



#### **4. ASSESSING THE LEVEL OF DISASTER PREPAREDNESS OF PRIMARY SECONDARY AND HIGHER SECONDARY SCHOOLS IN NASHIK CITY.**

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##### **Abstract :**

Dramatic increases have been witnessed in recent years in the frequency and impact of the hazardous natural disasters in the world. While one of the reasons of that increase may stem from the mal use of nature and environment by the people such as destruction of the forests, agricultural areas, fresh water sources and the like which causes a lot of floods, fires, storms and similar kind of disasters; the other stems from the inherent nature of the earth which produces lots of quakes, volcano explosions and the like.

The disasters can be substantially reduced if people are well informed and motivated towards a culture of disaster prevention and resilience.

The literature shows most of the natural disasters which affect people in Nashik are caused by the weather, drought and floods and very few disasters are caused by earthquakes. According to district administration, the probability of disaster occurrence and the possible intensity of disasters for the Nashik , is "High " for road Accidents and is " Medium " for Fires and Flood Disaster in terms of damages like loss of lives, cattle and livestock, destruction of crops, damage to and destruction of property , disruption of community life and life style etc .

The schools are fully loaded with the population which is highly productive and having higher life expectancy. Such a huge potential is at risk in case of disasters which may in turn result into the huge loss to the country. Secondly The teachers are also effective media and change agents for a community preparedness. The children taught about disasters, can pass on to their parents what they have learnt about hazards and risk reduction. Hence Disaster preparedness education and training in schools is essential throughout the country and even worldwide .

Disaster Management requires to promote through awareness, capacity building, training and education throughout the country, including schools and , Disaster risk reduction education must be integrated in primary and secondary schools.

The purpose of the study is to determine the extent to which disaster preparedness was achieved by learners and educators in schools located in Nashik from parents, educators, learners and school safety committees.. The research methodology used in this study to solicit views of school principals, teachers, learners , parents and school safety representatives is a mixed research approach where data was obtained through questionnaires and interviews. The convenient sample of research population comprised of teachers, learners and parents of primary and secondary schools in Nashik City. One Hundred and Forty Six participants filled out questionnaires and four participants responded to interviews. Data collected is computed by means of excel spreadsheet and results are presented in the form of pie and bar graphs with narrative explanations.

The study found that possible threats to schools in and around Nashik city are floods, fires and bomb threats and storms. The findings have revealed that the preparedness level of the schools are not so well for prospective disasters. The findings also revealed that majority of educators were not trained in disaster management. The surprising finding of the study was that learners tend to be the ones who were aware of disaster preparedness in this study than the parents .The parents were lacking in awareness about Disaster management .

The limitation of the study was that data was only collected from parents educators and learners from fifth std to ninth std . Interviews were conducted with parents , educators, and school safety committee representatives only. As the research is limited with the views obtained of the teachers learners and parents obtained of in the Nashik city, observation-based researches may also be complementary for the



reflection of the real life situation at schools. Also school Principal and other authorities are not a part of the sample.

The study tends to assess current status and the baseline about the awareness and contribute towards the body of knowledge and to provide a plan for disaster preparedness in public schools and using this pilot study do further research on the concept of disaster risk reduction in schools by elucidating the gaps that exist.

Although Nashik is placed at very high risk to floods, the attained literature review has indicated that there have not been any researches done about the preparedness of schools for the earthquakes in Nashik yet. Therefore, this research is an original one by obtaining the views of school teachers and of parents about the preparedness of schools towards earthquakes.

*Keywords: Natural disasters, Floods, fire, Primary schools, secondary, higher secondary, educators, learners, parents, disaster preparedness, disaster awareness, hazards, risk reduction, education, curriculum*

### **Introduction and Background :**

Dramatic increases have been witnessed in recent years in the frequency and impact of the hazardous natural disasters in the world. While one of the reasons of that increase may stem from the mal use of nature and environment by the people such as destruction of the forests, agricultural areas, fresh water sources and the like which causes a lot of floods, fires, storms and similar kind of disasters; the other stems from the inherent nature of the earth which produces lots of quakes, volcano explosions and the like.

The concept *disaster* is defined as a serious disruption of the functioning of a community or a society, causing widespread human, material, economic or environmental losses which exceed the ability of the affected community/society to cope using its own resources. The disasters as those events that displace the structural, economic, organizational, cultural and spiritual well-being of communities by destroying their means of existence. Disaster could either be human-induced or natural occurrences. Disasters are natural if they just happen without being induced by humans like tsunamis, volcanoes, earthquakes, storms and floods. Whatever the reason, the truth is that lots of loses, injuries and damages have been experienced during these disasters, and by training the people the rate of the loses and damages may be lessened and even in some cases may entirely be prevented. For that reason, especially by UN agencies and by some developed countries, some efforts are devoted to the training of people by awakening them towards disasters and by training them about what they will do before, during and after the occurrence of the disasters. Natural and man-made disasters cannot be prevented, but at least communities can plan for them through disaster management involving preparedness and mitigation measures. Disaster preparedness refers to activities and measures taken in advance to ensure effective response to the impact of disasters, including the issuance of timely and effective early warnings and the temporary removal of people and property from a threatened location. The disasters can be substantially reduced if people are well informed and motivated towards a culture of disaster prevention and resilience.

The literature shows most of the natural disasters which affect people in Nashik are caused by the weather, drought and floods and very few disasters are caused by earthquakes. According to district administration, the probability of disaster occurrence and the possible intensity of disasters for the Nashik, is "High" for road Accidents and is "Medium" for Fires and Flood Disaster in terms of damages like loss of lives, cattle and livestock, destruction of crops, damage to and destruction of property, disruption of community life and life style etc.

Disaster Management requires to promote through awareness, capacity building, training and education throughout the country, including schools and, Disaster risk reduction education must be integrated in primary and secondary school curricula.

Owing to the geographical location and the mal use of nature, Nashik city faces disasters such as floods, since last consecutive two years. Before this Nashik had faced floods in 2006. According to district administration, the probability of disaster occurrence and the possible intensity of disasters for the Nashik



, based on the earlier history is "High" for road Accidents and is "Medium" for Fires and Flood Disaster. The probability is forecasted for various disasters like - Earth quake, Floods, Cyclones, Epidemics, Industrial & Chemical Accidents, Fires, Road Accidents. The vulnerability is assessed in terms of damages like - Loss of lives, injuries, Damage to and destruction of property, Damage to cattle and live stock, Damage to subsistence and crops, disruption of life style, disruption of community life, Loss of livelihood, disruption of services, Damage to infrastructure and/or disruption of government systems, Impact on Economy and social and psychological after effects.

The schools are fully loaded with the population which is highly productive and having higher life expectancy. Such a huge potential is at risk in case of disasters which may in turn result into the huge loss to the country. Secondly The teachers are also effective media and change agents for a community preparedness. The children taught about disasters, can pass on to their parents what they have learnt about hazards and risk reduction. Hence Disaster preparedness education and training in schools is essential throughout the country and even worldwide.

To prevent the huge destructions and to become a disaster resistant society, schools can play a pivotal role in Nashik, too. This research is done to determine how well the schools are prepared for a prospective Fire and Flood disaster from the aspect of Safety and Disaster proofness, based on the views of the school teachers staff, student and parents; and to make recommendations towards effective disaster preparedness based on the literature review and the research results.

Public schools are required to take measures to ensure the safety of learners during any school activity. There is a need to assess whether learners and educators are aware of the safety plans and are well prepared for any outbreak of disasters. The study focused on collecting data from learners, educators, principals and school governing body safety representatives.

### **Objectives :**

- To assess whether schools in Nashik are aware of implementation of policy documents stipulating for the disaster preparedness.
- To assess whether learners around Nashik city schools have been taught about disaster preparedness.
- To assess whether learners and educators have knowledge about disaster education in Nashik city schools.

### **Literature Review:**

It has been informed that over the past thirty years the frequency and impact of natural disasters has increased and economic damages have tripled. Domesian (1997), the officer at United Nations – International Decade For Natural Disaster Reduction (UN-IDNDR), has noted that - To get people think in a preventive way, and to see the links between disasters, development and environment, one needs a mind-set that is best developed at an early age. A culture of prevention is something that forms over time. Cultural approaches and paradigms must be taught early and in schools to have real success.

There are various ongoing efforts and studies to prevent disasters and to become more disaster resistant population in the world. In 1990s UN campaign focused on assessing the concrete results and achievements of disaster reduction, and promoting "a global culture of prevention for the 21st Century". It is stated that the past few decades bought with them considerable losses due to natural disasters. Beside the loses of many lives, \$90,000 million economic loses occurred. During the last decade UN campaigns emphasized the topics such as "disaster prevention in schools and hospitals" "vulnerable communities" "women and children-active participants in disaster prevention" "cities at risk" "too much water" "prevention begins with information" "disaster prevention-education and youth". On October 1999, the global event for World Disaster Reduction Day was held in Mexico City. The activities were held jointly by the Government of Mexico and UN in the frame of International Decade For Natural Disaster



Reduction (IDNDR) initiative. It is stated that World Campaigns will continue in the new century under the coordination of the International Strategy for Disaster Reduction (ISDR) (UN, 1999).

At the time of rescue and response the priority is given on the basis of life expectancy and resourcefulness expectancy of a person. The school children are rank high in both and the teachers[ age 22- 58] fall next. Also the teachers by profession are change agents and resources of the community. In a school this population in full density is at risk. In USA, governments have spent millions for repairing and replacing schools after the disasters. Alongside the physical damage, mental and spiritual damage have been seen among the people who have the chance of being rescued. Therefore, is need for specific disaster preparedness activities in the school systems. It is pointed out that there is much by school officials to plan for disasters, to mitigate risk, to protect the safety of students and educators, and to ensure that schools recover quickly.

Public schools are required to take measures to ensure the safety of learners during any school activity (South African School Safety Act, 1996). There is a need to assess whether learners and educators are aware of the safety plans and are well prepared for any outbreak of disasters. The study focused on collecting data from learners, educators, principals and school governing body safety representatives.

### **Research Design:**

Mixed methods approach was used for this study, where both qualitative and quantitative methods were combined. Mixed methods is defined as a procedure for collecting, analyzing and “mixing” both quantitative and qualitative data at some stage of the research process within a single study to understand a research problem more completely

Data was gathered from primary and secondary sources. Primary data was gathered with the aid of questionnaires and interview process. Literature review of relevant sources of information about the research problem and research questions were conducted as secondary data.

The literature review is based on secondary data from books, articles in professional journals, research reports, policy documents such as NCS, NDMA, NIDM Handbook and Acts, conference reports, internet and periodicals. Sources consulted are international, national and of local standing and focused on research that provided sound conclusions and recommendations on learner and educator preparedness.

### **Research Methodology:**

A mixed research method is employed in this study using both qualitative and quantitative techniques of collecting data through questionnaires and interviews from principals, educators, learners and school safety committee representatives. Random, convenient and purposeful sampling is used to select participants for the study. Data collected is displayed through charts and analyzed using descriptive analysis.

### **The Research space:**

The space of the research is the primary secondary and higher secondary schools in Nashik, a city located in the part of Maharashtra and is marked as one of the risky cities in respect of the occurrence of the Flood disasters.

### **Sample:**

Total 175 questionnaires were distributed out of which 146 participants returned the filled ones. The sample comprises the school principals, teachers, staff, Safety Committee Heads, student and parents; in the Nashik city. A close ended type questionnaire of 25 items developed by the researcher herself, is used to hold the views of the subjects (see the Appendix). The items are also grouped under the dimensions of “planning” “conveniences and equipment” “implementation” and “integration and culture building” according to the functions of the items. As total, 75 parents, 48 students and 23 teachers have filled the questionnaire and 3 principals and 1 Safety Committee Head responded the questionnaire items through interview and discussion. The questionnaire items are divided into four groups - planning; . conveniences and equipment; . implementation; and . integration and culture building.



**Findings and Interpretation:**

A] Based on Participants personal information

Male – 52% and female -48%

Parents – 50%, Students – 32% and teachers & authorities – 18%

B] Based on questionnaire

The questions were divided into four categories - Planning; Conveniences and equipment; Implementation; and Integration and culture building.

**Planning:** average level of preparedness -57.14%

80 % of participants agreed that the principal ensures the inclusion of some subjects that teach the way of protection towards disasters in the curriculum.

96 % of participants agreed that the school staff, the members of the school community, and the authorities of the other related institutions worked collaboratively in the development of the school plan .

76 % of participants agreed that the school have documented Disaster management policy and Plan

56 % of participants agreed that the school has disaster management cell with nominated staff

48 % of participants agreed that the school has emergency exit pathway signage displayed.

24 % of participants said that A rescue plan given to each teacher to be applied during a disaster.

20 % of participants said that the parents are provided with disaster awareness sessions and necessary guidelines for the disaster prevention and management activities.

**Conveniences and equipment:** average level of preparedness - 61.14%

28 % of participants agreed that the moveable goods are fixed to prevent the fall in case of disaster .

32 % of participants agreed that there is a mechanism at school to turn off the gas, electricity, and water automatically in case of disaster.

92 % of participants agreed that the igniting and burning substances are kept in safe places away from heat , kitchen and electrical panels.

84 % of participants agreed that the lacks[ risks and hazards ] have been determined and met for being prepared towards disasters .

60 % of participants agreed that there are school based rescue teams in the frame of urgent rescue plan.

68 % of participants agreed that there are the supplies such as blanket, battery-powered radio, tent and the like at school.

64 % of participants agreed that there are alarming and early warning systems at school .

**Implementation:** average level of preparedness – 60.00%

68 % of participants agreed that the school arranges sessions disaster awareness ,preparedness and management for staff periodically .

56 % of participants agreed that the school arranges sessions disaster awareness ,preparedness and management for students periodically .

52 % of participants agreed that the schools undertakes drills related to the actions that should be done during the disasters are taken place periodically .

56 % of participants agreed that the school authorities ensures the participation of the teachers in the programs towards the disaster preparedness .

28 % of participants agreed that the School personnel and students are continuously trained on preparedness , evacuation, and rescue issues .

98 % of participants agreed that necessary efforts have been devoted for strengthening of the school buildings .

**Integration and culture building:** average level of preparedness – 34.00%





48 % of participants agreed that the school disaster management cell with nominated staff and contact numbers are displayed .

48 % of participants agreed that there is a conscious, wide-awake school culture for preventing disasters – for safety and security of learners and staff .

20% of participants agreed that the parents are involved in the disaster prevention and management activities .

40% of participants agreed that the support and aid of some specialists such as doctor, engineer, electrician, etc. are obtained to be prepared for the disasters).

Only 20% of participants agreed that some activities such as workshops, seminars, conferences are being realized to raise the level of awareness for disasters at school and school environment.

### **Inferences :**

The schools have good level of planning for activities for Preparedness, however it is confined to making policy documents and committees in the books only. The circulation of the same ; training , Implementation and coordination are the missing bonds.

Most of parents are not aware of the existence of Documented policy, equipment ,facilities and special committee defined for Disaster management at school.

The leadership for Safety culture is not visibly demonstrated in the school and is reflected in percolation to students and parents through educators

70% of the schools have documented policy and required facilities and equipment for Disaster Management. However the training and implementation is missing. In remaining 30% schools, the disaster preparedness at the level of infrastructure and inventory is not sufficient.

Most of the schools have early warning system or alarming sms system for parents communication .

In most of the schools ,a rescue plan is not given to each teacher to be applied during a disaster.

### **Recommendations:**

The schools should have a detailed manual on Safety and Disaster Management Plan with required infrastructure equipment and human resources teams

The Safety manual and Disaster Management Plan and teams should be circulated to all the school staff – teaching and nonteaching with the responsibilities assigned to them

The Parents are also need to be made aware of the policy and the plan and some parent representatives are to be involved into it.

Awareness and orientation sessions are to be planned for School staff, including educators, learners & parents

The disaster management teams including educators are to be deployed for Special Training Courses and be trained for the tasks they should undertake during the event.

There should be periodic mock drills and refresher trainings for the school staff – teaching [ educators] and nonteaching

The disaster preparedness at the level of infrastructure and inventory is to be developed.

The Safety culture should be developed in the school at Principal level and is to be percolated to students and parents through educators

Emergency Exit pathway, highlighted and made displayed prominently and a rescue plan is to be given to each teacher to be applied during a disaster.

### **Conclusion**

The disasters as those events that displace the structural, economic, organizational, cultural and spiritual well-being of communities by destroying their means of existence. Disaster could either be human-induced or natural occurrences. Accidents happen any time without warning; hence ensuring safety and proactive preparedness are essential. The disasters can be substantially reduced if people are well informed and motivated towards a culture of disaster prevention and resilience. The probability of disaster



occurrence and the possible intensity of disasters for the Nashik , is”High “ for road Accidents and is “ Medium “ for Fires and Flood Disaster in terms of damages like loss of lives, cattle and livestock, destruction of crops, damage to and destruction of property , disruption of community life and life style etc .

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To prevent the huge destructions and to become a disaster resistant society, schools can play a pivotal role. The disaster preparedness can be achieved in schools, through awareness, training and education throughout and associations with different organizations like parents , hospitals, NGO, etc. The capacity building can be done through awareness training and periodic refresher training and mock drills. The educators and parents are to be the main pillars. The schools should use knowledge, innovation and education to build a culture of safety and resilience at all levels. The Safety culture should be developed in the school at Principal level and is to be percolated to students and parents through educators. The disaster preparedness at the level of infrastructure equipment and human resources is to be developed. The schools should have a detailed manual on Safety and Disaster Management Plan with required infrastructure equipment and human resources teams . The parents are to be involved in the Disaster management plan . Periodic awareness, refresher training and mock drills are to be conducted to check and maintain the efficiency of the system .

#### **References:**

- Source: [mdmu.maharashtra.gov.in/pages/dmp/nashikShow.php](http://mdmu.maharashtra.gov.in/pages/dmp/nashikShow.php)  
[Knowledge of disaster risk reduction among school students in Nepal ...](#)  
[www.tandfonline.com/doi/full/10.1080/19475705.2013.809556](http://www.tandfonline.com/doi/full/10.1080/19475705.2013.809556)  
[Assessing school disaster preparedness by applying a ... - IOPscience](#)  
[iopscience.iop.org/article/10.1088/1755-1315/56/1/012021/pdf](http://iopscience.iop.org/article/10.1088/1755-1315/56/1/012021/pdf)  
[Disaster and Emergency Preparedness: Guidance for Schools - IFC](#)  
<https://www.ifc.org/wps/wcm/connect/.../DisERHandbook.pdf?MOD=AJPERE>  
[Assessment and preparedness toolkit for safe and sustainable school](#)  
[unesdoc.unesco.org/images/0024/002445/244511e.pdf](http://unesdoc.unesco.org/images/0024/002445/244511e.pdf)  
**Assessing disaster preparedness of learners and educators in Soshanguve North schools**  
<https://www.ufs.ac.za/docs/librariesprovider22/disaster...training.../2291.pdf?...>  
[Disaster awareness and preparedness of secondary schools in Homa ...](#)  
[erepository.uonbi.ac.ke/.../Disaster%20Awareness%20And%20Preparedness%20Of%20...](http://erepository.uonbi.ac.ke/.../Disaster%20Awareness%20And%20Preparedness%20Of%20...)  
[Assessing School Safety from Disasters A Global Baseline ... - unisdr](#)  
[www.unisdr.org/files/35274\\_2012schoolsafetyglobalbaseline.pdf](http://www.unisdr.org/files/35274_2012schoolsafetyglobalbaseline.pdf)  
The level of preparedness of the schools for disasters from the aspect of the school principals  
[https://www.preventionweb.net/files/5135\\_TR01EQ832-Ft.pdf](https://www.preventionweb.net/files/5135_TR01EQ832-Ft.pdf)  
[Assessment of disaster preparedness among emergency departments ...](#)  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4986169/>  
[Assessing Disaster Preparedness of Officials and Residents in Two ...](#)  
<https://www.omicsonline.org/.../assessing-disaster-preparedness-of-officials-and-reside...>