

# GREENING THE CURRICULUM FOR DEVELOPING SUSTAINABLE DISASTER MANAGEMENT COMPETENCIES AMONG STUDENTS THROUGH NURTURING GREEN CULTURE BEHAVIOUR

<sup>1</sup>Prof.(Dr) M N Mohamedunni Alias Musthafa., <sup>2</sup>Dr.Rini E Stephen

**ABSTRACT---** *The prime objective of curriculum is to enable the future citizens of the society the smooth adjustment with the changing socio-cultural demands. As the existence of human kinds itself is under threat the students have to be trained in dealing with the emergency situations at day to day life. Indiscriminate interference of man with nature has proved its consequences which adversely affect even the existence of man. Various kinds of disasters threaten the existence of mankind on earth. Many of these disasters are the consequence of reckless activities and uncontrolled interventions of human on nature. The possible solution for this is greening the curriculum. Curriculum must nurture green culture behaviour among the students that enable students using nature as a learning tool to focus on real-world problems. Developing green curricular activities is a promising approach to make the young generation with proper environmental awareness and enhance nature friendly behaviour among them. This paper stresses the significance of green curricular approaches for disaster management education. Rather than just converting the institutions as shelter places for the refugees or victims of disasters, the school should be metamorphosed to nodal centres of disaster management both in principle and practices.*

**Keywords---** *Sustainable Disaster management, Green Culture Behaviour*

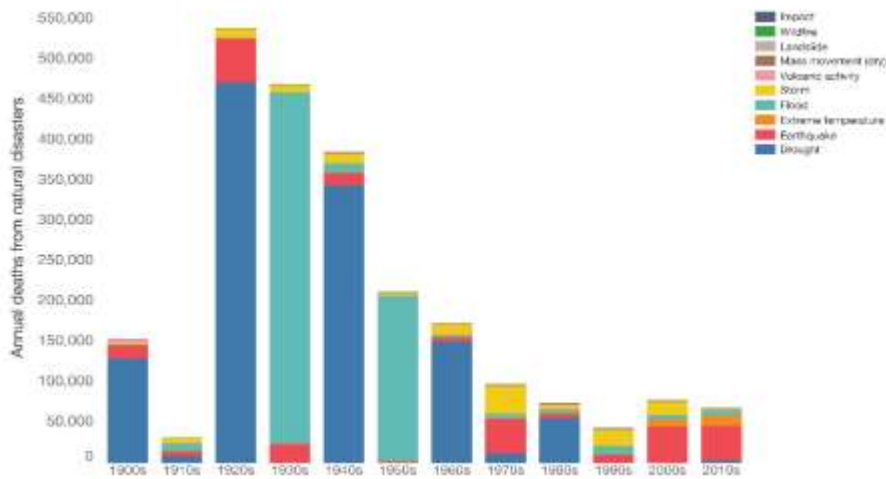
## I. INTRODUCTION

Natural disasters and calamities are the prime problems faced by mankind nowadays. It was rightly said by H G Wells (1920) that 'human history becomes more and more a race between education and catastrophe'. Human race has faced various kinds of disaster from time to time. Taking necessary precautions and systematic handling of the emergencies are the possible actions to be done in such situations. Global annual deaths by disasters by decades given in the chart retrieved from International Disaster Database indicates the essentiality of Disaster Risk Reduction (DRR) strategies across the globe.

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<sup>1</sup> Professor & Dean, School of Education, Central University of Kerala, Kasaragod, Kerala

<sup>2</sup> Government Senior Basic School, Kasaragod, Kerala



**Figure 1:** Global annual death rate by disasters by decades

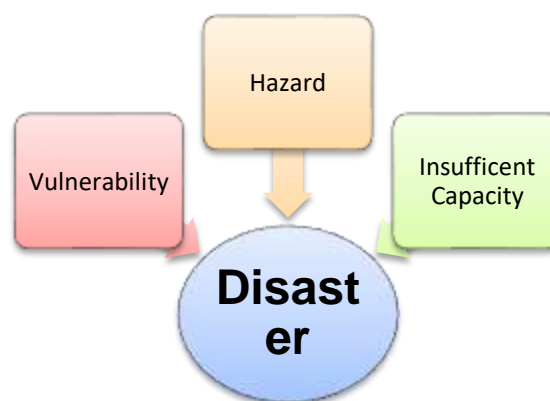
Source: EMDAT (2017); OFDA/CRED, International Disaster Database

Disaster management education is a growing area that encompasses providing scientific awareness about disasters, their preventive measures and other related activities. Disaster management education is of interdisciplinary in nature that spans across various subjects. It is a proven fact that education is the best way to change and direct the society for confronting the challenges of the present and future. Efficient planning of curriculum and its intelligent implementation are the most important factors for the success of disaster management education.

Integration of education regarding nature, natural disasters and need of the sustainable life practices into the curriculum in various disciplines and academic levels would be effective for growing positive attitude among young generations that in turn contribute for sustainable future.

In the observation of International Federation of Red Cross and Red Crescent Societies, a disaster happens when a hazard effects on vulnerable people. Disaster occurs with the combination of vulnerability, hazards and inability to control the consequences of the risk. The components of disasters can be depicted using the figure.

## II. COMPONENTS OF DISASTER



**Figure 2:** Components of disaster

$$\text{Disaster} = (\text{Vulnerability} + \text{Hazard}) / \text{Capacity}$$

### **III. DISASTER MANAGEMENT EDUCATION**

Disaster management education is about catering students' knowledge of the grounds, nature and effects of disaster and to develop skills and attitudes that can contribute to the prevention and management of hazards. Understanding and skills results into attitude and dispositions and values that thrust them to act pro-environmentally, sensibly and responsible when communities are threatened (UNESCO/UNEP, 2012)

It is well recognised that disaster education programmes for people, especially children will foster the resilience and preparedness among them against disasters. Vulnerability of some communities to the disasters should not be ignored while planning for such programmes. The policy makers and officials in this regard have to concentrate on the changing resilience system and recovery capacity of the vulnerable communities. Identification of target group is the first and foremost important step in disaster education.

There are various kinds of disasters, some are natural and some are anthropogenic. The nature of disasters in different geographical area also differ drastically. The disaster education has to be planned according to the nature of disaster of each locality. For this purpose, the target group should be identified and then through various strategies and approaches proper awareness can be provided such as training the students in the school level, public awareness and training etc. The methods are not same for all the communities. Research in the field of disaster management can help to improve the success of such programmes. It is evidence from the experience of various countries that investment in the preparedness can save many lives and can reduce the cost of recovery processes. For developing appropriate preventive measures, proper understanding of the nature of each disaster is inevitable. Thus, disaster management starts with the information and the appropriate place; for this the beginning is schools. Students should be given adequate information regarding the scientific explanation about the causes of the disaster, nature of the adversities, preventive actions to be taken and post event activities. They will be able to convey these to the family members and other people in their community. Disaster management education is vitally significant in delivering the facts regarding problems faced by the people and to connect science and society. Such programmes can keep up to date the innovations in the area.

### **IV. GREENING THE CURRICULUM**

Disaster management and sustainability are subjects that cut across generations, and the choices that are made present will have impact not only upon the generation that makes them, but generations to come. While planning for disaster management education to the children the curriculum should be planned according to the sustainability principles of disasters and the inculcation of green culture behaviour among the young generation to equip them to face the challenges systematically in a sustainable way. Many disasters are anthropogenic in nature. Human activities and interventions cause the deterioration of nature and natural resources that causes various calamities. Climate change causes various drastic problems across the globe. The major reason for climate change is reckless activities of man including deforestation, emission of greenhouse gases as a result of industrialisation and urbanisation, exploitation of non-renewable natural resources, destruction of biodiversity, wars between nations using bio weapons etc. Like these unsustainable activities of human beings directly and indirectly contribute to the occurrence of various disasters on earth.

The studies by various international agencies clearly indicate that all such disasters will affect the human life and decrease the quality of life and productivity. Increasing atmospheric temperature, drastic droughts, heavy rainfall, floods etc can lead to psychological as well as physiological impacts among people. Elevating sea levels and flood can cause drowning, injuries, and severe mental and physical trauma (Pruneau, 2010). The most vulnerable communities are children and women. It is found that 65 per cent of those who will be suffered by climate-related disasters every year in the next decade will be women and children.

The solution for this situation is to develop a green culture among the generation to think and behave in a sustainable manner that can stop the further deterioration of the nature. Green culture behaviour is the deliberate choice of life styles that contribute to the sustainable development. Developing such positive mind set among students through the curricular approaches is necessity of the hour. Environmental awareness is one of the facets of our life that most people are aware of, but tend to ignore at some level of consciousness. The curriculum focused merely on science without proper attitude formation may not be a total effective educational model for moving toward sustainability (Heimlich and Ardoin, 2008). Preparing individuals with knowledge, skills and values to cope with disasters and guaranteeing safe, inclusive and eco-friendly learning environments are important phases of green curricular approaches.

Education has the role not only make the students about responsibilities but to make them competent enough to involve in decision making in all the spheres. This capacity of intelligent decision making will reflect in their choice of life style for sustainable future. The concept of greening the curriculum emerged from this notion. The curriculum is a very powerful means to achieve the desirable changes in the attitude and behaviour of the people. For this a thorough analysis and restructuring of the curricular activities is essential. The basic scientific knowledge about disasters should be included in the school level curriculum in an age appropriate manner. The causes of disasters should be clearly illustrated to the students. Sustainable activities that can helpful for reducing anthropogenic disasters should be incorporated into the curriculum. While planning the curriculum, the geographical and cultural aspects should be considered and appropriate activities that promote changes in life styles for sustainability should be given due weightage. Effective integration of sustainability education would definitely helpful for the effective disaster management education. Disaster education has various objectives, which understanding the basic science of disasters supporting informed decision making by organizations and individuals and institutions changes in behaviour stewardship (National Research Council, 2011). It is apparent that even individuals having higher education qualification have many misconceptions regarding the basic facts related to disaster management, especially practical things.

The role of education in disaster management for risk reduction is evidenced from the analysis of reviews. Students will spread learning to their family and community members. Achieving the far-reaching objectives of disaster education needs an inter-disciplinary approach, integrating sustainability principles and methods in the curriculum. Diverse learning activities are to be designed for students for the proper understanding of the concepts and augment critical thinking for the better solutions.

Disaster management awareness necessitates practical awareness which can help individuals to deal with uncertainty and make choices that are associated with reliable information. UNICEF's works on promoting disaster-

risk reduction plans into the education sector. This work is grounded on the principles of child-friendly training to integrate disaster risk and sustainability issues across the curriculum.

UNESCO promotes disaster management education as a central element of the global response to climate change through its Climate Change Education for Sustainable Development programme, within the framework of Education for Sustainable Development (ESD). The Global Action Programme (GAP) on Education for Sustainable Development (ESD) seeks to generate and scale-up concrete actions in ESD. It is intended to make a substantial contribution to the post-2015 agenda. The GAP is the follow up to the United Nations Decade of Education for Sustainable Development (2005-2014).

Incorporating climate change and environmental education, including education on disaster-risk reduction, into a child-friendly education curriculum ensures the realization of children's environmental rights as preserved in many articles of the Convention on the Rights of the Child. This curriculum integrates concepts from the earth, life, and physical sciences as well as the most current data on climate systems to help students understand the phenomena of climate change, the justification for these phenomena, and why these phenomena are both scientifically and socially important (Stanford School for Earth Energy & Environmental science). The main aim of disaster management education is preparing a new generation with thorough understanding about nature who equipped to provide innovative and creative approaches to understanding disasters and climate change and to alleviate its impression and preparing individuals to understand global changes and their implications.

## **V. PRESENT CURRICULUM AND DISASTER RISK REDUCTION**

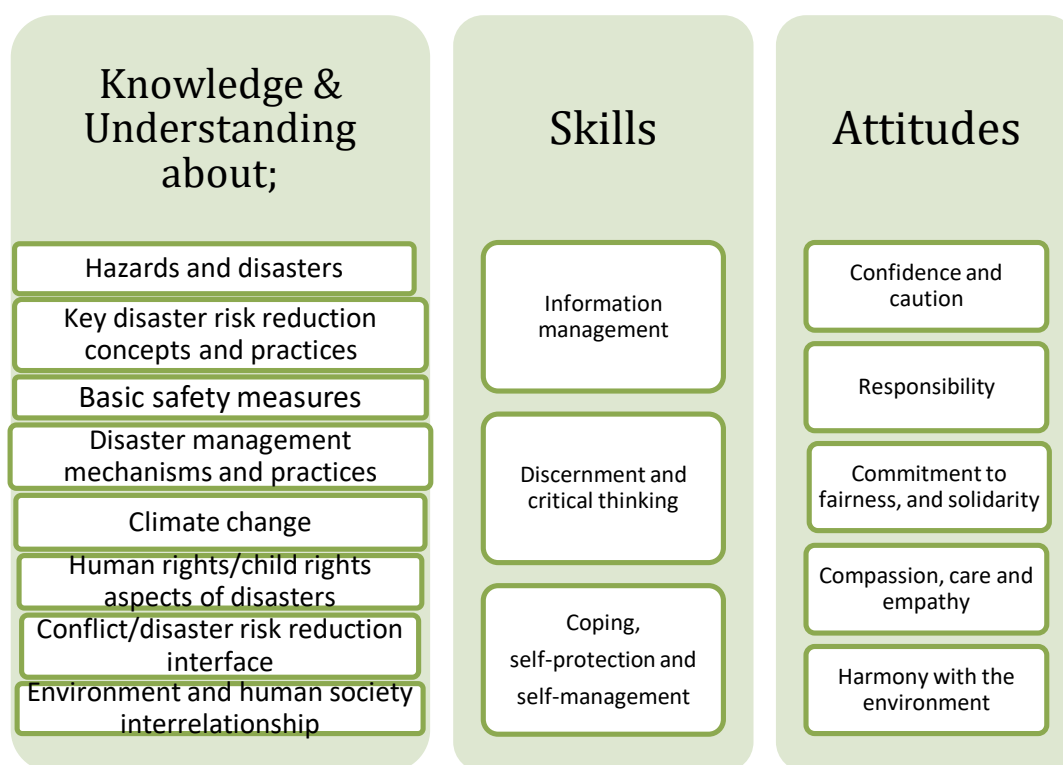
Curricular approaches of disaster risk reduction education envisioned an active, interactive, experiential and participatory pedagogy that cater knowledge to life, practices essential skills, foster attitudes and redirect values. Through such a pedagogy, learners can internalise knowledge, practice skills and refine values and attitudes so that it can be tested with real life situations.

Global Assessment Report on Disaster Risk Reduction of UNISDR (2015) assessed disaster risk reduction (DRR) curriculum development in countries at high risk from natural disaster. The report examined the curriculum in terms of the policy initiatives, curricular approaches, teaching and learning strategies used for disaster risk reduction, the methods of curricular implementation, issues associated with such initiatives and how these attempts contribute to the development of safe school and community environment. The case studies reveal the presence of a policy framework conducive to DRR curriculum development but patchy provision of actual curriculum. There is an absence of systematic learning outcome progression through the grades. Interdisciplinary learning potential is being little exploited. While there are many commendable curriculum development initiatives implemented by agencies that have produced innovative learning and teaching materials these are generally not being taken to scale.

Meeting with disaster management curriculum using various learning techniques including brainstorming; various discussion techniques; interactive multi-media presentations: sharing feelings about threats and disasters; empathetic practices: integrated research and analysis; risk mapping and vulnerability valuation in schools and in community centres; revising emergency plans; action plans and implementation: fostering awareness and partnerships of student community in developing hazard maps and risk management strategies and campaigns. (UNESCO/UNEP, 2012).

## VI. CURRICULAR INTEGRATION OF DISASTER MANAGEMENT EDUCATION; EXPECTED OUT COMES

Curricular integration of disaster management education aims at the outcomes in three levels. They are improvement in knowledge level, enhancement of skills and development of attitudes among the learners. UNICEF's study report on Disaster Risk Reduction in School Curricula (2012) point out the essential learning outcomes of disaster management education.



**Figure 3:** Learning outcomes of disaster management education

## VII. CONCLUSION

Developing positive attitude towards environment is an important objective education. But this objective is not given due emphasis either in the planning phase of curriculum or in the implementation phase. Proper knowledge and awareness about nature is essential for understanding more about disasters and disaster management. Environmentally responsible practice is vital part of educational philosophy that contributes strongly for the sustainable development. Students are the future citizens hence at most care should be given to the proper green attitude formation among the students. The capability of young generation to make decisions about their lifestyle and relationship to environment

has deep implications in the global scenario. From school education itself students should get thorough understanding about the nature around and preparedness to take intelligent decisions especially related to environmental issues. Integrating sustainability principles to the curriculum is the best way to attain this goal. Policy makers, academicians and teachers have to concentrate more in this regard.

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