

AMADORA PEER REVIEW ON DISASTER RESILIENCE

Luis Carvalho

Civil Protection Coordinator

Local Police Commander, Municipality of Amadora

luis.carvalho@cm-amadora.pt

Abstract – The responsibility for disaster risk reduction is a mission that involves everyone. By principles of humanism and solidarity, should be part of our daily lives, from how we educate the youngest until how we plan our cities. In a potentially destructive event, good preparation can ensure a quick, effective and appropriate reconstruction. However, strategies for disaster risk reduction (DRR) will be successful only when governments and civil society understand that impact of disasters are a result of unbalanced development policies.

It was with this background that in 2010 the Municipality of Amadora joined the “Making Cities Resilient” of the United Nations Office for Disaster Risk Reduction (UNDRR), which launches a challenge to all communities to develop a set of best practices that make them more resilient to disasters.

To ensure the resilience of a community is essential to have an approach of engagement, information sharing and implementation of the different levels of knowledge. This campaign brought to the Municipality the ability to promote DRR, particularly through partnerships with several stakeholders and awareness sessions about risks and disasters. Thus, this paper aims to demonstrate the benefits of the peer review process on disaster Resilience at local level and the learnings and visions ahead.

1. Introduction

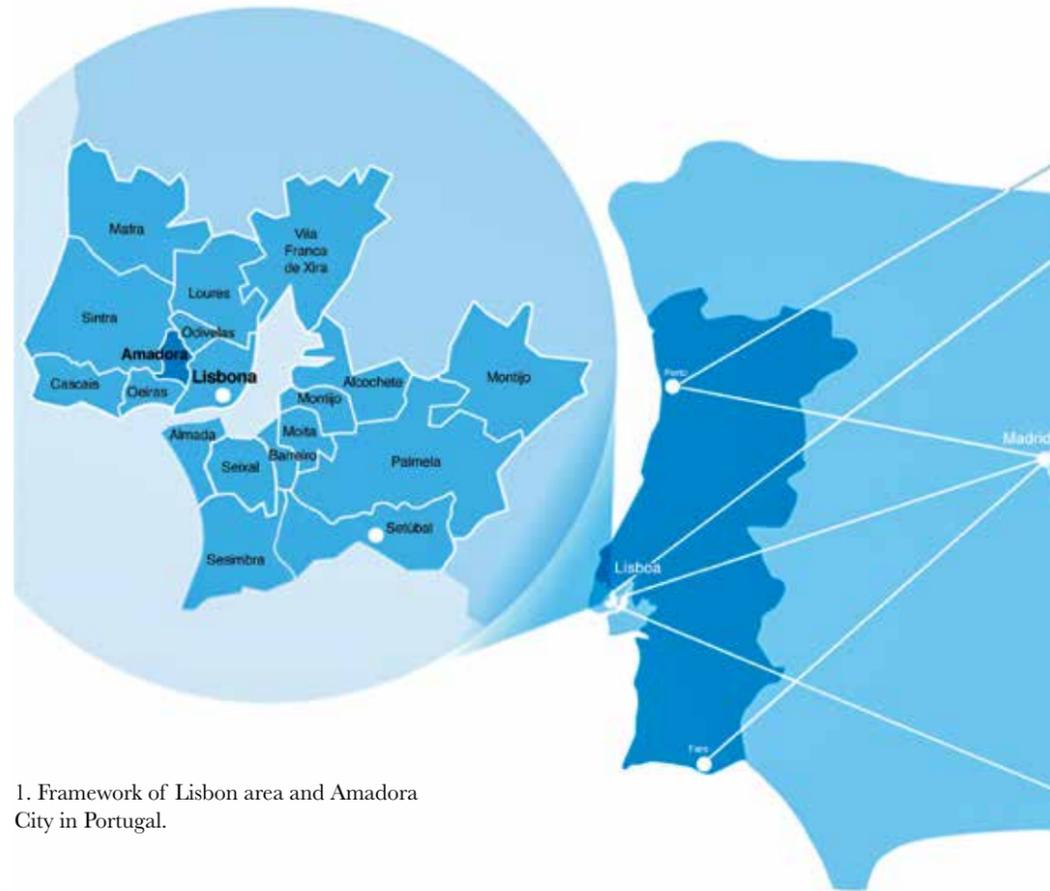
In 2010 Amadora joined the United Nation’s Making Cities Resilient Campaign in order to place the issue of risk, disaster and resilience on the municipality agenda and to build an institutional capacity (culture of safety and resilience) and reduce disaster impacts. The focus has been on strong coordination/ leadership vital to be successful and empower all communities to participate in DRR.

After working with stakeholders in creating a local campaign team and introducing several DRR good practices, Amadora joined in 2015 the international EU-funded project U-SCORE aimed at piloting the UNISDR Disaster Resilience Scorecard tool in Europe and providing valuable feedback so as to improve the tool and indicators based on the ten essentials for making cities resilient. As part of the project Amadora went through a comprehensive Disaster Resilience Scorecard for Cities analysis.

In 2016 Amadora was recognised by the UNISDR as Role Model City for the capacity to engage local stakeholders in the MCR Campaign and for having an exemplary approach to citizen engagement in urban

resilience and community resilience. Today Amadora have more than forty stakeholders (community groups, private sector, national/ local authorities, academia, school community, non-governmental organizations) working with the local campaign team and the involvement of municipal services (local government). In 2017 Amadora joined the EU-funded project USCORE2, with Viggiano (Italy) and Great Manchester (UK) to design and pilot a new city-to-city peer review tool to assist cities around the world to strengthen their approaches to disaster risk reduction. The same year, at the 2017 Global Platform for Disaster Risk Reduction in Cancun (Mexico), Amadora received the UN Sasakawa Award for disaster reduction, based on the development of an innovative methodology to make community safe and strengthen awareness of disaster risks among new generations.

By April 2018, Amadora agreed to have the peer review tool tested on two modules in order to help to validate the tool and to support its final development. The effectiveness of the peer review tool was also evaluated using a methodology developed by the University of Manchester.



1. Framework of Lisbon area and Amadora City in Portugal.

2. Amadora’s risk profile

Amadora is a satellite city of Lisbon located in the northwest of the Lisbon metropolitan area. Composing an area of only 23.78 km², Amadora Municipality is one of Portugal’s smallest municipalities; however, with 7,363 inhabitants per km, Amadora has the highest population density of any municipality in Portugal. Amadora’s population is characterized by an increasing proportion of elderly people. As a satellite city of Lisbon, younger people often leave the city to look for work in other Portuguese cities such as Lisbon, Sintra or Montijo, whilst the elderly people remain. The city also has a growing immigrant population, mainly from the former Portuguese colonies in Africa – Cape Verdian, Angola and São Tomé.

Shocks are the disasters or emergencies a city may face. Key risks in Amadora include (in order of severity):

- Floods;
- Urban fires;
- Traffic accident (road);
- Earthquakes;

- Landslides;
- Forest fires;
- Traffic accident (rail);
- Heatwave;
- Drought;
- Structural collapse;
- Snow fall.

Regarding the stresses (the chronic pressures that a city faces that weaken the fabric of the city, making it difficult to absorb, respond to and recover from disasters) Amadora presents the follow challenges:

- Growing urban population and increased density, which put pressure on land and services
- Population living in slums (3,8% of total population);
- Foreign population (10% of total population);
- Increasing percentage of elderly population (18,7% of total population);
- High retention and dropout rate in primary education (16,2%);
- High unemployment rate (15%) with significant component of youth unemployment (32%);

- High proportion of the resident population (32,8%) who daily leave the city to work or study. This may impact negatively on both the traffic accident risk and the number of exceedances of concentration limits of pollutants;
- The decline of ecosystems due to human activities;
- Adverse effects of climate change that will likely increase or decrease extreme temperatures and precipitation.

3. USCORE2 peer review process in Amadora – identified good practices and areas to improve

Amadora identified the following areas for assessment through the USCORE2 peer review process and based on the Ten Essentials of the Making Cities Resilient Campaign:

- Organise for disaster resilience;
- Strengthen institutional capacity for resilience.

In the Salford Workshop of November 2017, based on the experience of the peer review in Viggiano of October 2017, it was suggested that, for the Review Team to better understand the DRR issues of the city under review, Amadora would also provide information relevant to Essential Two (Identify, understand and use current and future risk scenarios). Amadora also defined the specific objectives for the peer review. These were to:

- For “Organise for disaster resilience”: understand if the work carried out by the municipality in terms of disaster risk reduction is perceptible to stakeholders; what are the direct and indirect contributions of stakeholders to the city’s resilience; and how the Disaster Resilience Scorecard contributed to the definition / implementation of a local strategy.

CATEGORY	HAZARD	IMPACT				RISK
		POPULATION	ENVIRONMENT	SOCIO ECONOMY	TOTAL	
SNOWFAIL	LOW	LOW	LOW	LOW	LOW	LOW
HEATWAVE	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM
COLDWARE	LOW	LOW	LOW	LOW	LOW	LOW
DROUGHT	LOW	LOW	LOW	MEDIUM	LOW	LOW
FLOODS	MEDIUM	HIGT	LOW	HIGT	HIGT	HIGT
EARTHQUAKE	LOW	HIGT	LOW	HIGT	HIGT	HIGT
LANDSLIDE	LOW	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM
TRAFFIC ACCIDENT (ROAD)	HIGT	HIGT	LOW	LOW	MEDIUM	HIGT
TRAFFIC ACCIDENT (RAIL)	MEDIUM	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM
TRAFFIC ACCIDENT (AIR)	LOW	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM
TRAFFIC ACCIDENT (ROAD)	MEDIUM	LOW	MEDIUM	LOW	LOW	LOW
URBAN FIRE	MEDIUM	MEDIUM	LOW	MEDIUM	MEDIUM	HIGT
STRUCTURAL COLAPS	LOW	MEDIUM	LOW	LOW	LOW	LOW
FOREST FIRE	MEDIUM	MEDIUM	MEDIUM	LOW	MEDIUM	MEDIUM
HAZMAT	LOW	LOW	LOW	LOW	LOW	LOW

2. Risk matrix in Emergency Municipal Plan.



3. Mayor’s Carla Tavares interview.

- For “Strengthen institutional capacity for resilience”: improve networking from the point of view of institutional resilience; better understand the importance of local government in supporting the construction of a culture of security; improve efficiency and effectiveness of risk communication to entities and the population; better understand what is lacking in order to have a local platform on resilience, with the contribution of local stakeholders.

Over the course of the peer review, Amadora fielded 22 stakeholders to meet with the peer review team.

3.1. Organise for disaster resilience

During the extensive interview process the peer review team had the opportunity to verify the high level of professionalism of the stakeholders related to the understanding of risks in Amadora and also to identify several areas of good practice in the municipality’s approach to disaster resilience.

Some of these good practices were indicated:

1. The city decision makers are well aware of the importance of establishing a DRR strategy for the city providing a political mandate to the local Civil Protection Office to deliver an effective programme. They have also created a clear identity and strategic direction for Amadora to foster economic growth and appropriate land use;
2. Amadora has in place a number of Emergency and Contingency Plans which have benefitted from a good level of collaboration with external knowledge centers on risk analysis and from working with the Lisbon district in partnership with academic experts to develop a climate change adaptation plan. This has allowed the city to strengthen risk assessment for the city/civil protection under the leadership of the Civil Protection Service;
3. The local Civil Protection function is well advanced in terms of understanding both the importance of response and the role of prevention and planning. A good emergency response integrated system is in place with the participation of all the relevant functions. Emergency plans for most of the relevant private stakeholders have been approved and audited by national level civil protection authorities. These plans include, for some of the area's most exposed to large public congregations, the case of a terrorist attack and have been developed in conjunction with specialist national services;
4. The city has in place a team with multi agency participation to increase awareness on DRR among city departments and also to raise public awareness. Some of the major city departments have a good integrated approach to risk in areas such as health and social assessment; sustainability of a prolonged emergency response; designing a clear annual training program; dissemination of warnings linked to air quality to the population at risk; development of volunteering as part of corporate social

responsibility; drills and implementation of protective measures; pre-planning for communication with the public and briefings during emergencies.

At the end of the peer review process, the peer review team has identified the following areas which may be of interest for the Amadora to improve:

1. After joining the MCR campaign, under the leadership of the Mayor and the civil protection department, Amadora has done an impressive amount of work to deliver a change in the culture of the society on the subject of resilience and disaster risk reduction. These efforts have resulted in improving the overall understanding of risk and in creating several tools to prevent and manage risks. Also in 2015 Amadora drafted and agreed a DRR action plan. Is still missing a full understanding of the economic advantage for the city in the development of a comprehensive master plan that includes disaster risk reduction considerations. The existing work could be strengthened by focusing on two main actions:
 - a) creating the governance process for the existing DRR action plan.
 - b) developing a city master plan that includes disaster risk reduction approaches in line with the Sendai Framework.



2. There was evidence of a close cooperation between many stakeholders across different sectors, the city could build on the present good integrated system for disaster response and could transfer that experience to resilience planning. Amadora should explore a formal mechanism to ensure a continuous shared understanding of risk between different departments and create a multi-agency/sectoral mechanism or local platform that formally meets on a regular basis to address the information about risk assessment and DRR in general.
3. The city of Amadora is part of a large number of highly populated and interconnected districts which share similar risks and stresses. Although the city has some collaboration with adjacent municipalities on climate change analysis, there is a need to create a closer and more structured cooperation with neighbouring cities, in particular with the city of Lisbon which is part of the 100 Resilient Cities program, sharing with them risk information and governance planning. It would also be beneficial to extend this effort to ensure a shared understanding of risks between the city and other regional and national agencies.
4. The city has developed an excellent understanding and response planning for the most probable risks. This choice has allowed the city to better encourage the interest of communities in safety, security and risk prevention. It was not clear to the team if the same level of analysis and prevention and response planning has been devoted to the most severe risk that Amadora is facing: the seismic risk. The current emergency plan could contain more considerations about how the municipality and other organisations would deal with this risk, including how regional and national assistance would be obtained.

3.2. Strengthen institutional capacity for resilience

Over the last 8 years the municipality of Amadora has clearly dedicated a large amount of effort to building institutional capacity for



4. Site visit briefing with peer review team.



5 Site visit with peer review team. School awareness session about road safety procedures.

resilience and in developing an all-of-society and inclusive approach to DRR. During the site visit and the extensive interview process, the peer review team was able to identify several areas of good practice in the city's approach to this important component of DRR. Among some of the most relevant are:

1. Amadora has developed an impressive and co-ordinated public relations and education campaign especially focused on children and older people. This campaign has been able to obtain two important results:
 - a) a large number of the city student body has been introduced to and educated about the different risks that the city faces;
 - b) many relevant stakeholders (civil protection service, fire service, police service, volunteering from the Senior Academy, the Red Cross and others NGO's) have been involved in the campaign to support the educational and training process. In particular the Senior Academy is a world class example of inter-generational work to educate children about risks and about staying safe;

2. Under the political leadership of the Mayor and of the city council, together and with motivated and professional the management of the civil protection service, Amadora has developed strong, structured relationships with a large number of relevant stakeholders. This has allowed the city to access an impressive number of skills and expertise in DRR. This is reflected in outcomes such as building an extensive risk analysis based on historical climate data;
3. Amadora is actively pursuing open data sharing among relevant stakeholders and has built an excellent structure to manage the response to the most probable risks. Training and drills are undertaken by public and private stakeholders usually in partnership with the emergency services and civil protection service;
4. Amadora is clearly living up to its recognition as a role model city within the UN's Making Cities Resilient campaign, having developed through the years good and continuing relationships with other cities, in particular at the international level. The participation in the USCORE project in 2015 and in the peer review process of the USCORE2 project in 2017 is a good example of a city proactively seeking to exchange knowledge and learn from other cities.

Through the extensive interview process has been enable to identify a few areas that the city should strengthen institutional capacity building:

1. Although Amadora has developed a comprehensive range of data regarding risk analysis on the most probable risks and this data is available to stakeholders, the process of data sharing is not structured and mainly left to the willingness of each stakeholder to access it and to integrate it into its own emergency plan. It would be beneficial if data sharing could be structured through a common platform with a more proactive approach.

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2. The training offers many opportunities to stakeholders under the management of the civil protection service. In particular the training in the schools, both from a theoretical and a practical point of view, is particularly advanced. This activity could be further improved by extending the scenarios for drills to risks other than fire and by extending the learning process from these drills to a wider audience and to additional groups within the community.
3. The city could consider holding a multi-agency exercise for one or more of the city's reasonable worst case disaster scenarios with an emphasis on testing decision-making processes where high level/political decisions are required. Also the city could explore how to increase public participation in drills and emergency exercises. Amadora may wish to consider

how risk information is shared with Parishes to foster a greater understanding of specific Parish-based risks, thereby enabling relevant drills and exercises to be held at a parish-level.

4. Amadora is part of the large Lisbon metropolitan area and is adjoining with the city of Lisbon. Several main highways that interconnect the metropolitan area cross Amadora and a large percentage of the population (33%) leave the city daily to travel for work or study. Road accidents are the most probable risk in Amadora. The city should build strong links between the road safety advice and accident prevention work of the police and the experience of firefighters in responding to road traffic accidents. A road safety campaign, including signage on major routes promoting safe driving, in partnership with the police, may help reduce current

demand on firefighting and other services.

5. While there is strong evidence of volunteer participation in the educational and communication programs, the peer review team found less evidence of the involvement of the NGO's in the process of response to emergencies. This could be further explored by the city which could leverage the experience of the Fire Service, the Red Cross and NGO's which already benefit from training certified to European standards;
6. The city has developed a large variety of education, training and communication tools for risk prevention and preparedness. The team feel that, due to the presence among the city's population of groups of immigrants from several foreign countries with no Portuguese language heritage, the city may want to explore the effectiveness of communication on

risk and preparedness with these groups and eventually may consider making all this material available in the languages of these groups;

7. Several stakeholders highlighted the importance of psychological support during the response to emergencies. This component may also be very important in case of disasters involving large segments of the population, like earthquakes and terroristic attacks. It could be beneficial for the city to work with organisations in Amadora, like the Red Cross, to explore if it's appropriate to build such psychological support into emergency plans.

4. Learnings and visions ahead

The peer review process in Amadora, which counted on experts from Italy and Manchester and which ran for 3 days (18-20 April 2018) revealed a set of fundamental contributions for the city to promote greater resilience in its community:

- a) The establishment of a multidisciplinary team (Local Campaign Team) and the effective work that the civil protection department has delivered under political leadership, generating growing engagement of city stakeholders in resilience, could be put forward as areas of best practice within Portugal and across the wider international community.
- b) The city should identify a governance mechanism for the DRR action plan developed in 2015 and should focus on developing a master plan which will incorporate resilience and disaster risk reduction approaches to meet the objectives of the Sendai Framework.
- c) Capitalize on the existing large stakeholder participation in resilience and disaster risk reduction and on the existence of a Local Campaign Team to create a local platform that formally meets on a regular basis. This mechanism will improve data sharing across sectors on risk scenarios and on governance solutions to DRR.
- d) The active role in DRR played by Amadora at an international level should be capitalized on at the regional and national levels with a proactive approach to transferring its experience on organising for disaster resilience

to neighbouring municipalities and to the national civil protection system.

- e) The city should utilize its network of collaboration with technical stakeholders in order to strengthen risk analysis, scenario studies and response preparedness for the most severe risk of an earthquake disaster.
- f) Once the city's emergency plan is approved, the city should consider improving its emergency response through a full validation of the plan through specific sets of drills and exercises. The peer review



6. Interview about training delivery in community.



7. USCORE2 project team.

team feels that this will help strengthen the understanding of relevant stakeholders (both public and private) that prevention and preparedness are two essential components of the city's DRR. In addition, the involvement of large numbers of people in the community will further strengthen the resilience educational program that the city has developed.

g) Amadora has made knowledge sharing and learning from other cities an important component of its approach to DRR. This has materialized in a number of important international projects in which the city is actively involved. The city should pursue a

similar approach also in Portugal, in particular with the various municipalities of the Lisbon metropolitan area district.

This collaborative approach is particularly significant for enhancing local technical knowledge in climate change risk so that projections can be applied to future service planning and emergency scenarios.

h) Building on the current levels of large stakeholder participation in the resilience process, the completion of the city's Emergency Plan and the quality of

international relations developed with other resilient cities, Amadora may consider formally launching a local platform for disaster risk reduction and a programme of work in line with the global commitments in the Sendai Framework.

i) The city should promote the existing work developed within the education and training campaign for children and older people as good practice with other cities in the Making Cities Resilient Campaign. In particular the The Senior Academy is a world class example of good practice in delivering children's education on risk and safety.

j) The city should strengthen the education and prevention campaign on risks to reach all parts of the population, including parents, adults in general and groups within the community who do not speak Portuguese.

