

## THE IMPACT OF AWARENESS AND INFORMATION IN DISASTER RISK REDUCTION FOR THE MUNICIPALITY OF AMADORA

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**Abstract:** *More and more resilience is put in a high level in terms of priorities of acting in international frameworks, proving its multidisciplinary and number of different uses to which it's applied. It is key to invest in the progressive increase of resilience, through the achievement of a higher level of knowledge and awareness of communities to disaster, as well as incenting them into taking preventive measures.*

*However, it's of the major importance to focus not only on communities as a whole, but also in giving special importance to its more vulnerable segments, such as children and youngsters, the elderly and people suffering from disability.*

*The following article intends to demonstrate the several areas of actuation and uses of resilience for these vulnerable communities in the municipality of Amadora, as well as its projects developed in the context of awareness and information of communities, particularly the "Awareness and Information Program for Disaster Risk Reduction in the municipality of Amadora" and the "Senior Academy for Civil Protection".*

## 1. INTRODUCTION

Resilience is a concept well associated with volunteering and team work. Even if resilience and mitigation policies are well structured and theoretically fit for any specific area, at multiple levels, and even if they work in drills or training, without the involvement of communities [the most important and most fragile element of the equation], they will fail or present elevated flaws.

Communities and people are what makes good risk mitigation strategies work. It is of the essence to develop a well-structured plan, supported with both financial assistance and planning to address multiple possible scenarios [most probable and most severe, in particular], but also taking into consideration the role of communities and organizations that provide support to communities or, at least, one of its segments [elderly, children, people suffering from disability, etc] in Disaster Risk Reduction. Grassroots organizations and local entities will also be of extreme importance for disaster planning, as well for the divulgation and funding of prevention measures and information/awareness policies.

Therefore, focusing on risk and prevention as a whole will not work at long term or, at least, in practical ways. Planners and governmental agencies must consider the aspects of communities and their vulnerabilities, investing in particular in the most vulnerable population segments, as listed above.

It is by linking the aspects of planning, awareness policies, information measures, inter organizational support and communities [volunteering, neighbourhood groups, local organizations] that a disaster risk reduction policy will most likely function according to its major objectives, being the primary one the reduction of casualties and injured citizens.

Therefore, urban risks can and must be diminished at maximum, taking into account the role of communities, who, through acts of volunteering and getting involved, are able to:

- Identify situations of isolation, poverty and lack of resources amongst the most vulnerable population elements [particularly the elderly];
- Spread information and mitigation strategies for urban disasters amongst their peers [in schools, organizations, and even in their own home];
- Take part in the Disaster Risk Reduction in the municipality of Amadora [in this case], becoming better informed and more prepared to face hazardous situations;
- Get involved with others and reporting potential risks or hazardous situations [example: neighbourhood organizations or local surveillance groups].

## 2. THE IMPORTANCE OF RESILIENCE IN COMMUNITIES

In today's reality, the municipalities and communities that occupy them are vulnerable to hazardous events of variable nature, that may result into high losses (both human and material) and those will translate in a slow recovering and rebuilding process, including a slow return to normality for these communities.

Resilience, defined in the present paper as the ability to mitigate the negative consequences of hazardous events that take place in urban areas, of natural, technologic or combined origins, in terms of reducing casualties (human, structural and financing) associated with them, as well as the capacity of augmentation of the efficiency and speed of the processes of rebuilding and restructuring of vital systems that are crucial for any city's development (economic restart, rebuilding, housing, water and sanitation services, amongst others, amongst others).

For communities, the concept of resilience is strictly bounded with the concepts of recovery and reaction (during and after a disaster or hazardous event), and also with the terms of preparedness and prevention (through the adoption of safety measures beforehand), that aim at the decrease of damages and the increase of system restructuring, return to normality and rescue and response capacity.

In a municipality such as Amadora, resilience is a key aspect for the survival of a densely populated territory, with high vulnerable characteristics such as its multiethnicity (large cultural, linguistic and religious diversity), one of the main reasons that brought this municipality into integration the United Nations Resilient Cities initiative (*Making Cities Resilient: My City is Getting Ready*) on august 2010.

Adopting the slogan "*Always in motion, Amadora is Resilient*" for their five year campaign (2010-2015), this municipality defined the following axes of involvement:

- The investment in a prevention and preparedness policy of communities, through the increase of general knowledge regarding urban risks (particularly those to which Amadora is the most vulnerable), potentially critical areas and forms of mitigation of the dangers and damages that these risks may imply;
- The creation of a strong and dynamic program for the awareness and information of communities, focusing particularly on the most vulnerable citizens in the municipality (children, teenagers and the elderly), with the main goal of reducing the fatalities associated with urban risk and disaster phenomenon in Amadora, by the divulgation of self-protection measures and correct procedures before, during and after a hazardous event.

Therefore, this campaign developed the Awareness and Information Program for Disaster Risk Reduction in Amadora and the Senior Academy for Civil Protection project, both of which we will address later on.



Figure 1 – Local Campaign 2010-2015 “Always in motion, Amadora is Resilient”

### 3. AMADORA IN FIGURES

The municipality of Amadora stands out on a national scale in terms of its demographic characteristics, showing itself off as the most densely populated municipality in the country, harboring 175 136 inhabitants in its 23,79 square kilometers of area [data collected from the National Statistics Institute].

Due to this reality, Amadora is a high concern area in terms of urban resilience and Disaster Risk Reduction, especially due to its elevated percentage of vulnerable citizens. In 2011, date of the latest national inquiries, Amadora’s population was composed by 19% of elderly (citizens over 65 years old), 15% children and teenagers under 15 years of age and 4% of people suffering from disability (visual, listening, structural, mental or motor).

Therefore, it is of the essence the investment in an effective and expressive policy that aims at the increase of awareness and comprehension of urban risks, as well as self-protection measures to minimize disaster’s impacts, especially amongst vulnerable communities.

### 4. THE IMPORTANCE OF AWARENESS IN DISASTER RISK REDUCTION

Being beforehand explained the specificities of Amadora in terms of its population and demographic characteristics, it is now necessary to explain the role of awareness and information in Disaster Risk Reduction for communities, specifically for the vulnerable population segments.

Risk, being the product of the multiplication of several aspects (see below), can never be reduced to zero, due to the impossibility of reducing the aspects of Value and Hazard

below a certain level, that changes from area to area, as a result of a large number of factors.

For example, an area close to a hospital in which house market values are higher, that is also located by a river or a recurrent flooding area will have a larger Value/Exposure and Hazard. Those aspects are not changeable. Even if the populations that occupy such area decide to move, the area itself will always have that value of E and P.

**Risk = Vulnerability (V) x Value/Exposure (E) x Hazard (P)**

However, due to this reality, it is of the essence to invest in an awareness and information policy for communities, aiming at the mitigation of hazardous effects of a disaster situation, as well as the decrease of the communities vulnerability to disaster, particularly for the natural and mixed origin occurrences.

This is the risk equation value that must be diminished to the maximum, because it is simultaneously the most fragile and the highest value element (in terms of human lives), because it harbors the fullness of Amadora's communities.

Because of it, investing in the increase of awareness and information to communities is key for the increase of communitarian resilience, making it possible to highly reduce Amadora's risk equation, particularly for the risk types to which this municipality is most vulnerable.

It is extremely important to develop a strong and viable awareness and information plan that not only reaches every school group in the municipality (and private institutions), as well as social and/or communitarian associations, particularly those connected to the most vulnerable citizens (elderly and people suffering from disability).

**5. AMADORA'S AWARENESS AND INFORMATION PROGRAM FOR DISASTER RISK REDUCTION IN THE MUNICIPALITY OF AMADORA | 2015-2016**

The elaboration of awareness and training programs for Disaster Risk Reduction are key for the mobilization and active participation of citizens in prevention and mitigation strategies in the municipality of Amadora.

In order to increase public awareness regarding the existent risks, it is of the essence to establish a calendarization for a permanent and sustainable awareness, pairing up with multiple institutions in the municipality with responsibility in this area.

Therefore, awareness and information for communities, regarding Disaster Risk Reduction, began with the implementation of sporadic sessions in elementary schools in the municipality, through the Local Civil Protection Office, in 2005-2006.

After the adhesion of Amadora to the International Campaign 2010-2015 "*Making Cities*

*Resilient – My City is Getting Ready*” of UNISDR, the Local Campaign Team developed the Awareness and Information Program for Disaster Risk Reduction in the Municipality of Amadora.

Therefore, this team defined the following goals for this program:

- To mobilize agents and institutions, in a fit and efficient manner, in the way that allows the building of a true safety culture in the municipality, particularly schools and students, the Campaign’s stakeholders and the general community;
- To continue the implementation of awareness sessions for schools (kindergardens, elemental, middle and high schools);
- To give continuity to the process of training of the Local Campaign stakeholders, particularly self-protection measures and prevention for their infrastructures and users.

This program counts with the support of the Education and Sociocultural Department (DEDS-CMA) and it offers a set of awareness sessions that may be taught by several entities disponibiliza um conjunto de ações de sensibilização que podem ser ministradas por diversas entidades tais como: Serviço Municipal de Proteção Civil, Serviço de Prevenção Higiene e Segurança no Trabalho, Divisão de Serviços Urbanos – Eco-Espaço, Bombeiros Voluntários da Amadora), Polícia de Segurança Pública – Divisão da Amador, Cruz Vermelha Portuguesa – Delegação Local da Amadora, Unidade de Saúde Pública - Agrupamento de Centros de Saúde – Amadora, Equipa Comunitária de Resposta à Emergência e Elos Vitais.



Figure 2 – Awareness Session “Child First Aid”- School: Raquel Gameiro

## **6. CIVIL PROTECTION SENIOR ACADEMY**

Inserted in the Awareness and Information Program for Disaster Risk Reduction in Amadora, we find the volunteer based project Senior Academy for Civil Protection, directed towards the senior citizens of the municipality that wish to cooperate with Amadora’s Local Civil

Protection Office, in a free manner, according to their availability.

The senior citizens who wish to integrate this project must:

- Be retired from their job;
- Be registered in Amadora's Local Volunteering Bank;
- Be active members of an association connected to the elderly.

The main goal of this project is to capacitate the elderly of vital knowledge in the areas of prevention and awareness, aiming at the development of a safety culture in the municipality of Amadora, as well as:

- Bringing back and valuing the social role of the elderly, as well as their knowledge and life experiences, through awareness sessions that bring them closer to an active participation, particularly in the areas of prevention and protection against hazardous situations (such as accidents and disasters);
- To optimize the occupation of their free time by participating in awareness and information sessions, regarding Disaster Risk Reduction;
- Integrate the elderly into society, having a socially active role in terms of objectives of Amadora's Local Civil Protection Office;
- To contribute to the enhancement of self-esteems, qualification and self-realization of seniors;
- To raise awareness of institutions and the general society, so that they can recognize seniors as active and productive citizens;
- To fight social isolation and exclusion of the elderly;
- To support social control initiatives, guaranteeing the implementation of measures that aim at the improvement of life quality and senior safety.

The senior agents contribute to:

- Stimulate a tighter relation between Amadora's Local Civil Protection Office and the social institutions in which these senior agents are inserted;
- Inform and awake the interest of their peers, in matters of Civil Protection;
- Difund recommendation of Amadora's Local Civil Protection Office, particularly warnings and meteorological alerts;
- Cooperate in the initiatives of Amadora's Local Civil Protection Office, particularly drills and awareness sessions;
- Participate in awareness sessions directed at schools and students.

This project, led by Amadora's Local Civil Protection Office, counts with the collaboration of the municipality's Social Intervention Office, as well as a large number of stakeholders, such as social institutions (in which these seniors are inserted), as well as Amadora's Local Fire Department, Amadora's Local Police Division and Stations, Amadora's Local Red Cross Office, The group of Healthcare facilities in Amadora and the Community Emergency

Response Unit.

Also, this project, started in 2014, has 13 different institutions enrolled (connected with seniors and elderly supports), with 33 senior agents collaborating with Amadora's Local Civil Protection Office.



Figure 3– Awareness Session “Educate for Prevention”- School: Kindergarten Miguel Torga

## 7. AWARENESS POLICIES IN AMADORA – RESULTS

As for the results of these initiatives, we have reached the following conclusions:

- 1- The Awareness and Information Program for Disaster Risk Reduction in Amadora (2005-2015) has reached 100% of the 11 school clusters in the municipality;
- 2- In terms of institutions, this Program reached 14 schools, both of the public and private sectors, reaching a total of 17.506;
- 3- Regarding awareness sessions for children under the age of 10 (elementary students), this campaign reached approximately 9%;
- 4- Also, this program reached 37 institutions of multiple social valences;
- 5- In total, between 2005 and 2015, this campaign gave 741 awareness and information sessions, both for schools and associations;
- 6- The school year of 2014-2015 stood out for being the one where most sessions were given, counting 150 sessions for schools and 37 for associations and social equipments;
- 7- Amadora's Senior Academy agents participated in 16 activities, to which we stand out the support of these agents in drills, training and awareness sessions to schools and associations;



- 8- Both of these projects have reached every parish in the municipality (Águas Livres, Alfragide, Encosta do Sol, Falagueira-Venda Nova, Mina de Água and Venteira), which translates into a 100% geographic extension of these initiatives.

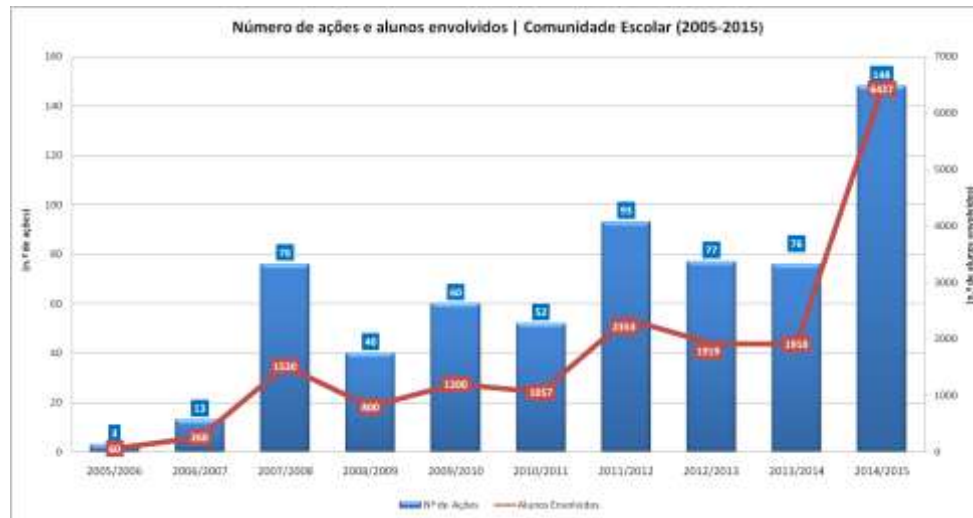


Figure 4 – Awareness sessions and students involved, regarding subjects of Disaster Risk Reduction (2005-2015) in the Municipality of Amadora

## 8. AWARENESS POLICIES IN AMADORA – FUTURE GOALS

Disregarding disaster risk reduction can lead to serious economic problems and deterioration of ecosystems, as well as to the loss of public confidence. As proven by the experiences at the local scale, disasters can seriously compromise the essential services of a community, such as water systems, health, transport, waste, communications and food distribution.

Preparation and response to disasters calls for active participation of the community. Relying solely on institutional structures for rescue and response can be dangerous and is not effective when responses to multiple disasters are required. The first responders to disaster and early warning measures are the local authorities. They must be given all possible support, as well as the encouragement to resilience through planning processes.

Nevertheless, and despite the recognized fundamental role of the school, there is still a long way to go until the risk education aspects are included in school curricula, and thereby improvements are achieved in a behaviour based on security, prevention and adequate risk management (Nunes, Almeida, & Nolasco, 2013).

The education/awareness programs require implementation of a well-defined, consistent and systematic strategy (Machado, 2012). The efforts made by the municipality of Amadora with regard to the involvement of the educational community in reducing disaster risk will remain throughout the generations due to the institutionalization of a

diversified set of programs, activities and educational resources, which have resulted in the development of skills related to prevention, adaptation and recovery from disasters.

However, in the strategy that has been implemented there are aspects to improve, thus ensuring a continuous raising awareness and communication about risks, such as:

- Promoting information sessions on rules of conduct in emergency situations for teaching staff and technical and operational assistants in the schools;
- Giving preference to curricular contents related to the hazards, risks and vulnerabilities that affect populations;
- Encouraging greater transmission of prevention measures and appropriate behaviours in emergencies upsetting family members and friends;
- Encouraging instructional sessions on basic techniques for handling first response resources (e.g., fire extinguishers).

In the territory of Amadora, vulnerability of the population to natural, technological and environmental risks justifies schools and institutions' strategic importance in promoting a culture of prevention and safety that is essential in building a more resilient community.

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