Implications for Preparedness for Disasters in Developing Countries for Health Education: A Literature Review

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Abstract: **In recent years, there has been an increase in the number of small to large scale disasters in different parts of the world, affecting more people than ever, claiming thousands of lives, displacing millions of people, and destroying billions of dollar-worth of property globally. Studies have noted that disasters can happen anywhere, but about eighty-five per cent of those exposed to disasters reside in developing countries. These observations and reports have made it expedient for communities and nations to start building capacities and developing strategies and programs to respond to disasters or emergencies with their own resources, both human and material, without relying solely on aid international community. Despite increasing rates of disasters globally, most developing countries lag behind in preparedness to handle emergencies like disasters effectively, efficiently and appropriately. This is attributed to a number of factors, one of which is low disaster literacy level among the public. Hence, the need for health education to raise level of awareness and knowledge of disasters and improve attitudes and skills of individuals, communities, authorities and organizations in disaster prevention and reduction. A popular saying in disaster management is that "we cannot stop natural disasters but we can arm ourselves with knowledge to save lives and property". This statement emphasizes great role health education in disaster preparedness. The study intended to review from studies preparedness for disasters in developing countries: implications of health education. The study utilized conventional subject-search method, and a supplementary search method of citation/unstructured searching technique to review twenty-nine papers. The results showed that the resilience and capacity for disaster preparedness of any countries depends largely on the level and qualities of disaster awareness and education of the people, and the study also confirmed and added more information to already done research work the vital roles health education plays in all phases of preparedness for disasters. The study concluded that effectiveness and efficiency of disaster preparedness activities of nations are predicated on the level of disaster literacy and health education base of the people**

***Key words*: Disaster, Disaster preparedness, Health education.**

I. INTRODUCTION

Due to human alteration of nature, and some natural events, people around the world have become more and more vulnerable to numerous kinds of disasters. Disasters are becoming more frequent, growing severe and affecting more people than ever before. The increasing frequency of disasters coupled with a number of emerging threats and the trends are leaving more people vulnerable to the effects, and inflicting great damage, loss and dislocation of people worldwide. Disaster is a global phenomenon which may occur unexpectedly at any time any place. And this has been in a steady increase both in magnitude and frequency, thereby posing a great public health threat to human life and environment (Syedein et.al.,2011) Disasters are emergencies of great magnitude. United Nations for Disaster Reduction [UNDRR] (2014) defines disaster as a serious disruption of the functioning of a community, involving widespread of human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community to cope with its own resources. Jain and Rao (2008) describe disaster as a situation in which the normal pattern of life within a community gets suddenly disrupted due to some act of nature or humans, and this puts the affected into great suffering and helplessness, following heavy destruction of life and property. And if the affected people are not given urgent attention in the form of food, shelter, clothing, medical attention, protection and other life-sustaining requirements, situation may worsen further, resulting in epidemic. According to Seyedin et al (2011), disaster is an event that overwhelms the capacity of the people's existing resources to cope with. It is an overwhelming ecological disruption which exceeds the capacity of the affected community to adjust, and consequently requires assistance from outside. Disaster could natural or man-made, and the common disasters that have devasted different parts of world in recent times include earthquakes, floods, typhoons, tsunamis, landslides, hurricanes, cyclones, volcanic eruptions, wildfires, heatwaves, epidemics, famines, explosions, automobile crashes, social conflicts and crises among others (Asogwa & Izuogu, 2019).

Disasters have taken a great tool on human life. According to Centre for Research on Epidemiology of Disasters [CRED] (2008), more than 235,000 people were killed by disasters, 2.14 million affected, while the cost of disaster was over 190 billion dollars. According to WHO (2012), studies in the last decade estimated sixty per cent in disasters worldwide in which an estimated two million people lost their lives, 4.2 million injured, 3.3 million left homeless, and three million were otherwise affected. Radjak and Redmond also (2014) reported that from 2006-2015, 6270 disasters were recorded in five continents, resulting in 8,197,666 deaths, 70,597

casualties, and 1,989,866,263,000 (i.e., over one billion dollar-economic damage)

Vulnerability of developing countries to disasters and emergencies is of a public concern. United Nations Development Programme [UNDP] (2016) observed that the vast majority of lives and property and environments lost or affected are in developing countries. Similarly, Matija (2018) stated that between 1991-2005, nearly ninety per cent of disaster-related deaths and ninety-eight per cent of people affected were in developing countries. These could be attributed to very low level of preparedness for disasters. Some studies attempted to explain reasons for low level of disaster preparedness in developing countries. United Nations -international Strategy for Disaster Reduction [UN-ISDR] (2014} stated that some factors responsible for vulnerabilities of these countries to disasters which included that the people live in areas at high risk for natural disasters; the housing is poorly built and can be easily damaged in the events of a disaster; the countries are not equipped with technological know-how and facilities early warning systems; and they have few assets or resources, and weak social safety network to help to cope with disasters, and low level of disaster literacy among the public, and poor attitudes, behaviors and skills in disaster prevention and management.

Increasing occurrences of disasters in various parts of the world and the uncertainty as how and when they will occur, make preparedness to disasters absolutely necessary and obligatory on any country for the protection of their people's life and property. Disaster preparedness, according to the Red Cross and Red- Crescent Societies (2017), is referred to as measures taken to prepare for and reduce the effects of disasters. Disaster preparedness involves to predict and where possible, prevent disasters, mitigate their impact on the vulnerable populations, and respond to, and effectively cope with the consequences. However, level of disaster preparedness of any nations depends on the level of their people's awareness and knowledge about disaster, and attitudes and skills in disaster prevention and mitigation. It is observed that nations with adequate disaster literacy like the developed countries, do have better disaster preparedness than those with low level of disaster literacy. According to the United Nations Office for Disaster Risk Reduction [UNDRR] (2014}, disaster preparedness is all about the knowledge and capacities developed by governments, professional-response and-recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from the impact of likely imminent or current hazard events or conditions.

II. METHODS

The study adopted conventional subject-search (CSS), and citation (CS)/unstructured searching methods. The choice of these searching methods was informed the findings that CSS technique had been successfully used to identify subjects or topics for both literature and systematic reviews; it identifies and locates relevant papers through database searching, and CS, not only locate relevant papers but also high-quality unique studies for review, and also facilitates serendipity of further papers by unstructured searching.

The tools utilized by the review included per-reviewed journals, official publications by national and international organizations and agencies, free websites that provided access to research works/articles and other published and unpublished scholarly sources.

The keywords used for searching the literature included: disaster preparedness, developing countries, and implications for health education

Disaster Preparedness

Occurrences of disaster in various parts of the world has made it expedient for nations to start building capacities and developing strategies to respond to disasters with their own resources both human and material, without depending solely on the international community, hence the need to be prepared for disasters always in order to protect and save lives and property, and reduce damages and losses. The devastations and effects of disasters on lives, property and environments call for capacity building to prevent or prepare for emergencies. And this can be done through disaster risk reduction practices (Asogwa & Izuogu, 2019. Disaster preparedness involves the concept of disaster risk reduction [DRR], which is the practice of reducing disaster risks through systemic efforts such as to analyze and manage casual factors of disasters, including reduced exposure to hazards, lessen vulnerability of people and property, improve preparedness for adverse effects, and encourage disaster risk reduction education (Aitsi-Selmi, Egawa, Sasaki, Wannons, & Murray, 2015).

Disaster preparedness (DP) means readiness to cope with disaster. It is the steps that are undertaken before disaster strikes, and also during and after disaster. The National Fire Protection Association, according to Jain and Rao (2008), defines DPP as activities, programs and systems developed and implemented prior to a disaster that are meant to support and enhance mitigation of, respond to, and recovery from disasters. It involves hazard knowledge and risk impact and vulnerability analysis, and capacity building. Annelise (2017) adds that disaster preparedness measures taken to reduce severity of disaster's effects. In broad prospective, disaster preparedness has phases such as mitigation, preparedness, response, and recovery.

The major objective of disaster preparedness id to prepare contingency plan, including awareness and knowledge levels, institutional arrangements and responsibilities, rescue and relief operations and action programmes (Internal Federation of Red Cross and Red -Crescent Societies (2017). Preparedness planning contains measures to be taken before, during and after a disaster has taken place, and full inventory facilities and equipment available and their positions, and delegation of responsibilities, and government departments

and officials, and emergency organizations. The plan provides locations of temporary shelters, and guidelines about partnership with social workers, security agencies, non-governmental and humanitarian organizations, volunteers and community bodies. Specific goals of disaster preparedness plan are to prevent emergencies before they occur where possible; if they occur, reduce the numbers of deaths, injuries, illnesses, and impact from disasters and health emergencies; and increase capacities of individuals, local communities, organizations, and government agencies. The new disaster contingency planning according to the International Federation of Red Cross has five main steps: to prepare; to analyze; to develop; to implement; and to review.

Levels of Disaster Preparedness

There are levels of disaster preparedness which include; pre-disaster preparedness, and pre-disaster actions which comprise pre-alert notification, alert notification and warning notification (Asogwa & Izuogu, 2019). Pre-disaster preparedness starts with creating awareness, knowledge and capacities to handle emergencies due to warnings from the intelligence meteorological organizations or any other state or national security emergency agencies. Pre-alert notification is mainly used for disseminating an important piece of information concerning slowly-developing emergencies, which can either be rectified or would take some time before they turn into crisis or disaster. Alert notification implies that although a crisis is not imminent, aggravation of the situation could lead to crisis unless conditions improve. At this time, emergency management groups and local officials should be alerted that a safe condition is developing. When warning notification is given, it implies that a crisis is imminent, and advance actions may be initiated. Warning notification includes indicating the magnitude of the disaster to all concerned. Advance preparedness is necessary at this level to avoid last minute arrangement in panic conditions.

Preparedness at Various Settings/Levels

Disaster preparedness requires contributions of different social units or settings, and the activities differ according to which social unit is involved (National Research Council of the National Academy (2006)

Household/Individual Preparedness

The fact that disaster can occur any location and time makes it imperative that people should know what to do in emergency situation, have necessary supplies and equipment as these would increase people's chances of survival, and limit damages. Household disaster preparedness include: know or identify hazards that are present in an area; housing adjustment; take household inventory; store copies of important documents (such as certificates, identity cards, etc.) in a safe location or online; have torchlights, personal first aid kits with OTC drugs in them; keep battery-powered hand radio for information; store food and water; have communication plan; create an escape/exit or evacuation route; ensure that mobile phones always have adequate airtime and numbers too call in case of emergencies; ensure that means of transportation like vehicles, motorcycles, tricycles, are always filled with fuel in case of emergencies; confirm that there is adequate insurance cover against each type of disaster one is vulnerable to (Michael, 2018; Teutsch, 2010).

Community Disaster Preparedness

In every disaster that occurs, there is a community that is affected, hence the need for community preparedness. According to Federal Emergency Management Agency [FEMA] (2019) and Haddow et al (2017), community disaster preparedness include some activities such as establishing local emergency management agencies with assigned responsibilities for emergency situation; creating resources to support emergency actions; building leadership; developing readiness training and exercise support programmes; developing emergency operation plans; establishing partnership between the local emergency management agencies with various community sectors, and state, national and international crisis-relevant organizations; ensuring sources for technical and financial assistance; designing, equipping and managing emergency operation centres [EOCs]; having test-backup resources; and educating the public on disaster risk reduction, disaster loss reduction and different aspects of disasters and the health implications.

Government Disaster Preparedness (State and Federal Levels)

Nations in the world have been charged by many international organizations, including emergency management agencies, to be prepared to handle emergencies or disasters that might befall them at any time. Literature has revealed that international organizations such as Red-Cross and Red-Crescent Societies, International Federation Global Agenda, United Nations, World Confederation for Physical Therapy, and many other humanitarian organizations have different times and fora, admonished both the developed and developing nations to build their capacities in human and material resources to handle disasters effectively with or without external assistance (UN-ISDR, 2014). In response to this call of responsibility, Nigeria National Disaster Management framework provides a mechanism that serves as a regulatory guideline for effective and efficient disaster management in the country. Some of the objectives of the framework are to establish functional disaster management institution at all levels of government: local emergency management agency [LEMA], state emergency management agency [SEMA], and national emergency management agency [NEMA]. These agencies are established to prepare for, mitigate, respond to, and recover from disaster events, and develop capacity of relevant institutions and stakeholders for effective and efficient disaster management in Nigeria (Federal Emergency Management Agency [FEMA] (2019).

Government disaster preparedness activities include facilitation of enabling legislations on disaster risk reduction and management; formulation of policies on activities relating to disaster management; formulation of disaster contingency plans; co-ordination and promotion of research relating to disaster management; monitoring the state of preparedness of all organizations and agencies that may contribute to disaster management; collation of data and report from relevant agencies to enhance forecasting, planning, and field operations of disaster management; mobilization of technical and financial resources; foster strong working relationship between all local and national, and international agencies like the United Nations Institutions of Reduction of Disasters; provision of rehabilitative facilities; creation of health education on disasters to raise disaster awareness, knowledge and skills of the public and officials and authorities; establishment of comprehensive data basis with a wide variety of modern information and communication technologies; and establishment of prepared health sectors for disaster management.

According to Pan-America Health Organization [PAHO] and Jain and Rao (2018), for effective preparedness for disaster, certain organization practices and services should be provided. These identified organization processes include; well-documented emergency plans; data on availability of resources and the buffer stocks of restoration materials; identification of key personnel and their skills and experiences disaster management; allocation of budget for emergencies; and synergizing with both local, national and international emergency organizations.

The International Federation of Red-Cross and Red-Crescent Societies (2017) identifies services for effective disaster preparedness include co-operation and co-ordination of modalities with emergency agencies and humanitarian actors; early warning/early action approaches including contingency planning; improved human and technical resources through surge capacity and tools, such as field assessment and coordination teams[FACTs], regional or state disaster response teams[RDRTs]; increased financial support, including through disaster relief emergency fund[DREF] for disaster response and preparedness for imminent crisis; technical assistance and preparedness relief and recovery with a focus on assessment analysis, strategic planning and programming and learning; and improved information management approaches, including current web-based platform (Disaster Management Information System).

Communication and early systems are needed to predict and forecast an upcoming disaster, report emergencies, warn personnel of impending danger, keep families and communities informed and updated about what is happening. Prediction and forecast are very important concepts in disaster management. A prediction is a deterministic statement that a future disaster will or will not occur in a particular geographical region, time window and magnitude range, whereas, a forecast gives a probability that such an event will occur. According to National Research Council of the Academics (2006), most proposed prediction methods rely on the concept of a diagnostic precursor (i.e., some kind of signal observable before a disaster, that indicates with high probability of the location, time and magnitude of the impending event)

Rationale for Disaster Preparedness

Some great scholars and philosophers captured the rationale for disaster preparedness with their motivational quotes: Benjamin Franklin states, “By failing to be prepared, you are preparing to fail. Petra Nemcova says “We cannot stop natural disasters but we can arm ourselves with knowledge, so many lives wouldn’t have to be lost if there was enough disaster preparedness’. Steven Lyros admonishes “Remember when disaster strikes, the time to prepare has passed”. Similarly, Gorge Patton charges “Prepare for the unknown by studying how others in the past had coped with unforeseeable and unpredictable”. Mike Adam adds “Every person who prepares is one less person who panics in a crisis”. Howard Ruff reminds, “It wasn’t raining when Noah built the Ark”. The Holy Bible also in Matthew 24:42 instructs: “Keep watch for you do not know which day your lord will come”. This scripture could be likened to disaster; as every nation should keep watching (being prepared always), for no nation knows which day disaster will strike. According to Asogwa and Izuogu (2019), these quotes tend to admonish individuals, communities, and nations, including organizations and agencies to be always ready and prepared for emergency or disaster situations.

The need for disaster preparedness has been driven in large measure by severity, frequency and magnitude of losses encountered by disruptive disaster events all over the world. The United Nations Development Program [UNDP] (2016) published that over the last two decades, more than 1.3 million people and nearly two trillion dollar-worth of property have been lost to disaster, noting that disaster compound the effects of poverty and inequity while eroding costly development gains. Studies report that developing countries are more vulnerable than their developed counterparts to natural disaster because people live in areas of higher risk of natural disaster. This is due to some factors which UN-ISDR (2014) identifies as poorly built housing which can easily be damaged in event of disaster, countries not being equipped with early warning systems and having few accesses and weak social safety network to help them cope with disasters.

Benefits of Disaster Preparedness (DP)

Benefits of disaster preparedness cannot be overemphasized. DP builds capacity and resilience in households, businesses, and government agencies that help them develop appropriate strategies in responding when disaster occurs. This is achieved through research and planning in order to try predict areas or regions that may be at risk for disaster, and where possible, prevent it from occurring and/or reduce the impact on the vulnerable populations

According to Michael (2019), disaster preparedness provides a platform to design effective, realistic and coordinated planning, which reduces waste of resources and time, and duplication of efforts, and increases the overall effectiveness of nations, societies, household and community members' disaster preparedness and response effort. Preparedness activities prevent disaster situations and also result in saving maximum lives and livelihoods during any disaster situations, and enable the affected population to get back to normalcy within a short period of time.

Experiential evidence from numerous disasters indicates that where societies had been prepared and educated on damaging events, significant reductions have followed in casualties and physical losses (Davies et al., 2013). According to them, a dissemination of warning of heavy rains through radio stations in Mali in 1998 resulted in the effective evacuation of over 300,000 persons in the flooded area. A national programme in Cuba raised the people's awareness of hurricane threats which as the result about 700,000 people together with their cattle were evacuated in 1988 during Hurricane George. In summary, Disaster preparedness reduces fear, anxiety, injuries, number of deaths, level of catastrophic losses of lives and property and environments; helps individuals, families, communities know what to do in the event of emergencies; and protects community and maintains business continuity.

Challenges Hindering Disaster Preparedness in Developing Countries

Most developing countries lag behind in preparedness to handle emergencies effectively and appropriately. According to emergency management Accreditation Programme (EMAP), the rate of disaster preparedness in developing countries is consequently very low as a result of shortage of competent human and adequate human and financial resources, and non-commitment or political will and corruption on the part of government at all levels (UN-DRR, 2014)

Most often, developing countries lack the capacities, expertise and resources to predict and prevent emergencies and mitigate and respond to them. In Nigeria, for instance, the National Emergency Management Agency [NEMA] (2018) has decried the low institutional capacity in data generation, risk analysis and early warning services; inadequate funding of agencies at the grassroot levels; poor emergency awareness and education among the populace; lack of execution and implementation of existing emergency policies and programmes; inadequate equipment for critical stakeholders in emergency management for effective preparedness and response as the major challenges to disaster management in the country, and by extension to other developing countries. Policy makers and politicians in these countries lack interest in and seemed not to have been convinced of the necessity for disaster risk management. They seem to believe that infrastructure development, poverty reduction, economic growth, social welfare, education, and even security require greater attention and funding.

Technologically, most of the developing countries are inept. They have insufficient base-line information, uncoordinated GIS mapping scales; lack metadata and have poor data quality, limited availability of internet and other necessary information dissemination tools and systems (UN-ISDR, 2014; Dave,2014). They do not have enough teams of experts with up- to-date knowledge and skills in the modern ICT and web-based information systems.

Poor coordination and lack of information sharing among emergency-related organizations with respect to risk assessment, monitoring and evaluation, early warning, disaster response and other disaster risk management activities have been noted by literature as clear challenges to disaster preparedness in developing countries. Teutsch (2010) concurs that in developing countries, disaster management situation information is not widely distributed, but owned by different organizations, hence, critical data are maintained in desperate systems that often do not interoperate well. Consequently, there are no common standards to enable organizations to efficiently organize and share their resources during response operations.

PAHO (2017) observed that health sectors in developing countries do not have disaster risk reduction policies with established objectives and strategies. Health facilities are not equipped with adequate skilled personnel equipment for rapid and life-saving response to disasters. The health sector is poorly funded and without full-time workers with special training in disaster management and specific budget for emergencies.

Cultural and religious beliefs and low level of disaster literacy pose great barriers to disaster preparedness in developing countries. According to some beliefs, there are societies where disasters are seen or regarded as the 'act of God', 'God's will' or 'Anger of God or gods', 'Law of retribution' or 'Law of Karma', and therefore people in such societies pay less attention to disaster preparedness through disaster awareness and education. Chen and Lee (2012) stated that lack of disaster prevention literacy among the public is a challenge. Appronti et al (2015) concur that disaster literacy is a challenge because of barriers posed by lack of disaster prevention education in formal curricula, vulnerability of infrastructure and people, and lack of unified and qualified administrators to manage and assess the effectiveness of disaster prevention education.

Implications for Health Education

Studies have shown that capacities and resilience in prevention and mitigation of, and response to disasters of any country depend largely on the quality and level of disaster awareness and education their individuals, authorities, groups and communities possess, hence the need for health education

in all phases of disaster management, ranging from prevention, mitigation, response to recovery.

Health education is the process of providing information about health, diseases and environmental changes that might affect health in order to influence knowledge, attitude, beliefs and behavior, to motivate individuals to use the information to protect and promote their personal health and that of their family and the health of the community at large (Achalu, 2008). Health education through environmental health education programmes provides knowledge, skills and motivation to individuals, groups/organizations and communities that may enable them handle emergencies effectively and efficiently. Building capacity and resilience through health education is absolutely needed before, during and after disaster, as this helps to prevent emergencies, if possible, or mitigate the impact if they occur.

In the prevention phase or pre-disaster preparedness phase, health education raises awareness and knowledge of people and government authorities and emergency-related organizations on number of things that could prevent disasters from happening in particular locations (Pascapurnama, 2018). These include awareness and knowledge of hazards and the associated health risks, signs of impending or imminent dangers in a place, nature and sources of aggravating and contributory factors, types and forms of disasters and their impact or effects, remedial and rectifying measures, assessing information and adhering to alert and warning notifications from intelligence or meteorological agencies or any other emergency related bodies, and knowledge of the vulnerability level and groups at risk and also the individuals', groups', organizations', and governments' responsibilities in averting or mitigating immanency of disaster situations on hands. Though, natural disasters may not be prevented but adequate disaster risk reduction education could to a large extent mitigate the impact, skill, scope and severity of emergencies. In other hand, lack of awareness and good knowledge of health risks before, during and after disasters would contribute to increased number of deaths, injuries, illnesses and damages that are preventable.

Chen and Lee (2012) stated that high level of disaster prevention literacy, which includes prevention and mitigation knowledge, attitudes and skills in authorities, officials, managers, teachers, students and the public, is an important indicator or element of disaster preparedness, while according to Apronti et al(20l5), lack of disaster prevention in formal curricula is a challenge to disaster preparedness. This therefore, implied that disaster prevention and preparedness education increases capacities of individuals, organizations, communities and government to address most urgent situation of vulnerability.

In the community-based disaster preparedness, health education plays a great role. It creates awareness among the people about different aspects of disasters. The International Red Cross and Red-crescent Societies (2017) stated that community-based educational disaster approach results in cost-reduction and efficiency of disaster management; provide a socio-cultural acceptability of decision-making process; develops feeling of self-independence and self-reliance; develops a sense of involvement and ownership of disaster management programmes. Similarly, Efthymis, Michael, Alexia, Paigiotics, Vasssiliki, Kate et al (2014) noted that health education on disasters is a good strategy that promotes knowledge of use of a team approach and community involvement in handling disasters, and helps in the understanding of imminent dangers and what are expected of everyone or group to do in disaster conditions. For instance, Pascapurnama 2017 cited how health education programmes helped schools in Indonesia enrich their understanding in disaster preparedness, risk perception and how they can improve self-capacity. The educational programmes were used to build disaster resilience in school as well as in community.

Health education also is seen to play important roles in disaster response phase. It is necessary to educate both the affected and the rescuers or volunteers on life-saving techniques in emergency situations, administration of common first aid, and safety and security measures, including use of personal protective equipment (PPE). Torani (2019) noted that at this phase, health education plays key role in equipping people with knowledge and skills in preventing injuries, further deaths and infectious diseases among the survivors and the volunteers or rescuers during emergencies.

During recovery phase, after disaster has occurred, health education programmes should be mounted to create awareness and educate the survivors and volunteers on health risks after disasters, such as collapsing structures and building, dislodged and disconnected electrical materials, bites and stings of reptiles and insects, spread of communicable diseases, such as cholera, tetanus, pneumonia, dysentery, typhoid, skin diseases and others, and on the importance of personal hygiene maintenance, good sanitation, disease prevention and control measures, injury protection, food and water safety. The survivors at this phase should be sensitized on utilization of available health care services, allay of fears, anxiety arising from some misconceptions, acceptance of clinically tested, approved and generally accepted vaccination against some infectious diseases and Medicare for other illnesses and injuries. Mental health programmes are needed to strengthen survivors of disasters mentally, spiritually and psychologically through health counseling for easy and fast recovery from disaster conditions.

III. CONCLUSION

Disaster preparedness is the most important phase in disaster management, as it is needed in disaster prevention, mitigation, response and recovery. And all disaster preparedness activities are predicated on the disaster literacy level and health knowledge base of the public and authorities, hence, health

education should be given prioritized consideration as the most fundamental, functional and cost-effective strategy for disaster preparedness and disaster management.

Suggestion

Based on review of literature, the following suggestions are advanced:

1. Governments, authorities and emergency-related organizations and agencies should prioritize health education programmes at every phase of disaster management, as knowledge is power and the foundation upon which all other disaster operations stand.
2. Individuals and community capacity building for disaster preparedness should be promoted through integrated health education on disaster risk reduction both in schools and community settings. This would help the individuals and communities to have self-confidence, self-reliance and self-capacity to handle emergency situations with or without external assistance.
3. There should be adequate political will and specific budgetary allocations for provision of human and material resources to building institutional capacity in disaster management. Well-trained and motivated personnel in emergency operations, equipped with necessary facilities and equipment would always facilitate and fasten disaster-response operations at any part of the world.
4. National and state governments should have policies on disaster risk reduction, prevention, and response with clear objectives and strategies on how to handle disaster and public health emergencies. The policies should provide framework for individuals, community's authorities' and group's actions and operations in disaster management, and establishment of synergy with international emergency organizations and other emergency-related bodies.

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