

## **ABSTRACT**

With the advancements in technology and industrialization, high rise buildings have become very common now-a-days. These buildings need to be designed for various types of loads such as dead load, live load, seismic load and wind load. Live and wind load depend solely on occupancy, geometry and geography of the structure and hence can't be altered much while dead and seismic loads can be. The major part of the dead load and seismic forces is caused by the self-weight of the structural and non-structural members. Nonstructural components like walls have no load carrying role to play. They just increase the self-weight of the structure and the seismic load acting on the structure which in turn increases the cost of the building. Usually brick masonry is used for wall component and problem in using masonry bricks as partition walls is that they are made up of top layer of the soil which requires years to build up and is very fertile. Using this soil for bricks is very harsh for the plants and vegetation in that region.

Hollow concrete blocks are one possible solution to this problem. Hollow concrete blocks as their name suggests are blocks made up of concrete and are hollow from inside. These blocks not only have reduced self-weights but also have improved properties such as better insulation, better sound proofing, easier to lay out etc.

This project work studies use of Kota stone wastes as substitute of cement and aggregates in concrete used for making hollow concrete blocks. Kota stone is a type of mineral aggregate found near Kota and Jhalawar districts of Rajasthan. These stones are cut and chipped to shape them into desirable shapes. During this, stone wastes and stone slurry is generated as byproducts of the manufacturing process. Nowadays dumping of wastes are serious problem. These wastes can be used to make concrete blocks which will serve as an effective method to control Kota stone wastes and use them for a green purpose. The suitability of these wastes in concrete has been tested by many researchers and it has provided fruitful outcomes due to their chemical composition. The chemical composition of stone slurry is high in calcium oxide which makes them ideal to be used as partial replacement to cement. The stone chips have sufficient physical strengths to be used as complete coarse and fine aggregate replacement in the mixture.