ICTs in Disaster Risk Reduction and Disaster Response

 **Policy Brief**

In recent years Nepal has witnessed devastating earthquake of 7.8 Richter magnitude that took the lives of more than 10000 people and severely damaged the UNESCO heritages. The impact of earthquake has still been a nightmare for Nepali people. During disaster millions of people were stranded without communications and the fear of earthquake has not been elapsed as of now. Millions of Nepali people get frustrated and suffered emotionally and physically due to inability of being access to information and communication technology.

Apart for the earth quake, other means of disaster including transportation accidents, waste and toxic substances contaminations, explosions, urban and forest fires are other common phenomenon of disaster.

Taking into account of above mentioned disasters, it should be primary concern of countries to frame adequate policies to cope up with the situation by means of information and communication. Hence, the country has realized the importance of ICTs in Disaster Risk Reduction and Disaster Response as one of the major agenda for developing policies that should minimize the casualties of disaster in absence of ICTs.

**SUMMARY OF FINDINGS/ RECOMMENDATIONS**

1. **Lack of Disaster Response laws:** Framing disaster response laws has been relatively the area of little attention pre-disaster and seen the same in post disaster. Though, necessity of this has been realized but the attention from the policy level is not observed it is therefore, to ensure proper information and communication technology is assured, the laws and policies relation to disaster response requires to be framed without any delay.
2. **Lack of coordination among governmental agencies:** by ensuring that your list of recommendations/ findings has the same sentence structure. E.g., if you start the first recommendation with a verb make sure others start with verbs as well. This simple rule will help you to organize your thoughts better and make it easier for the reader to follow your listing.
3. **Proper Coordination among local authorities:** It appears that there is duplication of powers among local authorities. Especially in the federal structures this has become pertinent, so act must define the proper coordination and communication framework.
4. **Adequate and accurate use of information dissemination:** It was observed during the earthquake that there was gap in disseminating information and their reliability, hence, a system with policy backup must be introduce to ensure the information systems delivers accurate information. For this, a sound information policy requires to be developed that balances the private information system and public information system.

**THE RESEARCH**

# Background

Nepal has quite complicated and most vulnerable geographical structure which is prone to various kind of disaster and also experience several natural calamities such as earthquake, flood, landslides, soil erosion, fire (wild and artificial), hailstorms, thunderstorms, lightning, hailstorms, drought, snake bites, landslides, avalanches, glacial lake outburst flood (GLOF) epidemic disease and infections, etc Though, disasters are caused by natural processes, but may be increased by human activities. The main objective of this research is to analyze the disaster risk profile and existing legal framework of Nepal. This policy brief is mainly based on secondary data sources. Historical data of natural disasters in Nepal show that water-induced disasters have killed hundreds of people and affected thousands every year [1]. Government of Nepal is practicing some good initiatives on disaster mitigation, preparedness, response and recovery by formulating different level of emergency operation centers. The disaster related activities is basically carried out by following Natural Disaster Relief Act, 1982, National Action Plan on Disaster Management in Nepal, 1996, National Strategy for Disaster Risk Management (NSDRM), 2008 and some other guidelines. This policy brief will figure out policy guidelines using Information and Communication Technology (ICT) tools for the effectiveness involvements in all phases of disaster risk reduction and management.

# Overview of Disaster Losses

Table 1 Incident Reports of July 16, 2016 to July 15, 2017

|  |  |  |  |
| --- | --- | --- | --- |
| **Incident** | **Loss of life** | **Missing** | **Injured** |
| 2271 | 454 | 53 | 863 |

*Source:* <http://drrportal.gov.np/reports> *(accessed July, 2017)*

Table 2 Households & Cattle Loss during July 16, 2016 to July 15, 2017

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Incident** | **Families** | **House Damages** | **Cattle Shed** | **Cattle Loss** |
| **Partial** | **Full** |
| 2271 | 11962 | 910 | 2097 | 630 | 6427 |

*Source:* <http://drrportal.gov.np/reports> *(accessed July, 2017)*

Incidents: Lightning, landslides, flood, wind, fire & others.

During this period the loss in terms of monetary value is NPR. 3,249,856,321 (approx. $ 30,951,000.00).

Whereas the mega earthquake of Apr 25, 2015 is killing near about 9000 lives and injured around 22,000 peoples, estimated damage is about US $ 10 billion. As Emergency Operation Center (NEOC) already established for the purpose which have 3 level of EOC known as National, Regional and District EOCs. Still EOCs are not well equipped, and lack of skilled EOCs Information Management Officer (IMOs). As many of countries are practicing Disaster Management with formulating DM Ministries or authorities, Nepal still does not have autonomous body to handle with. There are some I/NGOs working with disaster risk reduction as well as response and relief, but none of the regulating bodies seek after the disaster.

# III Policy review

By overviewing of policy there is DM Act 2063, which is still pending under cabinet, and DM Policy has guided some organizational frameworks which can manage financial sources by utilizing funds from government, donor agencies, microfinance, lending, taxes and saving schemes as well as bonds etc. DM policy also state about skilled search and rescue (SAR) human resources through building knowledge base and empowering skill level trainings and school education.

There will be autonomous body named as disaster management council chaired by prime minister having executive director as general secretary. In coordination with local development, home, physical planning and infrastructure development ministries there will be autonomous a) Preparedness, b) rescue and relief and c) reconstructing and rehabilitant committees. District emergency operation center is governed under the chairing of District Administration Officer, whose stakeholders are concern other district government offices representatives with locally working I/NGOs regarding disaster related activities. There are several supporting acts and policies including Prime Minister Fund for Relief, Water Induced DM Policy, Local Governance Act, Water Resource Act etc. For the shake disaster preparedness, we need to review so many acts, policies, regulations, directives, ordinances and guidelines so single consolidated act can be the good solution.

Whatever the policy defines, the use of ICT for collecting peace time data for preparedness towards disaster risk reduction, a proper national policy guided Disaster Management Information System (DMIS) for the national level is suggested which will have a separate district portal from the same DMIS. The DMIS must have capabilities to communicate with devices such as early warning systems, community radios, mega phones, having complete inventory of national regional and district level inventory of mapping of SAR material, SAR Human Resource, Shelter and Open Space, Food Item & Non-Food Item, all the stakeholder’s focal person contact (primary/secondary) as well as storekeeper’s contact information with available stockist’s (food and non-food items) information etc.

The ICT tool must acknowledge the four priority areas of disaster: a) Understanding Disaster Risk b) Strengthening disaster risk governance to manage disaster risk c) Investing in disaster risk reduction for resilience d) Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction.

Using ICT tool can be free of policy hindrances and adopting all the newer communicating and computing devices including Internet of Things (IoT) compatible so that information can be share accordingly using high speed broadband connection of all kinds.

##### SOURCES

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