

National Implementation of the International Disaster Risk Reduction Strategy

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Abstract: In this piece of work we have demonstrated the concerns of our country on the national implementation of the International Disaster Risk Reduction Strategy. In Chapter I, we defined disasters, we showed the main types of disasters and their characteristics, as well as reducing the disaster risk in our country. In Chapter II, we set out the rules of conduct and protective measures against the destructive effects of earthquakes, landslides, floods, forest fires and snowing up and technological disasters. In Chapter III, we defined the International Disaster Risk Reduction Strategy and National Civil Protection Strategy of Romania. We showed the theoretical concepts and terminology that are used for both strategies. In Chapter IV, we showed the guidelines and national platforms for disaster risk reduction in different countries, including Romania, and the conclusion drawn out of the previously outlined cases.

Keywords: landslide, Framework for Action, legislation for disasters, hazards, implementing national forest fires, floods, snowing up, inter-disciplinary, protection measures, mission.

Received: April 24, 2022. Revised: August 19, 2023. Accepted: September 16, 2023. Published: October 4, 2023.

1. Introduction

The strategy for reducing the effects of disasters is a world challenge of today and tomorrow, requiring the involvement of all human communities, gathering all their efforts. The major challenge for mankind is finding a way to live together with these disaster phenomena. National security can be endangered by a range of severe phenomena, of weather-climate, geophysical type, including the impact of certain dangerous human activities. Among these, we can mention the natural, industrial, ecological catastrophes, the capacity of pandemics generation. Against the world background, various institutionalized forms developed for promoting the concept of prevention. The main objective of the Frame of action from Hyogo is the substantial reducing of disasters-resulting damages, expressed in human lives, social and economic values and environmental aspects. According to the Romanian Government Emergency Ordinance no. 21/2004, the national structure organically responsible for the multi-sector coordination in this field, is the National Committee

for Emergency Situations, through the General Inspectorate for Emergency Situations.

1.1 Characteristics and main types of disasters

According to U.N.-I.S.D.R. (International Disaster Risk Reduction Strategy) terminology, disaster can be defined as a severe malfunction within a working community or society, which can generate human, material, economic and environmental damages, as well as impacts, exceeding the capabilities of the respective community or society of facing them by their own resources. The sociologist E.L. Quarantelli [1] defines disasters as „quite unexpected occasions when, for the reason of the perceived threats, the routine of the collective social entities is seriously broken and when they have to undertake some unplanned action proceedings in order to face the crisis”.

According to their generation, with or without the man interference, disasters can be divided into natural and anthropical categories. Natural disasters

are generated by some natural processes or phenomena. Natural disasters, in which the human factor does not interfere in their generation, can include those caused by: volcanic eruptions, meteorites falling down, stars clashes, earthquakes, floods, tsunamis, slope landslides, mud torrents, tornados, droughts, strong winds blowing, pandemics and epizooties etc. The anthropic disasters compulsorily assume, in a way, the man interference and some natural balances modification. In this respect, we can mention the disasters caused by: the environmental pollution, the change of biodiversity, the effects of mining operations, technical (industrial) accidents etc. According to their generating causes, disasters can be also classified in cosmic (caused by star clashes and meteorites falling down), hydro-meteorological (caused by some atmospheric processes or phenomena), hydrological or oceanographic: floods, storms, hurricanes, tropical cyclones, droughts, extreme temperatures, tornados some torrents, tsunami), geological (represented by lithosphere, especially its upper part – the earth crust: disasters caused by earthquakes, volcanic eruptions, slope landslides, mud torrents), biological (caused by the exposure of living bodies: pandemic, epizooties and locusts invasions), anthropic. According to their generating factors, disasters can be: land factors resulting disasters (generated by internal factors: earthquakes, volcanic eruptions and external factors: atmospheric, hydrospheric, lithospheric, biological, anthropic, combined) and cosmic factors-resulting disasters (meteorites falling down or star clashes). By the law [2], both the physical and legal persons are bound to insure their dwellings against natural disasters, from urban or rural environment, under their ownership and registered in the fiscal authorities' record books.

1.2 Types of natural disasters

The disastrous actions resulting from some phenomena, such as: earthquakes, landslides, floods, prolonged droughts, storms, snow blockings, pandemics, epizooties, wood or cultures fires are considered natural risks. The main types of natural risks are classified as follows [3]:

- Dangerous weather phenomena: storms and snow tempest, floods and tornados, drought, frost, massive snow falls, extreme temperatures;
- Wood fires;
- Avalanches;
- Destructive geological-origin phenomena:

- Landslides;
- Earthquakes.

The widest-spread of them are the earthquakes, the floods and the landslides.

At national level, there is a range of guide books and documentary materials worked out by the Ministry of Transports, the National Institute of Researches in Civil Works (I.N.C.E.R.C.) and other authorized institutions on earthquakes:

- Practical Guide for training population on anti-seismic protection[4];
- Earthquakes and their effects. Prevention and measures [5];
- Education for protection in case of earthquake, specific to the education levels [6].

Regarding landslides, the specialized literature has been generally focused on two fields: geomorphology and the process engineering. The floods effects, usually negative, can be direct (economic, social, ecological) and indirect. The economic effects results from the destruction or damage of bridges, power transmission lines, localities, communication routes (roads, railways), industrial and zootechnical objectives, oil, water or gas ducts, pipes, as well as from the decrease of the development rate of the respective damaged areas. The social effects refer to the loss of human lives; population evacuation, damage of goods (including the patrimony ones, crops), pandemics' occurrence, interruption of human activities, panics generation, population incomes diminishing.

2. Measures for the destructive effects-fighting protection of the earthquakes, landslides, floods, snows blocking, wood fires

Since each type of risk assumes specific protection rules and measures, they shall be approached for each type, as such:

2.1. Earthquakes

To give an example of good practices on seism-fighting protection, we can mention the campaign „Chances in addition”, organized by the Ministry of Administration and Internal Affairs through the General Inspectorate for Emergency Situations. This campaign has been structured by 3 components, namely „Children and Teenagers”, „Families/Adults” and „Institutions”. In this way, an ordinance has been adopted [2] establishing a range of intervention measures for the existing

buildings, with insufficient protection levels against seismic actions, degradations or damages resulting from some seismic actions. The making up of earthquake scenarios involves the complete identification of the exposed elements assembly, pertaining to one locality or to one area of that locality [7].

2.2 Landslides

Landslides can be prevented if the necessary investigations are done in time and the adequate keeping under control procedures are implemented.

2.3 Floods

Taking into account the frequency of floods and their even-bigger impact on the population and as a result of adopting the Instruction 2007/60/EC on the flood risk assessment and management, the competent authority of managing the dangerous hydro-meteorological phenomena, in Romania, worked out the national management medium and long-term Strategy of the risk to floods (implementation period 2010-2035) [8]. The main objective of the Flood Risk Management Plan [9] is concerned with diminishing the negative effects of the floods for the citizens' security, human health, economic activity, the surrounding environment, the cultural patrimony and they have in view structural and non-structural measures, according to 5 fields of action (prevention, protection, training, public awareness, restoring/reconstruction) and 3 categories, according to the implementation level national measures, regional measures and zonal measures with potential high flood risk).

2.4. Snows blocking.

For managing the intervention, in case of snows blocking, the following actions will be developed: identification of the place and estimation of the consequences; organization of the mechanism of action and distribution of working teams and means by work spots; establishing the ways of access and the assurance of connections between different teams and the work spots, establishing connections between the unexpectedly-snow blocked people, correct organization of the works for the people rescue and evacuation, assurance of the freezing, frost fighting protection.

2.5. Wood fires.

Wood fires extinguishing represents a peculiarity since both the people and the buildings

are usually not endangered by them. For assuring the intervention in case of wood fires occurrence, there are necessary specialized teams and means. For this reason, there are meant vehicles equipped with water pumps and tanks or airplanes, helicopters or it is necessary to isolate the fire by creating protection corridors (trees cutting and removing on certain bands and in certain directions)

Keeping the same idea on the protection measures for the efficient management of the drought risk, in the year 2020, it was worked out the Regulation for the management of the emergency situations, generated by dangerous weather phenomena resulting in the occurrence of pedological drought [11] a norm which settles the identification, registration and evaluation of its risk and its determining factors, the information of the authorized interested factors, the warning, limitation, removal or fighting against the negative effects, caused by the occurrence of the risk factors, as well as the public administration authorities' organization and their responsibilities.

2.6. Rules of behaviour and protection measures in case of technological risks

Since each type of risk assumes some specific protection rules and measures, they will be approached for each one, as follows:

2.6.1 Nuclear accidents. An important role in discerning the nuclear accident, the opportune release of the protection measures implementation and of the specific intervention actions is played by the environment radioactivity supervision and control, which is achieved by the:

- Laboratory of the dosimetry check of the equipment and the surrounding environment,
- Environment radioactivity control plants, under the subordination of the Ministry of Environment, Waters and Forests,
- Radiation hygiene laboratories pertaining to the Ministry of Health.

2.6.2 Chemical accidents. Are determined by the toxic cloud action, meaning that it shall be applied the following protection measure: informing and warning the population (by the signal „alarm to disasters”).

2.6.3 Accidents to hydrotechnical works. The destruction possibility of some dams or hydrotechnical works imposed taking measures for achieving the security in operation, such as ever

since the design-construction stage: the calculations regarding the flooding zones capability, the dams securing with signalling systems, the achievement of a warning-alarm system etc.

2.6.4 Road, railway accidents, fires, unexploded munitions extinguishing and others. Under certain circumstances, according to the accident location, the latter can change into catastrophes (the case Mihăilești-Buzău on May 24, 2004), with consequences on the surrounding environment. Terrorism actions, also proved to be very dangerous and with rather tragic effects (September 11, 2001, in the U.S.A.). In the case of traffic accidents, the measures consist in alarming the specialized teams of the respective zone in order to act for rescuing the victims, extinguishing the fires, removing damages, restoring the plants, unblocking the ways of access and resuming the traffic.

2.6.5. Identification of the climate change-related issues. At world level, according to the latest IPCC special Report, issued on October 8, 2018, the global warming process limitation to 1.5°C requires specific actions and measures for preventing and diminishing the impact in the National Disaster Risk Management Plan in all the social-economic sectors. The net carbon dioxide (CO₂) global anthropogenic emissions should decrease by approximately 45% until the year 2030, compared with the levels of 2010, and they should reach 0 (zero) around the year 2050. According to the sixth evaluation report of the inter-government Group of experts on the climatic changes (IPCC), achieved by the working Group I and published in August, the greenhouse effect gas emissions generated by human actions are responsible for the increase of the global temperature and for the wide and fast-scale changes in the atmosphere, ocean, cryosphere and biosphere. According to the biennial report no. 4 of Romania, carbon dioxide has the biggest percentage of the total of greenhouse effect gas emissions, followed by methane and nitrogen protoxide.

3. National and international disaster risk reduction

3.1 Missions and objectives of the International Disaster Risk Reduction Strategy

The mission of the International Disaster Risk Reduction Strategy is to build up everlasting communities for facing disasters by promoting the strategy of reducing the disasters effects, as an

integrated element of development, with the view to reduce human, social, economic and environment losses, caused by natural, technological disasters, or environment pollution.

The international disaster risk reduction strategy of UNO (ISDR) defines the disaster risk reduction (DRR) as: „*actions undertaken for reducing the disaster risks and the negative impact of the natural risks, through systemic efforts to analyse and manage the disaster causes, including the risk avoiding, the economic and social vulnerability reducing against the risks, as well as through a better training for unfavourable events.*”

A range of programs and projects have run in Romania, structural reforms began in the fields of: vast hydrotechnical works, upgrading of the information system, SIMIN, DESWAT and WATMAN projects etc.

4. National disaster risk reduction platform

The platform can be defined as a national forum or committee consisting of several factors, involved in the field. This is a support for reducing the disaster risks on different levels and can supply the coordination, the analysis and information in different areas of responsibility, requiring such concrete measures of action through a commitment and coordinating process. In March 2008, the Commission adopted a Communication on the reinforcement of the response capacity of the European Union, in case of catastrophes [11]. This had an integrated approach, including all the stages of disasters (prevention, training, response at once, recovery), all the types of disasters (inside or outside EU, natural or human-resulting) and all the EU mechanisms, as well as the inter-institution coordination. Against this background, Romania was one of the countries which chose to sustain the efforts for establishing the activities in agreement with the national platforms of different countries in order to obtain an important impact at regional and international level.

In this respect, as a result of Romania's commitment to the Global Disaster Risk Reduction Platform of Geneva, but also its commitment, in the long run, to other events in the field, the Government Decision no. 768 dated October 19 2016 was worked out, regarding the organization and operation of the national disaster risk reduction platform (published in the Official Gazette no. 852 dated October 26, 2016).

5. Conclusions

Romania's concerns for the implementation of the International Disaster Risk Reduction Strategy, are expressed at the level of the General Inspectorate for Emergency Situations, an organic structure with a national integrating role in the management of all the disasters, which, under the legal prerogatives, was named as a national Framework for Action HFA (Hyogo Framework for Action) and of UN/ISDR Europe. The General Inspectorate organizes and provides the operation of the permanent technical Secretariat of the National Committee for Emergency Situations, as a distinct structure within the National Operations Centre. At national level, the General Inspectorate coordinates the institutions participating in the management of the emergency situations, in accordance with the existing international principles, specific to U.N.O., O.T.A.N., E.U. and to other organic structures in which Romania is a member. The role of the National Committee for Emergency Situations, at present, is that of fulfilling the majority of criteria for the organization and the operation of a national platform, established by U.N.O.-I.S.D.R. through the Hyogo Framework of Action 2005-2015. Taking into consideration all the above aspects, it was necessary to achieve a National Disaster Risk Reduction Platform, as a component of the National Committee for Emergency Situations, operating as a national, multi-sector and inter-discipline system for politics coordination and guiding to reduce the disaster risks, with the participation of the civil and private society, involving all the entities of Romania.

Acknowledgements

We express our thanks to Mrs. Lecturer Loredana – Cristina Dumitriu, EngD, for the valuable guidance and her support, kindly provided to us in working out this article.

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