

Research Data Resources and Progress Report to Monitor Acquisition

1. Introduction:

Referring to the status report on An Najah national University (NNU) research data resources (deliverable D2.1) which is presented under the name of Seismic Risk Mitigation in Palestine and to the list of research data resources collected (see attached list updated end of February 2013 or refer to the updated link <http://www.sasparm.ps/en/?page=details&newsID=45&cat=15>

The research data collected are categorized to three types:

- Seismic Hazard
- Seismic Vulnerability
- Capacity in Preparedness, Emergency Response and Recovery.

It does worth to mention that the major part of the research data represents activities implemented by NNU.

2. Monitoring and Evaluation

Evaluation is "an assessment, as systematic and objective as possible, of an on-going or completed project or policy, its design, implementation and results". Evaluations are analytical exercises, focusing on project outputs and especially outcomes or impact. Good evaluation is essential for effective project and programme management.

The monitoring and evaluation systems in disaster risk management in oPt (West Bank and Gaza Strip) are very limited and not integrated into mitigation activities, emergency response and recovery aspects. Experiences and practices in oPt in emergency responses to various disasters (ex. man-made disasters) should be evaluated. Sharing experiences could improve the coordination and collaboration not only between the countries but also between the related Palestinian organizations. Additionally, establishing a unified catalogue for monitoring and evaluation should have the priority.

The above mentioned data collected represents around 90% of the available data and it is mainly from NNU. The remaining is from other Palestinian governmental and non governmental organizations which will be collected and added asap in coordination with related organizations.

3. Discussion and Concluding Remarks

It is observed that there is a lack of coordinated efforts among various departments, coordination between centers and local administrative bodies and clear definition of the roles and responsibilities towards disaster mitigation and management. But, decentralization cannot be considered as a single rule for disaster management and preparedness as there is a need for a centralized database which should be accessible to all organizations that are involved in planning and formulating disaster management and mitigation activities within the country and the region. In most of the organizations related to risk mitigation, the data

related to the bio-physical and socio economic are either not available or are in discrete, not easy to use formats. These data should be added and in cases not available, should be generated and organized in a usable format (ideally in GIS) which would be a crucial tool for hazard prevention strategy planning.

Gaps were identified based on risk assessment and review of the existing legislation, institutional framework and capacity of the oPt. Recommendations were provided to address these gaps, which can be found at the end of this report. In the oPt many cities have been damaged by disasters in the past and the cities have then made reconstruction plans and carried out this urban reconstruction. By analyzing these cases it is possible that we have the many elements which are needed to form the basic planning of disaster prevention in the oPt and in the wider region.

Non Governmental Organizations (NGOs): International Federation of the Red Cross and Red Crescent Societies are active in the oPt and in some cases play a leading role in disaster preparedness and response. These organizations are well coordinated with the concerned governmental departments. There is one academic and research center within the country, particularly working in the field of seismology, earthquake engineering and DRM. Initiatives on regional cooperation are very limited, donors and humanitarian organizations working in oPt can play a crucial role in developing regional cooperation.

One of the main gaps identified during this study is availability of reliable sub-national level data that is crucial for any vulnerability assessment. A centralized database on variables required for vulnerability and risk assessment, risk modeling and preparing management plans at country and regional level needs to be generated. Some organizations already have some data available in GIS format, which needs to be integrated into a common database. Data design should be developed and stored in a versatile format for easy retrieval, analysis and update. The data will help identification of vulnerable zones, formulate land use planning strategies and develop regional plans for disaster mitigation and preparedness.

Earthquakes and landslides represent the main natural hazards in the oPt. Also, the frequency and vulnerability due to technological related hazards are increasing in the oPt. Based on interviews, miniworkshops and analysis of data obtained from scientific research studies mainly done in NNU, the study finds out comprehensive conclusions about the following main topics:

- *Regional cooperation and International initiatives*
- *Training and awareness*
- *Institutional structure and capacity*
- *National policy, legislation and strategies*
- *Disaster profile and risk assessment*

The conclusions are:

- Disaster risk mitigation system in general, as it is outlined in the Hyogo Framework for Action is still not yet regulated.
- Lacking awareness on the natural hazard, vulnerability and related economic and social risks.
- Absence of land use policy / planning. Settlement in hazardous areas and unknown or ignored natural site conditions, such as soil liquefaction potential, sub-soil amplification characteristics attenuation laws of seismic waves, landslides, etc.

- The vulnerability of the Palestinian buildings and infrastructures to earthquakes is very high and absence of codes, rules and regulations which emphasize on the safety requirements in the buildings (Note: last year the Jordanian Seismic Building Code have been adopted by related Palestinian Institutions).
- Absence of effective mechanisms for control of application and enforcement of regulations.
- Weaknesses of national programs and public policies on preparedness, mitigation, and emergency response.
- Weak institutional capacity in disaster management and rescue operations.
- Lack of awareness by citizens and weak capacity of professionals, engineers, and decision makers.
- Lack of capacity and training in disaster risk management and policy implementation at government level.
- Lack of coordination between central and the local level authorities in disaster management activities. Legal frameworks for disaster risk mitigation are very limited. Absence of a clear and comprehensive national and municipal plans for disaster management and emergency response plans.
- The role of the private sector in disaster reduction is also not adequate and lack of adequate coordination among different governmental and non governmental organizations and the private sector as well.
- Lack of appropriate support for the civil defense in terms of resources, training and other needs, which resulted in lack of specialized and well trained human resources in rescue operations.
- Absence of well equipped operations central rooms on the national levels covering different governorates.
- The unique Palestinian case: no geographic connection between the Gaza Strip and West Bank and the complications caused by the occupation will delay disaster management, plus the nonexistence of a Palestinian armed forces able to greatly help in the crisis management and rescue operations.
- Few national bodies are key players in disaster risk management, but most of them are facing considerable capacity gaps. Also, public responsibilities in disaster risk management are not allocated to one specific relevant authority, but they are shared among different bodies.
- The fact that the area of Palestine is small makes almost all areas vulnerable to disasters but to different levels. This will make disaster support and management more complicated especially in earthquake disasters.
- The location of the oPt between “Israel” and Jordan in addition to its very small area, make it very vulnerable to different types of disasters. The emergency support from these countries will be very limited since they will also be affected by the disaster.

4. Recommendations

The overall recommendations provided in D2.1 report (*Seismic Risk Mitigation in Palestine*) have been deduced based on the reviewed of available historical data on hazards and their impact, capacity and vulnerability assessment, the lack of readiness of the Palestinian people and institutions, the absence of effective management for disasters and emergency response as well as following up the requirements plus declarations and recommendations of the international organizations related to DRR, such as the Hyogo Framework for Action 2005-2015 and the Arab Strategy for Disaster Risk Reduction 2011-2020.

In order to benefit from the strengths of Palestinian society and to minimize the consequences of the above mentioned gaps, there is an urgent need to adopt the following recommendations taking into consideration the national priorities:

a) National Policies, Legislation and Enforcement:

To reduce vulnerabilities and losses of life, properties and infrastructure, the institutional capacities for seismic risk mitigation should be enhanced through:

- Adopting Hugo Framework for Action for the Decade 2005 – 2015 and the Arab Strategy for Disaster Risk Reduction 2011-2020, as well as encourage the international organizations to consider this in future development projects.
- Establish National Platform for Disaster Risk Reduction DRR.
- Apply the building codes requirements including the seismic requirements in design and practices. Due to the absence of Palestinian Seismic Building Code and considering the special efforts and follow up from Urban Planning and Disaster Risk Reduction Center (UPDDR) at NNU which resulted on decisions being taken by related Palestinian Ministries and Organizations, the Jordanian Seismic Building Code should be adopted. However, a mechanism to enforce its application should be found through preparing and adopting a time frame in cooperation with concerned institutions.
- Find legislations and mechanisms to oblige concerned local authorities to adopt the engineering supervision on the construction of new buildings as a first step and upgrading the existing buildings for seismic performance as a second step.
- Apply the regulations of the public safety on the buildings and different structures.

Based on the first priority of Hyogo Framework of action a pro-active measure for disaster risk mitigation should be integrated into the country development plan. It is vital to code and enforce legislative standards and requirements, especially the seismic building code and land use planning.

b) Public Awareness:

Building resilience of Palestinian community to disasters through knowledge, advocacy and training. These could be done as follows:

- Ensure that relevant information on seismic risks and events are accessible and available at all levels and to all stakeholders (through networks, development of information sharing systems, regional data base, etc.).
- Increase the public awareness for the safety measures within the Palestinian community.
- Develop special training courses programmes to enhance the engineering capacities (students, practitioners and young researchers) in the fields of risk assessment, seismic vulnerability and seismic design of buildings.
- Encourage concerned institutions to increase the training courses for the local community including schools, local authorities and others, as well as to conduct regular exercises at all levels.
- Develop special programmes to enhance the capacities of those working in the media on how to perform before, during and after earthquakes and disasters in general.
- Include courses on seismic design of structures and buildings as part of the plans for the engineering faculties in the OPT as compulsory courses. In addition to that, include courses related to public safety and disaster management as elective or compulsory for all faculties in Palestinian universities.

c) Hazard Mapping (Seismic):

-In addition to macrozonation seismic map (PGA map) which have been produced, the microzonation maps for seismic site effect should be produced, such as: Faulting system, landslides, amplification and liquefaction maps.

- Mapping of landslide prone areas and land use regulation legislation plus developing legislation to control the land use policy in a way that maintains the sustainable development, environment stability and reduces the risks of earthquakes and other natural disasters.

d) Preparedness and emergency response (Capacity):

To ensure national emergency response and disaster management programs in oPt, the following preparedness activities should be implemented through:

- Creating coordination systems for operational emergency centers.
- Developing the Civil Defense capabilities and enhancing the institutional capabilities.
- Official arrangements through the Ministry of Foreign Affairs, Civil Defense and the Palestinian Red Crescent for seeking international assistance.
- Developing public awareness programmes and conducting regular exercises for all levels.
- Preparing and/or developing roles and responsibilities in disaster response at all levels including national, governorates and municipalities .
- Encouraging establishing non-governmental centers and societies in the field of emergency support and launching foundation of committees for support and voluntary work in all governorates and in corporation with the civil defense centers and societies.
- Consider efficient and logical distribution of hospitals, health centers and all centers related to disasters, so as to cover as much as possible of the areas and to avoid any isolation for any areas.
- Continuous follow up on the international developments in dealing with the disasters. Also establish a network to benefit from others who have experienced natural disasters.

To mitigate the seismic risk and losses of life, properties and infrastructure, the institutional capacities for risk mitigation, disaster management and emergency response should be enhanced through:

- Establishing clear mechanisms for monitoring.
- Evaluating disaster preparedness and response activities to be able to promote the development of a disaster seismic risk mitigation.
- Monitoring and evaluation to ensure feedback to management systems.
- Holding national workshops and training courses to discuss critical issues in terms of earthquakes and vulnerability reductions.

Taking into consideration the seismic hazards in oPt, the high seismic vulnerability of buildings and infrastudtures as well as the low capacity, applying SASPARM activities presented in the work packages will help in mitigation of seismic risk.

