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DISASTER RESISTANT STRUCTURE

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Abstract: Disaster are destructive and causing extensive damage to infrastructure, public and private services, the environment, the economy and devastation to human settlements. Recurring earthquake, flood, cyclone losses have handicapped the economic development of both developed and developing countries. India is a developing country and prone to a number of natural hazards. Among all the natural disasters that country faces, earthquake, flood and cyclone are the most frequent. Disasters are natural phenomenon which occurs frequently. We cannot stop disasters but we can minimise the live and structure loses. In this study we are trying to design a structure which can resist many types of disasters like flood, cyclone, and earthquake and so we can minimise the live lost. The possible outcome of this study will be disaster resisting structure which may got damaged or cracked during disaster but it will not collapse during this type of disaster.

Keywords: Disaster, Structure

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INTRODUCTION

A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society or environmental losses that exceed the community's or society's ability to cope using its own resources. Though often caused by nature, disasters can have human origins. (**www.ifrc.org**). Types of disaster can take many different forms, and duration can range from an hourly disruption to days or weeks of ongoing destruction. Below is a list of the various type of disaster – both natural and man-made or technological in nature – that can impact a community. (**en.m.wikipedia.org**)

Natural type of disaster: damaging wind , drought and water shortage , earthquake , emergency diseases , extreme heat , flood and flash floods , hail , hurricanes and tropical storms , landslide and tropical storms , thunderstorms and lighting , tsunamis , tornadoes , wildfire , winter and ice storms , sinkholes , agricultural diseases and pests (restoreyoureconomy.org)

Man-made and technological types of disaster: hazardous materials, power service disruption and blackout, nuclear power plants and nuclear blast, radiological emergencies, chemical threat and biological weapons, cyber-attacks, explosion, civil unrest (restreyoureconomy.org)

History of disaster many disaster destroying lives and properties. (www.fema.gov). we bring the most dangerous natural disasters occurring in the history of India over the years: (mapsofindia.com).

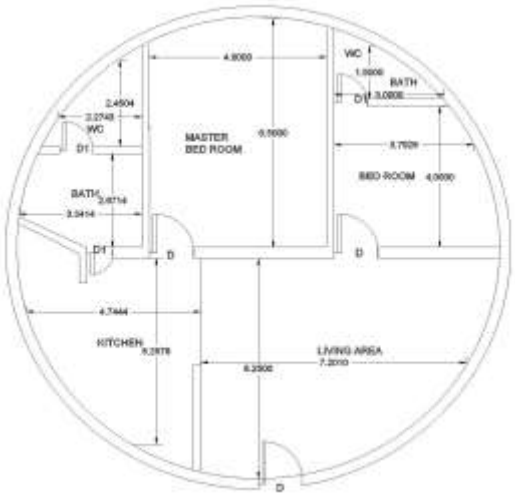
Kashmir floods year: 2014, area affected: Srinagar, area affected: gobind ghat, Kadar, rudraprayag district. death toll: 5000 plus , the Indian ocean tsunami: year: 2004, area affected: parts of southern India and Andaman nicobar island, Shrilanka, Indonesia etc. death toll: 2 lakh plus , Gujarat earthquake: year: 2001, area affected: Bhuj, Ahmadabad, Gandhinagar, Surat, Kutch, Surendranagar district, Rajkot district, Jamnagar and Noida. , Odessa super cyclone: year:1999, area affected: the coastal districts of bhadrak, Kendra Para, bal sore, jagatsinghpur, puri, ganjam etc. death toll: 10,000 plus , latur earthquake: year:1993, area affected: district of latur and osmanabad, death toll: 20,000 plus.

Resisting design concept (www.designenvelope.com) ideally a house should offer good protection from floods, fires, earthquakes, storms, civil unrest and financial difficulties. Most houses today are designed with substantial input from building contractors who have the primary goal of selling for the highest price, other concerns are not even a remote consideration. Residential and mixed use buildings that can be constructed for both low-income and middle income occupants can assist inner city builders with developing on infill lots. High security can be an important consideration in urban environments, so the disaster resistant project examines ways to enhance security. The disaster resistant building project offers suggestions about how the design of the typical house, small apartment building and small

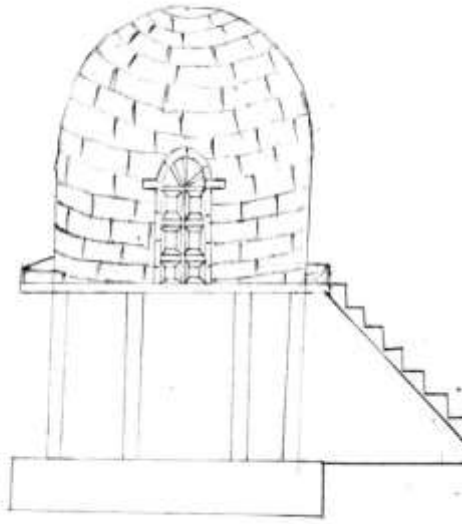
commercial building can be modify to increase the ability of the occupants to withstand natural disaster, crime and financial crisis. The focus is reformulated space planning and structural design.

METHODOLOGY

PLAN & ELEVATION



PLAN



ELEVATION

TECHNICAL DETAILS

Construction type: 2-BHK
Dome Structure Height of structure: 9.14 m,
Diameter of Dome: 13.7 m,
H.F.L: 1.5 m,
Grade of Concrete: M-25,
Use of material: cement send, aggregate, reinforcement, wood sheet etc.
Total estimated cost of construction: rs.14, 00,000. (Approximate)

RESULT

We are expecting to have a sustainable economic design of structure which will resist natural disasters like earthquake, flood and cyclone and Indian Climates without any major damage any property.

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