ReSouk 2011
EMUNI Student Research Multi-conference
Innovation and Employability – the Universities Challenge
21 March 2011

Disaster Risk Reduction (DRR)

"Building the resilience of nations and communities to disasters"

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SUMMARY

First, the concept of disasters and their impact was introduced. The effects of disaster events can be elucidated by organizing them into four interrelated categories, physical, environmental, social, and economic. The physical effects of disasters include the effects on buildings, structures, physical property, industry, roads, and bridges. Environmental effects are effects on water, land/soil, land-use, landscape, crops, lakes/rivers, estuaries, forests, aquaculture, animals/livestock, wildlife, atmosphere, energy, and etc. The effects designated social includes effects on life, health, employment, relations, security, and peace. Economic effects include those on assets, deposits, reserves, income, commerce, production, and insurance.

Next, the relationship between disasters and development was explained. Disaster and development impact each other in ways that are both positive and negative. Development can impact DRR by increasing vulnerability if the development is not carried out in ways that take into consideration disaster preparedness. However, development can also positively impact DRR if development incorporates the building of resiliency to disasters into its plans. In this way development can really be sustainable. Disasters can also impact the development process negatively by interrupting or destroying it and positively by providing or improving development opportunities. Keys for linking sustainable development and disaster risk reduction can be divided into two categories, good governance and capacity building. Good governance includes participation, the rule of law, transparency, responsiveness, consensus building, equity and inclusiveness, effectiveness and efficiency, and accountability. Capacity building includes training activities, disaster education programs, public information, technical assistance, the improvement of organizational abilities, dissemination of knowledge, and improvement of infrastructure.

The presentation continued by breaking down the implementation strategies of disaster risk reduction programs which can be understood as stopping any increase of risk for new construction and infrastructures, starting to decrease the unacceptable risk for existing constructions and infrastructures, and continuing to prepare for the consequences of expected hazards.

Then, the concept of risk assessment and how seismic risk is ranked was introduced and explained. The level of risk, which can be defined as the combination of the probability of an event and its negative consequences, depends on the relationship between three parameters, hazard, vulnerability, and capacity. A hazard can take the form of a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, loss of livelihoods and services, social and economic disruption, or environmental damage. Vulnerability means the characteristics of a community, system or asset that make it susceptible to the damaging effects of a hazard. Finally, capacity is the combination of all the strengths, attributes, and resources available within a community, society or organization that can be used to achieve agreed-upon goals. At this point, risk assessment was connected to risk management in an integral way as assessment provides the means for understanding clearly the risk, whether it is a high, moderate, or low risk that is to be managed. The expected losses of a high risk warrant attention by senior management at all levels and a detailed inclusion is any disaster preparedness plan. In order to ensure adequate preparedness coordination with the other pertinent government entities, key stakeholders, and other UN and NGO/IO response agencies in contingency planning is highly encouraged. In the case of a moderate risk the hazard warrants attention and a scenario should be developed and included in a disaster plan. The required response may be of a magnitude that is well within the capacity of existing staff and personnel. Also, coordination with the other pertinent government entities, key stakeholders, and other UN and NGO/IO response agencies in-country may be warranted.

The presentation went on to detail the following seismic hazard parameters, magnitude, depth, epicenter distance, and site effect. Site effect can further be broken down into the following factors: landslides, site amplification, liquefaction, and fault rupture. The presentation included examples of each type of factor in pictorial form. The negative impact of site effects can be lessened by effective land use policy. Following this, a case study of the seismic vulnerability of Palestinian common buildings was presented. The factors affecting the seismic vulnerability of buildings include building type, quality and workmanship, state of preservation, regularity, ductility, position, strengthening, earthquake resistant design, and site conditions. These were all further explained using examples taken from Palestinian common buildings.

Part one concluded with the strategic goals of An-Najah National University related to DRR based on the Hyogo Framework for Action 2005-2015. The strategic goals are the integration of disaster risk reduction into sustainable development policies and planning, development and strengthening of institutions, mechanisms and capacities, to build resistance to hazards, and the systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response, and recovery programs.

The second part of the presentation was clarifying the methodology and concept of the rapid assessment of damaged buildings as well as how to increase the coping capacities in the post disaster damage assessment. Post disaster damage assessment includes classifying damages to building according to grades, 1 through 5, of increasing damage. The presentation included

definition of each grade for two different types of buildings, masonry and reinforced concrete buildings, as well as picture examples of each grade.