MANAGING RISK TO REDUCE DISASTERS RISK

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Experiences in the region show that disasters obtain protracted and long-lasting characteristics, and from lessons learned so far it is necessary to find the direction for their outgoing or elimination. Therefore, the author presents an inner view to risk assessment as an integral part of decision making process in disasters and its implementation should involve and require close collaboration among all the sectors of society. This approach seems multi-disciplinary process, rather than an activity, that allows for the identification, quantification and understanding of the nature and extent, and impacts of the risks a community or society is facing, which are associated with unanticipated extreme events and the vulnerability of the exposed community or society. Each stage of the risk management process should be recorded appropriately. Assumptions, methods, data sources, analyses, results and reasons for decisions should all be recorded. The records of such processes are an important aspect of good governance. The goal of a disaster assessment process is to provide objective and transparent information for making decisions on countermeasures to reduce disaster risk. To do this, the risk assessment, assesses and compares risks according to their likelihood and impact, to prioritise planning and allow a proportionate allocation of resources.

Keywords: assessment, risk, disaster, management, planning.

INTRODUCTION

In accordance with the Protection and Rescue Law (Official Gazette of RM issue No. 36/04, 49/04 and 86/08) the Protection and Rescue Directorate is obliged to carry out specific measures, activities and steps to protect and save the lives of the people jeopardized as a consequence of natural and other disasters.

Also, in accordance with the Rule Book about the content and the conduct of the training for self protection within the educational institutions (Official Gazette of RM issue No. 48/06), and with an aim to accomplish the system of protection and rescue, the Protection and Rescue Directorate is obliged to carry out risk management process, to establish capacities for protection, rescue and assistance but also self protection, self assistance and mutual help. The point of managing risk of the people lies in the fact that an organized protection in case of disaster won't help everyone being in danger in spite of all the efforts and engagements. This lack of protection of each organization could be resolved with a massive engagement of the population i.e.

their enabling and equipping to carry out tasks within the area of the protection.

Therefore, in order to realize the reduce the disasters risk, it is a duty of the Protection and Rescue Directorate to organize and conduct the necessary activates which will enable better preparation in case of disaster. In this case, risk assessment as an integral part of decision making process in disasters and its implementation should involve and require close collaboration among all the sectors of society, the assessment process should be well organized and coordinated activity in function of the general task to protect the people and the material goods in case of disaster. Applying all the other measures for protection and rescue carried out by the citizens itself. (Stojanović, 1984)

DEFINING BASIC CONCEPTS

The complexity of the nature of disasters underscores the paramount importance that it be addressed within the premises of a learning environment. Acknowledging that disasters are likely to happen to anyone regardless of age, place and time could lessen the aggravating factors that

usually lead to lives loss. Schools and educators, with their fundamental role in shaping the minds of children to become competent adults and responsible citizens, provide the best avenue for helping the students learn at an early age the natural hazards that they face, and the actions that they have to take to reduce their vulnerabilities to disasters. Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. "Natural Disasters" are earthquakes, landslides, snowstorms and snowdrifts, icing, hail, drought which as uncontrolled forces threaten the living environment, health and lives of people, material things, the flora and the fauna and the cultural heritage Within the framework of this definition, Earthquakes are for example natural events and in order to be characterized as a disaster, it is required that they cause losses and bring about a halt in people's daily lives. Therefore, effective and sustainable risk and disaster management implementations are needed in order to prevent the earthquakes' leading to disasters. Disaster Management is generally made up of 4 main integrated phases. These are conceptualized as damage mitigation, preparation, combat with disasters and redevelopment and amelioration. The need for public awareness and participation is being stressed in every phase of disaster management.

The Hyogo Framework for Action 2005–15 articulates a worldwide consensus that disaster risk reduction is an integral part of sustainable human development, not a side issue of limited, technical interest or concern (Wisner, 2006). Priority 3 of the Hyogo Framework focuses on education to build a culture of safety and resilience.

DEFINITION OF BASIC CONCEPTS

"Disaster is a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of affected society to cope using only its own resources." (UNISDR ,2009)

In accordance with the Protection and Rescue Law "Risk assessment" is a qualitative and quantitative data analysis on the possible risks of natural disasters or other disasters, that includes forecasting of the possible future flow of events and their consequences on the population, as well as proposed prevention and other protection and rescue measures. And "Mitigation and prevention of occurring of natural disasters and other disasters" is projection and applying of prescribed measures for

protection from fires and seismic activities on buildings constructed or used, assuming measures for protection from hail, building of levees, regulation of water flows, protection from forest fires, afforesting of bare areas, building of water accumulation facilities and assuming of other measures set by laws or other regulations. *Risk assessment* is the determination of quantitative or qualitative value of risk related to a concrete situation and a recognized threat. Quantitative risk assessment requires calculations of two components of risk: R, the magnitude of the potential loss L, and the probability p, that the loss will occur. *Risk = Likelihood of Occurrence x Seriousness if incident occurred*. *Vulnerability* refers to the susceptibility of a person, group, society or system to physical or emotional injury or attack. And *Hazard* is the potential to cause harm; risk on the other hand is the likelihood of harm (in defined circumstances, and usually qualified by some statement of the severity of the harm). The relationship between hazard and risk must be treated very cautiously. If all other factors are equal - especially the exposures and the people subject to them, then the risk is proportional to the hazard. However all other factors are very rarely equal.

PURPOSE OF DISASTER RISK MANAGEMENT

Risk management is the systematic application of management policies, procedures and practices to the tasks of identifying, analyzing, assessing, treating and monitoring risk. As a process, it includes analyzing the risk, estimating its potential effects, and determining its importance in the scheme of things. It includes an evaluation of all the elements that are relevant to an understanding of existing or probable hazards and their effects on a specific community or environment. When this evaluation is considered in socio-economic and political terms, it enables determination of appropriate vulnerability reduction, prevention and mitigation, as well as preparedness and response strategies, (Guzman, 1997). The purpose of Disaster Risk Management is to reduce the underlying factors of risk and to prepare for and initiate an immediate response should disaster hit. The Disaster Risk Management distinguishes, conceptually, the different phases of the cycle: pre-disaster, response and post-disaster. Actions in the pre-disaster phase are aimed at strengthening the capacities and resilience of households and communities to protect their lives and livelihoods, through measures to avoid (prevention) or limit (mitigation) adverse effects of hazards and to provide timely and reliable

hazard forecasts. In the response phase, communities and relief agencies focus on saving lives and property. In the post-disaster phase, the focus is on recovery and rehabilitation. In reality, the shift between these phases is fluid, in particular, between the stages in which communities move from rehabilitation to development, integrating aspects of hazard mitigation into their developmental activities. Risk assessment is a key factor in understanding disaster risk reduction. One way to ensure school safety is by building a disaster resilient culture at an early age. This strategy involves raising awareness among elementary school children about disasters and the dangers they pose to lives and properties. Children are taught by educators or experts not only of the appropriate response when confronted with a life-threatening event, but also of the proper measures that children can do to reduce the risks in their immediate localities, whether at home or in school. While it is commonly known that the concept of school safety is related to educating school children at the earliest possible stage, it also extends to other factors. Understanding building restrictions, observing safety precautions, and maintaining strict monitoring and regulations of school facilities and equipment are some of the ways to ensure the structural and physical safety of schools. Unlike non-structural school safety where teachers or educators and experts from relevant fields are mostly involved, school safety from a structural perspective employs careful assessment of the school setting itself by engineers and other professionals involved in building construction and maintenance. Disasters do not recognize age, thus children are as susceptible to suffer from the damaging results of disasters as adults are. However, children are more vulnerable in the sense that they have lesser capacity to deal with disasters than adults. Thus, raising awareness in children about what disasters are, what natural hazards exist in their specific communities, and what tools are available for them to prepare and mitigate the potential impacts of disasters will build their confidence and ability in dealing with a life threatening situation.

STAGES OF A DISASTER RISK ASSESSMENT PROCESS

The purpose of Disaster Risk Management is to reduce the underlying factors of risk and to prepare for and initiate an immediate response should disaster hit. The Disaster Risk Management distinguishes, conceptually, the different phases of the cycle: pre-disaster, response and post-disaster. Actions in the pre-disaster phase are aimed at strengthening the capacities and resilience of households and communities to protect their lives and livelihoods, through measures to avoid (prevention) or limit (mitigation) adverse effects of hazards and to provide timely and reliable hazard forecasts. In the response phase, communities and relief agencies focus on saving lives and property. In the post-disaster phase, the focus is on recovery and rehabilitation. In reality, the shift between these phases is fluid, in particular, between the stages in which communities move from rehabilitation to development, integrating aspects of hazard mitigation into their developmental activities.

In the context of this paper, the goal of a disaster assessment process is to provide objective and transparent information for making decisions on countermeasures to reduce disaster risk. The objective of the hazard assessment of the educational institutions and the qualitative and quantitative analysis of data on possible danger of natural and other catastrophes, prediction on further possible danger and consequences caused by the same ones, with proposed preventive and other protection and rescue measures.

Content and manner of hazard assessment:
− General characteristics of the subject-the school
− Assessment according to the protection and rescue measures
− Needs and capabilities for organizing and managing the protection and rescue and preparation of the protection and rescue forces
− Capabilities of the subject-protection and rescue school
− Capabilities of the employees and students.

Analyzing and managing disaster risks by the following stages:
− Establishing the disaster risk context
− Identifying the disaster risks
− Analyzing the disaster risks
− Assessing and prioritizing the disaster risks
− Treating the disaster risks
− Monitoring, reviewing and communicating.

MANAGING DISASTER RISK THROW EDUCATION

Education is a human right, universal and inalienable. Education is especially important in enabling people to reach their full potential and exercise other rights. This right does not disappear or get suspended because of disasters and emergencies. When education is interrupted or limited, students drop out, with negative and permanent economic and social impacts for students,

their families, and their communities. Natural hazards are part of the context for educational planning. Whether it is annually recurring floods, a once-in-5- generations earthquake, the increasing severity of storms, water shortages, these known and expected hazards can be mitigated with the determined application of knowledge, education, and ingenuity. We are not able to prevent the earth from shaking, the wind from blowing, or the rain from falling. However, with assessment and planning, physical and environmental protection and response preparedness we can prevent these events from becoming disasters. Since schools are our universal institution for sharing knowledge and skills, the expectations for schools to be role models in disaster prevention is high. Successful disaster mitigation is one of the ultimate tests of the success of the education we provide over generations.

IMPORTANCE OF ASSESSMENT

Assessment is a vital component of planning and implementation of the response. Assessments provide the information on which the response is designed and adapted. While good assessment information does not guarantee a good response, poor assessment information almost certainly guarantees a bad one.

The use of standard methodologies means that information may be compared with data collected during previous assessments and the work of different assessment teams is complementary. For UNDP, a comprehensive risk assessment consists of the following steps: *Step 1*: Understanding of current situation, needs and gaps to assess what already exists, avoids duplication of efforts, and builds on existing information and capacities. This is done through a systematic inventory and evaluation of existing risk assessment studies, available data and information, and current institutional framework and capabilities *Step 2*: Hazard assessment to identify the nature, location, intensity and likelihood of major hazards prevailing in a community or society *Step 3:* Exposure assessment to identify population and assets at risk and delineate disaster prone areas *Step 4:* Vulnerability analysis to determine the capacity (or lack of it) of elements at risk to withstand the given hazard scenarios. *Step 5*: Loss/impact analysis to estimate potential losses of exposed population, property, services, livelihoods and environment, and assess their potential impacts on society *Step 6*: Risk profiling and evaluation to identify cost-effective risk reduction options in terms of the socio-economic concerns of a society and its capacity for risk reduction *Step 7*: Formulation or revision of disaster risk reduction strategies and action plans that include setting priorities, allocating resources (financial or human) and initiating disaster risk reduction programmes. The assessment provides information about the needs, possible intervention strategies and resource requirements and aims to identify:

– The impact a disaster has had on a society and its infrastructure, and the ability of that society to cope.
– The most vulnerable segments of the population that need to be targeted for assistance.
– The level of response by the affected country, its internal capacity to cope with the situation, and the level of response from the international community.
– The most urgent relief needs and potential methods of meeting them most effectively.
– Coordination mechanisms.
– Significant political, cultural, and logistical constraints.

Planning for natural disasters and emergencies is something every educational institution must consider, regardless of its size or location. It is not possible to plan for every eventuality that might occur; however, managing preparation is essential to saving lives if a disaster strikes. For disaster mitigation and preparedness, there are specific tasks for the pre-, during and post disaster periods. Numerous organizations need to work in coordination for responding to and preparing for disasters. Specifically, it is of vital importance to increase risk management awareness for disasters and to institute necessary skills and resources for mitigation and preparedness. Community organizations for mitigation/preparedness are equally important and necessary. Risk perception, general and personal efficacy beliefs for the possibility of engaging in mitigation/preparedness actions are very important predictors for actual responsible behavior. Studies conducted in Turkey showed that despite high risk perceptions, self-efficacy for taking appropriate actions for mitigation was low. Furthermore, an externalized responsibility for action, and low levels of preparedness behaviors were observed. Short-term community education programs may improve attitudes; however, for behavioral change, longer and pervasive programs and community organization networks are needed.

CONCLUSION

Managing risk and having an efficient protection and rescue system which involves cooperative work of all the relevant factors in the education system will

create experts that will be able to be involved in and outside the country in all the areas of disasters protection. To make this possible, an efficient system for protection and rescue at all levels should be created. It will help accomplish the new imposed situations in the societal and economic context which consider principles for sustainable development. It means, providing opportunity to gain new knowledge, skills and abilities, basic concepts, features of the natural disaster, consequences of their emergence, means and equipment used for protection and rescue, practicing procedures, preventive and operational measures for personal and collective protection in case of emergencies, further education and training by considering the guidelines for sustainable development of the society as a whole. Managing risks as activities are aimed to train the participants and the personnel how to respond in case of natural or other type of accident and at the same time are a test of the separate segments of the protection and rescue plan which enables its evaluation and revision. Daily experience gives us the right to summarize that the idea of managing disaster risk is implemented in practice. Obviously, there is a legal coverage and it is recognized according to the realistic needs. We can conclude that by developing the global culture managing disaster risk has become the most significant part of an integrative approach towards disaster reduction carried out by adopting the risk assessments policy in any vulnerable area as well as increasing the institutional capacities and having efficient use of the resources. Education and training in the area of prevention, preparedness and risks and consequences reduction is also part of it.

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