing user guide and organizing training activities. In this study, will given informations about a model implementation developing for these fields, in conjunction with an Erasmus+ project.

Keywords: Cultural And Historical Protected Cities, Fire Safety Management, Fire Protection Practices, Training Modules.

1. Introduction

Europe's and Turkey cultural heritage, both tangible and intangible, are our common wealth – our inheritance from previous generations of Europeans/Turks and our legacy for those to come. It is an irreplaceable repository of knowledge and a valuable resource for economic growth, employment and social cohesion. It enriches the individual lives of hundreds of millions of people, is a source of inspiration for thinkers and artists, and a driver for our cultural and creative industries. Our cultural heritage and the way we preserve and valorise it is a major factor in defining Europe and Turkey's place in the world and its attractiveness as a place to live, work, and visit.

Cultural heritage teach us about the history that happened before we were born and promotes the respect for those who lived in different times and different societies. Cultural heritage enriches the individual lives of citizens, is a driving force for the cultural and creative sectors, and plays a role in creating and enhancing Europe's and Turkey's social capital. For France is known for the Eiffel tower, for Italy the Historic Centre of Siena, Turkey for the Sultan Ahmet or Ayasofya Mosques, Ephesus, Divriği Great Mosque and Hospital and Safranbolu and etc. Historical structures bring character and certain charm to the neighbourhood that people live in.

Historical buildings reflect the state of the art at the time of their construction. Materials were used that are often viewed critically today with regard to fire safety. The biggest challenge is to ensure optimal fire protection of the building structure and the interior (stucco, ceiling and wall paintings, panelling, furniture and chandeliers) as well as the historical artifacts inside a building, without affecting their aesthetic value and historical integrity. Fire safety in all buildings is a critical topic, but fire protection in historical buildings is also of great cultural importance. Fire and the consequential damage can result in monetary losses that run into the tens of millions of Euros and the loss of irreplaceable historical artifacts. Restoring these damaged buildings and items can be very costly and sometimes impossible.

There is no specific training course (competency-based) for experts and staff working at Search& Rescue Services and Fire Brigades located in cultural and historical protected cities. Fire Safety Management in these cities is totally different from the big cities or new built cities and it is totally different in terms of current techniques, using equipment's, competencies and skills.

When considered from this point of view, the experts and staff working at Search& Rescue Services and Fire Brigades working in cultural and historical protected cities like a Safranbolu (TR), Marche (IT) and Ljubljana don't have enough up-to-date knowledge and competencies in terms of Fire Safety Management (Prevention, Preparedness and Response).

In this context, competency-based training module is an approach, which ensures that staff becomes competent and remains competent and that experience and changing demands are incorporated in the Fire Safety Management involved.

On the other hands, people living in historical buildings and inhabiting historical sites/areas/region don't have enough practical knowledge in case of fire and how to take basic precautions as part of fire intervention, fire safety, fire protection and practical fire safety arrangements.

The target group for the FireSkills project is broadly defined because the scope for recruitment is so large. There is a need to identify and tackle Fire Safety Management. In order to decrease the effects of fire accidents, the task is to examine best practices in this area and thereby to develop a professional profile who can manage together with local authorities of fire brigade, security, health, education, emergency and safety concerns. There are two concrete objectives of FireSkills project;

- 1-Training Modules (EQF level 8) for Experts/staff working at Search& Rescue Services and Fire Brigades
- 2-User guide for people living in historical buildings and inhabiting historical sites/areas/region

In this sense, target groups are;

Experts/staff working at Search& Rescue Services and Fire Brigades in Karabük and Safranbolu (TR), Frederikssund (DK) and Ljubljana (SI).

People living in in Safranbolu (TR), Frederikssund (DK), Marche (IT) and Ljubljana (SI). Especially, people living in historical buildings and inhabiting historical sites/areas/region have been targeted.

2. The main concrete outputs of FireSkills project

There are two main concrete outputs of FireSkills project;

- 1-“Training Modules (EQF level 8) for Experts/staff working at Search & Rescue Services and Fire Brigades
- 2-“User guide for people living in historical buildings and inhabiting historical

sites/areas/region”

Apart from the intellectual outputs defined in detailed in related section of application form, the expected results of the FireSkills project are as follows;

A-Network Building: Partners from different countries in this project have come together in order to reach the proposed objectives. Academic staff, experts, public authorities and government officials have an opportunity to create new contacts enabling further cooperation and initiatives.

B-Development of Institutional Capacity: All partner organizations in project have improved new skills, competences, new methods and have an opportunity to transfer new applications and technologies. All partners have learnt new procedures and methods from each other. Experts and staff who have worked in project activities have an opportunity to increase their knowledge and skills by engaging with the experts and specialists from other partner organizations.

C-Cultural Dialogue: Turkey is a candidate country, which harmonizes its legislation, standards and procedures to the EU acquis, and further getting more and more integrated to the European environment. FireSkills project is provided benefit individuals, institutions, organisations and society as a whole by contributing to growth and ensuring prosperity and social inclusion in Europe and beyond. EU-level partnership of FireSkills project serves opportunity to work together with European counterparts and to share information and experience on search rescue, firefighting, security, health, saving cultural heritage & historical buildings and crisis management.

D-Raising Awareness's at Multilingualism: Multilingualism is one of the cornerstones of the European project and a powerful symbol of the EU's aspiration to be united in diversity. Foreign languages have a prominent role among the skills that have helped equip people better for the labour market and make the most of available opportunities. In this content, the promotion of language learning and linguistic diversity could be appreciated and valued within the scope of the project activities.

3. Preparation phases of Fire Skills project

3.1. Inventory analysis /current status

Karabük AFAD, Karabük University and Safranbolu Municipality has conducted a inventory analysis to determine the current situation of Safranbolu within the scope of Fire Safety Management (Prevention, Preparedness and Response). Other partners from DK, IT and SI has also conducted an inventory analysis with same aspects in EU and their regions. All partners are prepared a report that document a concrete list of all actual and potential concept Training Modules (EQF level 8) for Experts/staff working at Search & Rescue Services and Fire Brigades and User guide for residents/inhabitants in historical areas/cities/region in terms of Fire Safety Management.

Next step would be to assess the actual and potential local actors' (municipality, university, governmental bodies, NGOs, organizational and institutional) needs via conducting surveys/questionnaires. These studies;

1.1. Questionnaire and Questionnaire Report

1.2. Research and Collecting Data

1.3. EU Best Practices and Know-how Transfer would help to determine the practical needs and daily observations of Fire Safety Management that would be very useful to decide what sort of education/training would bring benefit in developing modules.

3.2. *Preparation of the training modules and user guide*

One of the concrete outcomes of the project is to develop a Training Modules (EQF level 8) for Experts/staff working at Search & Rescue Services and Fire Brigades that is targeting the improvement of skills, competences, capacity, modern techniques and knowledge about Fire Safety Management. Another concrete outcome of the Fire Skills project is the User guide for residents/inhabitants in historical areas/cities/region. This user guide is included some modules such as preventing fire accidents, compliance with statutory requirements as a minimum, assessing and controlling the fire risks that arise from our daily activities and providing a safe and healthy working and learning environment.

Besides, based on their experiences and expertise, each partner organization would be responsible for developing modules/course materials. Project Executive Team would be responsible for facilitating the information exchange and interactions among partners. During the completion of modules, the required discussions regarding the course contents have been assessed. During this stage, a continuous communication with the partners would be provided in order to include their opinions and benefit from their approaches.

3.3. *Web site*

A project web-site was been created during the first stage of the project. All partners have involved in defining the structure and contents of the web-site. The web-site would be in each partner countries' native language; and links would be given to each partner's own organizational web-pages. The web-site would be used first in dissemination activities and then later would be upgraded for interactive learning process during pilot training applications.

3.4. *National and international meetings*

At the beginning of the project, a kick off and announcement meeting was be organized in Karabük, Turkey by the project coordinator to introduce the primary objectives and the scope of the project. Local and national media members would be informed and invited to attend to and publicize the meetings. Foreign and local partners would be share and discuss studies, experience, and progress of project, feedback and evaluation reports during the 3 workshop in Denmark, Italy and Slovenia. The final conference was be held in Karabük, Turkey. The overall evaluation of the project, the results, outcomes and the tangible products of the project would be presented in the conference. The Final Conference would be released to the related universities and public authorities of Turkey.

3.5. *Dissemination and exploitation activities*

At the beginning of the project, a kick off and announcement meeting would be organized

in Turkey by the project coordinator to introduce the primary objectives and the scope of the project. Local and national media members would be informed and invited to attend to and publicize the meetings. A project web-site would be created to promote the project. The web-site has been the main dissemination channel to inform partners and outside users about project details. All project products produced during the different phases of the project would be publicized in the web-site. Brochures, booklets and leaflets would be printed. These materials have been sent to partners to spread information about the project to wider audiences.

4. Results

The fireskill project has contributed to facilitate a policy level national dialogue on issues and challenges in the area of fire risk management at various levels in the country by assessing the current status of prevention, preparedness, and management for fire events in the country, identify the gaps and develop a plan of action for implementation of the national policies and the guidelines for fire management. The fireskill project also has put impact on the adaptation, further development and transfer of existing innovative training curricula for fire safety, prevention and preparedness guidebook for staff, expert and workers. Fire Protection Practices and Competence-Based Training in Historical Buildings (Protecting People and Cultural Heritage) (final output) includes work-based training in all vocational courses: practical training carried out within the testing phase allowed participants to gain work-related competences ensuring a higher transfer of their expertise.

At present, various ministries and institutions are involved in Fire Safety Management. At the national level National Disaster Management Authority, Ministry of Environment and Forest, Ministry of Home Affairs, etc. are involved with the process. But unfortunately, there is no Fire Safety Management training modules for experts/staff working at Fire & Rescue Services and Fire Brigades in cultural and historical protected cities aiming to ensure that the occurrence of fire are minimised the risk of destruction of cultural heritage. Fire and the consequential damage can result in monetary losses that run into the tens of millions of Euros and the loss of irreplaceable historical artifacts. Restoring these damaged buildings and items can be very costly and sometimes impossible. There is no special prepared tool/educational materials for research & rescue team and fire brigade working in cultural heritage area and cities having historical buildings. Before fire and in case of fire, measurements, technics, action plan and competencies should be clarified and classified. In this sense, FireSkills project is innovative Training Modules (EQF level 8) for Experts/staff working at Search & Rescue Services and Fire Brigades and development of user guide for people living in historical buildings and inhabiting historical sites/areas/region.

Fire safety in all buildings is a critical topic, but fire protection in historical buildings is also of great cultural importance. Considering the very high rate of touristic destination, plenty of historical buildings and artifacts belonging to cultural heritage in Safranbolu, Karabük, these user guides will contribute to achieving a low frequency of major accidents and to identify and tackle fire accident prevention, preparedness and response.

In this regard, The impact on the the participants and participating organisations involved in the project was; 1-The improvement the effectiveness of the institutions offering education on the search and rescue works and increasing the strategic partnership between

among universities, SMEs, companies, research and development centres and other stakeholders within the scope of the fire safety management, 2-Increasing partner countries' understanding of issues related to fire safety, prevention and preparedness, 3-Improving the capacity of relevant institutions, agencies and experts to address the risks of fire safety across EU and Turkey, 4-Helping partner countries to develop and implement an appropriate fire safety, prevention and preparedness guidebook within the scope of the EQF.

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