

Building Resilience and Management of Vulnerability: Solution for Reduction of Risk of Disasters

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Abstract

Disaster is serious disruption to the functioning of a community that exceeds its capacity to cope with using its own resource. It is the outcome of level of vulnerability and manageability or capacity, potentiality and ability to face and adopt the challenges or risk generated with the disasters. Disaster management is concerned with preparation, prevention, response and recovery functions in an affected area. The present paper is a form of descriptive research based on literature survey on disaster risk and its management as well religious text. Study aims to explore the process of building resilience and management of vulnerability and its effect on reduction of disaster risk in any area and time. Study reveals that the religious knowledge and statements are not capable to explain scientifically the genesis and warning of occurrence of hazards and disasters but provide a strong base to the scientists for further exploration. It is revealed from various literature that all kinds of disaster events have hidden scientific systems to be explored. The important components i.e. preparedness, response, recovery and rehabilitation would be optimally and rationally managed with the motivation and persuasion of religious leaders, institutions and organisations in or out of disaster affected areas along with the formal public and private agencies responsible for proper pre and post disaster management. It is further suggested that the society and community should be built disaster resilient from bottom to up and an integrated approach of local indigenous traditions, perception, rituals, religious education and government agencies as well as scientific opinion and measures must be adopted at the time of formulating strategy for disaster management to achieve sustainable development in affected region. Management of vulnerability is the key for disaster risk reduction management.

Key Words: Disaster, Preparedness, Risk management Sustainable Development

Introduction

Disasters are serious disruptions to the functioning of a community that exceed its capacity to cope using its own resources. Disasters are hydra headed phenomena and they are caused by natural, man-made and technological hazards, as well as various factors that influence the exposure and vulnerability of a community. Disasters happen when a community is not appropriately resourced or organized to withstand the impact, and whose population is vulnerable. Disasters know no boundaries; man-made or natural, technological or chemical it can strike at any moment anywhere, paving destruction in the present as well as in the past because of poverty, exclusion or socially disadvantaged in some way (Mizutori, 2020). There is no doubt that hazards are integral aspects of our environment. The environment is part of nature. Nature and environment are complementary to each other. The environment cannot be conceived without nature. Nature is the origin, which results in the world. The meaning of the whole universe is created by nature itself. Nature is of two types – Natural nature and Human nature. Natural nature consists of five elements – earth, water, fire, air and sky. Human nature consists of mind, intellect and ego. Human nature interacts

with natural environment in different ways responding to area, culture, faith and technology existed in particular specific parts of the world. For centuries man considered disasters as the work of the evil spirits and tried to please them with magic and other rituals but later he started manipulating nature. Paradoxically this attempt to control nature has exposed the humanity to new threats. Disasters may be result of natural or human induced processes of events with the potential to create loss but exposure to a hazard need not necessarily mean disaster. It is the level of vulnerability of those exposed to the hazard that increases risk and the likelihood of the disastrous occurrence. Disaster is not uncommon phenomena and no one is immune from such events which has been associated with the emergence of human civilization. The earth had witnessed innumerable catastrophic events in geological eras since her origin about 4.5 billion years ago. The acknowledgement of disasters/ hazards could be possible after emergence of human being and its civilization. Religious books especially divine books/ pamphlets or some written stories have been important sources of our knowledge about natural disasters that occurred in the past. The Creator or Almighty created four important elements in our earth system to descend His curse on the humanity. People have different views about them; some take them as mere events and accidents taking place by chance, while many others take them as torments and trials of Allah (God). The fire, wind, water and land (earth) are the powerful creation of God/nature. They were used for punishment by God when He becomes angry on bad deeds of human beings. According to faith of different monotheistic groups like Islam, Christianity and Judaism, natural disaster/ hazards are the punishment to wrong doers on the surface of the earth. Buddhism and Hindu literatures also looked the disasters as the consequence of anger of Creators and various Gods and Goddess (Belshaw, 1951; Keesing, 1952, Kraus, 2007; Levy et al., 2009, Singh, S. S .2020). Volcanic eruption, flood, cyclone or tornado and earthquake / land slide are major forms of natural disasters on the earth surface. Such events have been also occurring frequently in various parts of the world during different periods of time of the decades. No person or place is immune from disasters or disaster-related losses. Infectious disease outbreaks, acts of terrorism, social unrest, or financial disasters in addition to natural hazards can all lead to large-scale retrogressive consequences for the nation and its communities. Communities and the nation thus face difficult fiscal, social, cultural, and environmental choices about the best ways to ensure basic security and quality of life against hazards, deliberate attacks, and disasters beyond the unquantifiable costs of injury and loss of life from disasters.

The genesis of disasters has been explained in both religious philosophical and scientific exploration ways. Religious literatures depict them as the ill effect of man environmental relation in the form of nature curse in disobedience of natural laws set by nature. Nature- Laws- Man-Deeds- Outcomes are the process of nature man relation. Such relationship of man and nature evolved three philosophical views like determinism, possibilism and new determinism in human geography (Hussain, M. 1981). First two followed extreme opinion in the behaviour of human beings in man nature relation. In the former case, man is considered as fully passive and nature dictates everything while the latter advocates the man as active and dominant over the nature. The third neo determinism adopted middle way explaining that nature dictates direction, laws and set the challenges and man follows adjusting way of wait and go. Religious literatures and the literature

revealing the disasters genesis with theological approaches which lack scientific and analogical as well as systematic expression but provide the background for understanding and exploration of system and mechanism of occurrence of both natural and manmade disasters. Chester and Duncan expand Chester's (1998, 2005) early studies and assert that looking at disasters as acts of God and the punishment of deities mirrors the approach which dominates disaster studies and the way catastrophic events are considered as God-man relation. This view emphasizes victims' guilt and sinfulness, which is to be punished by nature's extremes. Such a conception of disasters is often associated with fatalistic and submissive attitudes that the proponents of the hazard paradigm quickly associate with a very low perception of risk (Gaillard, J.C. & Texier, P. 2010). It is thought that the philosophy of disaster as curse of God would develop the sense of helpless, non-responsive attitudes towards scientific disaster management development. Several studies on fatalism has long been applied to traditional and pre-industrial societies in Middle-Age Europe and to the contemporary so-called developing countries (Akasoy, 2007; Burton et al., 1993; Kates et al., 1973; Schneider, 1957). The exploitation of natural resources, mining and quarrying activities, deforestation as well as excess production of greenhouse gases are the examples of increasing lust of money which are responsible for both natural and manmade disasters in world. Thus, man nature relation is an important part of disaster management for preparedness and mitigation.

Disaster Management

The disaster is the negative impact of any natural, man-made or extreme emergencies on individual, community, society, nation and world. The degree and intensity as well as severity of the effect depend upon the level of vulnerability, potential to cope with and sensitivity or response to the reduction of risk among the people, community and nation or concerned government and non-government institution/organization. All living species including animals, naturally, have the sense and capacity to protect them from adverse situation and ability to develop strategies for their existence or survival. There is struggle for survival but due to variation in ability and capability to cope with disaster, the concept of survival of the fittest prevailed. Human being is the super and the best creation of God have the highest level of managerial ability to protect themselves from natural and unnatural hazards and disasters. All religious divine books of Jews, Christian, Muslim, Buddhist and Hindu stressed on paying charity, helping deprived and victims and sacrifice for humanity with money, time and physical pains to save the nature, environment, human beings as well as animals and plants. Thus the natural disaster, hazards and the management or strategy for protection, prevention and reduction of disaster impacts and increasing awareness and responds to disaster occurrence and remedial measures and step to reduce the risk, evacuation, rehabilitation and sustainable development were very much existed in different societies, communities, and nations but in very traditional, cultural and unscientific manners. The concept of disaster management and its need at different stages and different socio economic scale must be acknowledged and propagated for saving the lives, properties and environment from any kind of disasters. Disaster management is defined in the following ways.

Disaster management is how we deal with the human, material, economic or environmental impacts of said disaster, it is the process of how we “prepare for, respond to and learn from the effects of major failures (Elliott D. 2014). It is as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular, preparedness, response and recovery in order to lessen the impact of disasters (IFRC&RCS 2007). The disaster management includes all efforts pre and post of occurrence of disaster with a view to minimize the impact, reducing risk, response to emergencies, rehabilitation of impacted people and building the disaster resilient society. Prevention, mitigation, preparedness, response, risk reduction, recovery and rehabilitation are important components of disaster management. In broader sense, preparedness, response, recovery and prevention/ mitigation are known as components of disaster management (Fig. 1).

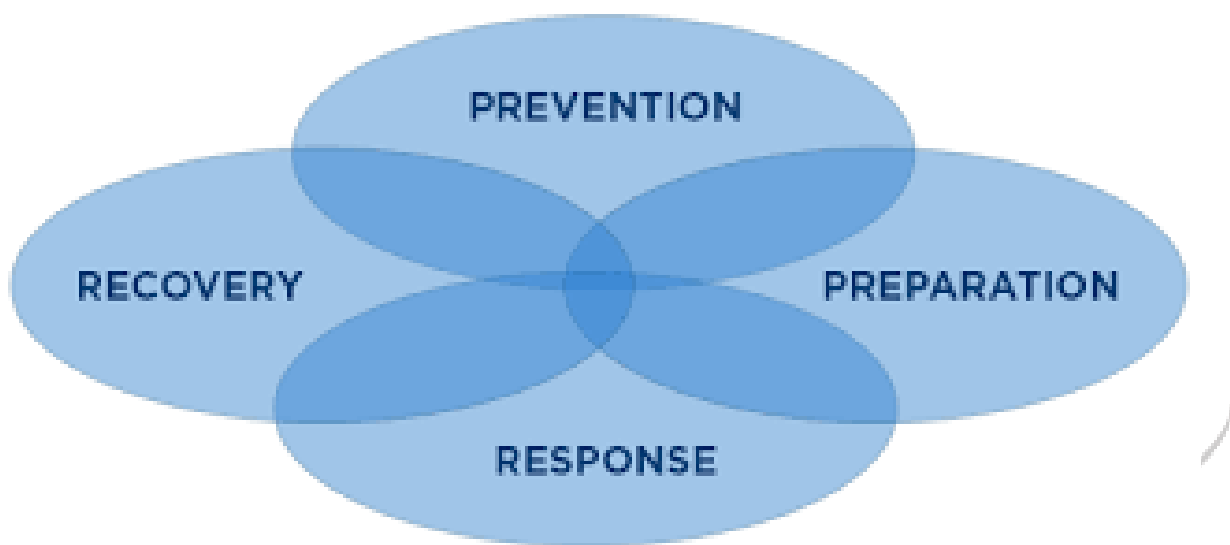


Fig. 1: Components of Disaster Management

The disaster management could be operated into three stages or steps. Prevention and preparedness are the first pre-disaster operation of the disaster management. UNISDR viewed disaster prevention as the concept of engaging in activities which intend to prevent or avoid potential adverse impacts through action taken in advance, activities designed to provide protection from the occurrence of disasters. The first and most important activity is to enhance the knowledge and understanding of occurrence, genesis of hazards, methods of reduction of severity of the disaster and warn the people before outbreak of hazards, emergencies like disease, famines, pollution, epidemic, communal riot and political and socio-economic turmoil. Prevention/ mitigation and preparedness are pre disaster management process. It is said prevention is better than cure. Preparedness to counter disaster’s negative impact has been well acknowledged and instructed for an effort and preparation to prevent them from risk of loss of life, property and environment even in historical past in various ancient civilizations. Propagation of curse or punishment of God on bad deeds and preventing the nation from wrong doing, pleasing the Almighty through charity, kindness, worship, duwa (mendicancy) through the spiritual activities ; construction of dams and levees in flood prone areas, construction of wooden house in seismic prone areas as well as cutting the mountains and making caves and

house in protected leeward side in wind storm affected areas had been very common efforts towards prevention and mitigation of reduction of disaster's bad effects. Nature dictates all activities concerned with positive man environment relation and beneficial to humanity. For example, man is not owner of resource but trustee and it is responsibility of resource rich people to spend their excess resource to meet the needs of poor and needy persons. These are noble guidelines for good deeds (Charity) mentioned in teaching of all important religions of the world. The pre-disaster activities should be well planned with education, wisdom, sincerity and faith. Most important purpose of this is to mitigate human loss. This also includes the development of information technology system; mobilization of resource for necessary action, assessment of disaster and issuance of a warning and to the people through media, radio etc. transporting the people in a safe place in case of disaster occurrence. The occurrence of natural hazards and disasters are uncontrolled phenomena. Earthquake, volcanism, cyclones and tornados, landslides, floods and Tsunami cannot be stopped from occurrence but minimise their impact intensity through improvement in mitigation and preparedness operations. Despite high level of development of science and technology, the prediction of several natural disasters is partially successful.

Risk and damage could be reduced through the reducing the vulnerability by development of residential areas in hazard free or less prone zone, construction of houses and other buildings following the disaster resistant technology as well as guaranteed food-security, social, economic and political security. Hazards are always prevalent, but the hazard becomes a disaster only when there is greater vulnerability and less of capacity to cope with it. Capacity means and strengths which exist in households and communities and which enable them to cope with, withstand, prepare for, prevent, mitigate or quickly recover from a disaster. The Islamic education as well as other religion's statements provides very rational and behavioural measures to reduce vulnerability and enhance capacity to cope with hazards and disaster effects.

Regarding human activities, people must respect the rules of law and conduct accordingly at individualistic or collective level. Hoarding of food items for hiking price during drought and famine condition is strictly prohibited and considered a great crime in different religions as well as in humanity welfare-oriented concept. High value of responsive work is attributed to group work, social activities, social responsibilities, co-operation and consultation in various aspects of life, including giving full consideration and privilege to others. Strong emphasis should be given to group or community participation as a noble activity. This process of response in mitigation of disaster's risk reduction would unite the hearts of people and encouraged participation of all concerned people happily with enthusiasm.

After the event of disasters, the process of quick action and the help of the victims of the disaster-prone areas are required. Response to disastrous conditions from various communities including government agencies, medical institutions and health personnel, social activists and NGO's is urgently needed. Transportation of victims from disaster affected areas, provision for emergency shelters, emergency medical facilities and care to victim's place and consolation about the losses are another activity are urgently needed after occurrence of disaster.

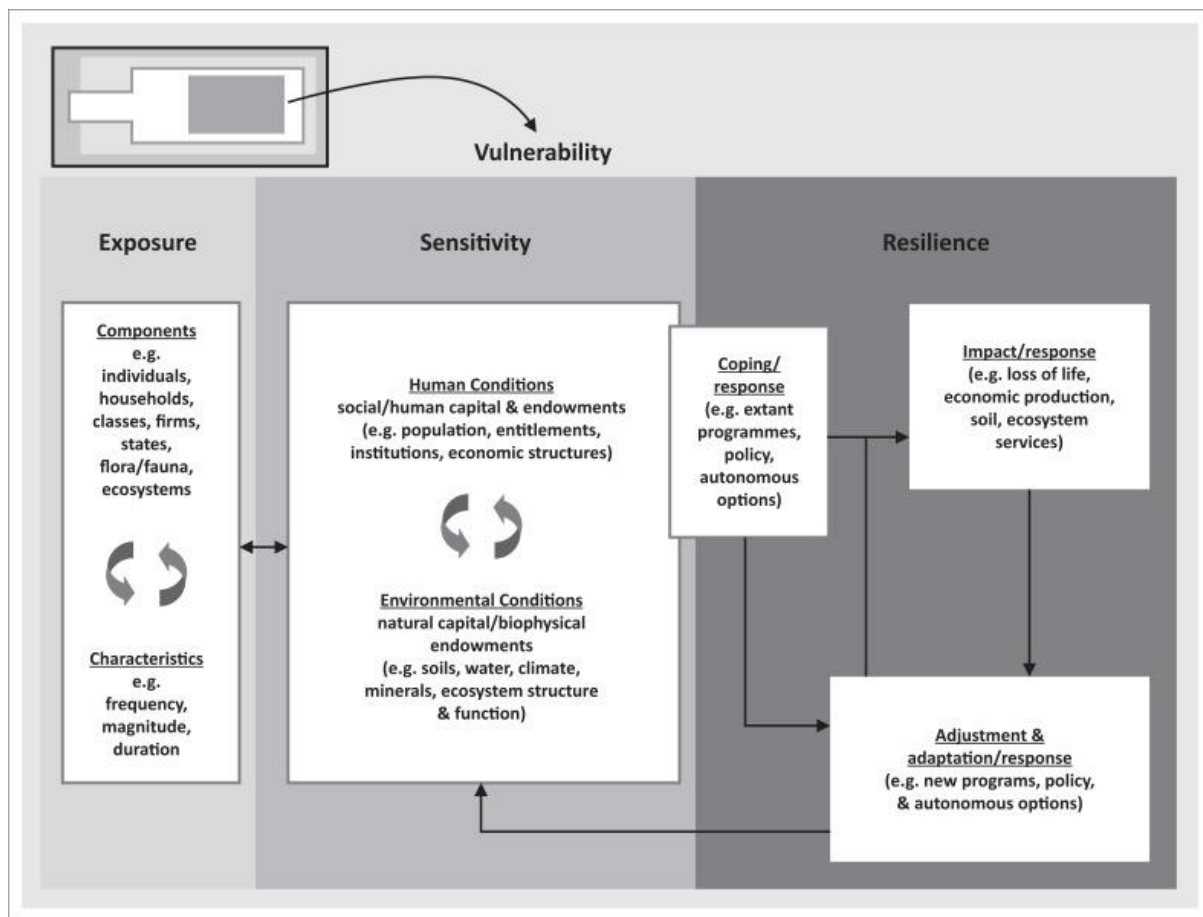
Disaster management with the consideration of public institution plans and strategy, scientific and technological approach as well as government policies could not alone achieve the target to reduce the risk, save the lives and property, manage safe place for displaced victims in the disaster affected areas. Local and indigenous as well traditional methods of managing and tackling the damage caused in, recovery and risk controlling measures as well as religious instructions and motivation for helping the victims through moral boosting, financial aiding, feeding and consoling should be included as an essential components of disaster management. Community education, social awareness, realization of fulfilling responsibilities and sense of accountability as well as good and honest governance are very essential components of disaster management. Religious and cultural approaches could play pivotal roles in this direction. Consoling the victims, poor, patient, and people in trouble especially in any disaster, both in natural and manmade are described as a pious work (Rewardable). The Christianity, Hinduism, Buddhism and other religions advocate for charity, sacrifice for humanity, social wellbeing, helping the people. Human beings do not have any right to harm themselves or others. Causing harm or vulnerability to others is an unforgivable sin, unless the person who has been harmed, forgives the action (Ha, K.M.2015). Such knowledge and education will motivate the society and people and community and nation to reduce the risk, recovery, replacement, survival for food and health and later for rehabilitation and sustainable development of affected people and areas. Expert leadership and good governance is essential to the success of risk reduction programs. Risk cannot be reduced without knowledge and scientific management. Thus the role of people is to understand, believe and implement knowledge and follow the guidance and recommendations of experts.

Management of Vulnerability and Risk Reduction

Vulnerability refers the socio-economic, health and infrastructural conditions of a community, system or asset that make it susceptible to destructive and damaging effects of a hazards of any nature. Poverty, social insecurity, political instability, food insecurity, poor house design and construction of buildings, lack of basic information and extension service, illiteracy, limited governmental concern and recognition of risk and bad governance are important determinants of degree of vulnerability of people, community and society at any time and place (Hazard Vulnerability Research Institute 2015, Blaikie P, Cannon T, Davis I, Wisner B. 2015, ISDR). The physical profile like climate, topography, rock and soil structure, drainage pattern and flow and discharge of river's water and degree of mountain slope determine the level of vulnerability in response to preparedness, response and awareness of people, society, community and the government of concerned areas in the cases of various forms of disasters. Physical, social, economic and environmental vulnerability are common categories in all forms of disasters and hazards.

Vulnerability status and its degree of seriousness varies significantly within the community, space and time as well as nature of hazards and natural as well as socio-economic environment of specific area (Cordona 2003). In the case of Natural geo-tectonic hazards like earth quack, tsunami and volcanic eruption, lack of early warning system, inhabitation in seismic prone areas and along the shallow coastlines, unawareness and careless attitudes towards disaster effects, unscientific design and construction of houses and the

unpreparedness for reoccurring such hazards have been important causes of high level of vulnerability (Calvi, G.M. et. al 2006 and Degg, M. 1993). The development of settlement and built-up area along the foothills of landslide susceptible slope, deforestation, lack of bunds along the mountain slope to restrict water flow and erosion, poverty and unawareness about occurring highland oriented hazards are to be responsible for vulnerability to land slide and avalanche (Pallock, W. and Wartman J. 2020). Poverty, social and food insecurity, unemployment and lack of government and NGO's support and aids increased the level of vulnerability when people expose to drought and famine hazards (Anderson, M.B. and Woodrow, P.J. 1991) while the environmental emergencies and extremes affect the people living near the toxic pollutants releasing establishments, in small non ventilated and congested houses, below standard health and transport infrastructural facilities areas. These deficiency in any area led to the vulnerable community and society in the case of exposing environment pollution and releasing of poisonous gases from chemical industries (Cozzani, R. et.al. 2006. Cardona, O.D.2007 and Tahmid, M. et.al.2020). Poverty, illiteracy, faith in superstitions, unhygienic food and drinking water, lack of medical facilities and accessibility and small and congested houses and polluted surrounding areas are the determinants of vulnerability of people and area while outbreak of epidemic or pandemic takes place. Similarly, elevation, slope, proximity to cyclone tract area, coastlines, forest cover, poverty, illiteracy, gender, muddy house, and improper response are the reasons of cyclone-oriented vulnerability (Dewan,2013, Gallina et.al.2017, S.V. et.al. 2018 and Ali, et.al.2020 and Hoque, M.A.A. 2021). Flood disaster affected areas expose the venerable population and areas suffering from proper dams, early warning system, poverty, poor conditioned houses and inhabitation in low lying flood affect areas, low education. Gender, age, socio economic tradition as well as poor transport and medical infrastructure facilities are the indicators of vulnerability index for flood prone areas (Cardona, 2003, Redani, B.M. et.al. 2019 and Deepak, S. et.al 2020). The management of vulnerability needs to be designed separately for different forms of disasters keeping into consideration of reasons of vulnerability. Prescription of disease should be according to the diagnosis. Physical vulnerability is determined by population density, remoteness of settlement and site and material and structure of houses constructed in disaster prone areas. The inability and adaptive capacity of people, community, organization, weak social interaction, incapable social institutions and system of cultural values to face and save the society from bad effects of disasters is referred as social vulnerability. In economic vulnerability, the level of vulnerability is highly dependent upon the economic status of individuals, communities and nations. The poor are usually more vulnerable to disasters because they lack the resources to build sturdy structures and put other engineering measures in place to protect themselves from being negatively impacted by disasters, whereas natural resource depletion and resource degradation are key aspects of environmental vulnerability. The vulnerability is the combined effect of exposure, sensitivity and resilience of the affected communities and regions. Turner, B.L. et al. (2003) described the process and mechanism of development of vulnerability with reference to various forms of disasters as shown in fig. 2.



Source: Turner et al. (2003).

Fig.2. Mechanism of Development of Vulnerability

Disaster risk is defined as the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity. In the technical sense, it is defined through the combination of three terms: hazard, exposure and vulnerability (UNDRR). The degree and intensity of risk occurred in an exposed entity are the combined effects of vulnerability and level of preparedness and response of people, government and civil society and NGOs in any area. For example, during the second wave of COVID 19 in India great loss of life took place in response to unpreparedness of government to medical and health infrastructure and non-availability of medicines, oxygen, beds, vaccines and other allied services. Casualties are also added due to carelessness and no responsive behaviour of public, social and religious groups and political agencies towards severity and vaccination of COVID 19. Thus, the lack of preparedness, high degree of vulnerability especially resource poor people and poor response of aid providing agencies, groups/ communities as well as government at local administration tend to accelerate the disaster risk in areas exposed to particular hazards. Experience and studies reveal that the vulnerability is the key factor determining the impact of disaster or risk occurrence. Fredrick Curry in his much acclaimed book *Disasters and Development* cites a classic example for how the vulnerability variation impacted the region differently even with hazards of same magnitudes. An earthquake of magnitude 6.4 occurred in San Fernando, California in 1971. In a city of over seven million people, only 58 deaths were reported. Two years later, a similar earthquake, registering a magnitude of 6.2 on the Richter scale, in Managua, Nicaragua

reduced the centre of the city to rubble and killed over 6,000 people (Yamani, S.2001). Risk reduction does not need to make more focus on the hazards and the exposed people but on the vulnerability of exposed communities, systems, assets and environment (Birkman, J. and McMillan, M.J. 2020).

Disaster risk reduction is the sole objective of disaster management. Reduction and improvement in the vulnerability of exposed communities and area through building resilient them and good management would reduce the intensity of risk and rehabilitation of impacted groups could be conveniently managed at rather low expenses. The saved amount will help in desired sustainable development of area and people in hazard affected zone. Disaster risk reduction and management is a comprehensive approach newly emerged. Hazard assessment, vulnerability analysis and management capacity enhancement are important attributes to undertaken for designing strategies and policies for disaster risk management. It aims to preventing and reducing risk and managing residual risk for strengthening resilience and therefore to the achievement of sustainable development (UNDDR). Disaster Risk Management is the application of disaster risk reduction policies and strategies, to prevent new disaster risks, reduce existing disaster risks, and manage residual risks, contributing to the strengthening of resilience and reduction of losses. Four priority areas were identified by UNDRR in 1995 through Sendai framework for Disaster Risk Reduction 2015-30 for the reduction of disaster risk with goal of minimizing losses due to manifestation of hazards of natural origin. The four priority areas include, understanding disaster risk, strengthening disaster risk governance to manage disaster risk, investing in disaster risk reduction for resilience and enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction.

Building Resilience Society: Towards Disaster Risk Reduction Management

The success of management of vulnerability and risk reduction as well as adverse impact on society depends upon the degree of development of capability and capacity as well as ability of individuals, communities, organizations and states to adapt and tolerate to the occurrence of hazards and recover and safety from hazards, shocks, damage and stress without compromising long term prospects for development (Baubion, C., 2013). The described characteristics and capability to minimise disaster risk are referred as disaster risk resilience. Various aspects and tools of building resilience capacity towards disaster risk reduction are technological capacity, skills and education levels, economic status and growth prospects, quality of environment and natural resource management institutions, livelihood assets, political structures and processes, infrastructure, flows of knowledge and information and speed and breadth of innovation (Yokomatsu, M and Strigler, S.H., 2020) According to the Hyogo Framework for Action (UNISDR, 2005), disaster resilience is determined by the degree to which individuals, communities and public and private organisations are capable of organising themselves to learn from past disasters and reduce their risks to future ones, at international, regional, national and local levels. The origin of the concept of resilience as used in disaster risk research is often attributed to the work of Holling, who applied the concept to social-ecological systems (Holling 1973). This term was used first time used in connection with disaster recovery after the earthquake in Shimoga city of Japan in 1954 (Alexander 2013). It is like immunity in the body to

protect and resist from various disease and especially epidemics. United Nations International Strategy for Disaster Risk Reduction (UNISDR 2005) defines vulnerability as the susceptibility to the damaging effects of a hazard, and resilience as the ability to “resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner”. The ability of countries, communities and households to manage change, by maintaining or transforming living standards in the face of shocks or stresses – such as earthquakes, drought or violent conflict – without compromising their long-term prospects (DFID 2011). In conceptual terms, vulnerability and disaster resilience are closely related. Some authors see vulnerability as the opposite of disaster resilience, while others view vulnerability as a risk factor and disaster resilience as the capacity to respond (Manyena, 2006).

The literature survey on disaster management revealed that the term resilience and its scope in dealing with the disaster challenges, gained momentum and relevance in response to increasing insecurity particularly in social and political turmoil and unrest; complexity and vulnerability in our everyday life. The Malta summit of civil societies of commonwealth countries in 2015 discussed the issues of development resilient society and suggested the method how to make strong society resilient. Transformation, inclusion and responsiveness, transparency, accountability and gender equity have been considered as important tools for development of resilience in various stakeholders of disaster management. Resilient society, resilient government, resilient economy, resilient environment, resilient science and resilient institution are different forms of disaster resilient buildings. Participatory approach among different agencies is an ideal process to build a confidence among people and communities in making progress to increase resilience and immunity for managing pre and post genesis of disasters. Islam encourages the participatory and collective effort to deal with any individual or collective issues and challenges emerged out. Allah appreciated momin (believers and good doers) by saying that High value is attributed to group work, social activities, social responsibilities, co-operation and consultation in various aspects of life, including giving full consideration to others. “And their business is [conducted] through consultation among themselves” (Qur’an-Shora; 42:38). Linkage between public and private infrastructure and facilities would help in building disaster risk resilient society, community, government and nation to achieve the goal of sustainable development of people, economy, society and environment in disaster affected areas.

Building Disaster Risk Resilient Society from Bottom to Top

The disaster risk management through top to bottom process has not been succeeded at satisfactory level. It appears one way dictation from higher strata without pre conceived challenges and reality at grassroots level in disaster prone and affected areas. Intention and sincerity, the spirit of any work, are generally less at top layer of management hierarchy which could not perform well in persuading the participants to do the work of risk control, rescue, relocation and food and medicine supply etc in disaster affected areas. The process of building disaster risk resilient people towards disasters should be strengthened from bottom to up. The following measures are required to reduce the risk and building disaster risk resilient society with persuasion

and motivation of religious education and cultural attached sentiments along with technological and political and administrative efforts and endeavours.

- To develop spirit of sacrifice and service among the stakeholders, related to disaster reduction management, towards poor and venerable communities
- Humanitarian approach development to tackle hazards and disaster effects. Encourage public private model (PPM) of humanitarian response.
- Honesty, sincerity, and transparency in thinking and approach for help to people.
- Awareness and well training to people to handle situation during pre, present and post of disaster occurrence.
- Knowledge of cultural heritage and indigenous methods of preventing, reduction, recovery and rehabilitation techniques applied for vulnerability and risk reduction by local communities in the past.
- Strengthening communication linkage for understanding and utilization methods needed for safety of life and property resulted in due to hazards.
- Understanding of health care facilities and services available in the area especially for disaster period.
- Knowledge about various government and private institutions dealing aid, relief work, rehabilitation work and medical aid.
- Knowledge about various NGOs' and global agencies providing physical, financial and technological help to deal with disaster situation.
- Community and individual should subscribe insurance policy for protection of properties and belongings.

Conclusion

Disaster management is an inevitable need for every country to provide safety and security to her resources, people, animals and environment in crisis and tragedy emerged out from disasters/ hazards of any form. Natural as well human generated disasters' frequency has been continuously increasing year after, not only in developing and poor countries but also in developed countries of world. Occurrence of hazards is uncontrolled phenomena which could not be stopped by any powerful country. Prediction, preparedness, reduction in vulnerability, risk level and recovery and rehabilitation might have played positive role in sustainable development of disaster affected people and area. The prediction and warning before striking in any area, need very scientific education, understanding and knowledge about the background of genesis of natural disasters like earthquakes, tornado and cyclones, floods, drought and landslides. Traditional knowledge in the forms of poetry, song, rituals and some astronomical appearances are important tools for early warning for happening of disasters. Religious education and guidelines, mentioned especially divine books like Bible, Holy Quran, Vedas and some other one, could be acknowledged and tested through scientific measures and should be utilized for better planning of disaster vulnerability and risk reduction

management. The concept of modern scholars and scientists that the religious teaching regarding disaster causes and remedies would have been developing fatalism among the affected people and inactiveness have been discarded after appearing the religious literature at different national and international academic platforms. Islam is a practical religion directing the believers to get knowledge both of this material world and here after (after death). Religion's role in different components of disaster management is worthy and appreciable especially in consoling, reducing vulnerability, recovery and providing food, health and finance facility with sincerity and feeling of accountability to God and hope for reward from Him. Same perception is also applicable to other religious direction towards services of humanity, highlighting the fact that humanity is above the religious rituals. An integrated management in combination of disaster resilient society, engineers and scientists, government administration, social and religious activists as well as NGO's is urgently needed for achieving the goals sustainable development in disaster affected areas. Building resilient and management of vulnerability is the key of reduction of disaster risk.

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