A project report on

POZZOLANIC ACTIVITY OF BAGASSE ASH FROM WASTE OF SUGAR AND JAGGERY INDUSTRY

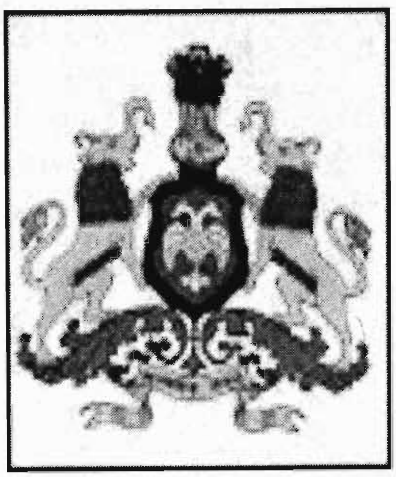
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BACHELOR'S DEGREE
IN
CIVIL ENGINEERING

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SYNOPSIS

The use of wastes from either agriculture or industrial processes has been the focus of waste reduction for environmental and economic reasons and one cannot overlook the technical advantages that come from the incorporation of these wastes as mineral additives to cement. Various researches indicate the benefits of reology, on the mechanical and durability properties of mineral additives in mortar, concrete and block manufacture etc.

In India and other Asian countries rice husk ash (RHA),(the husks can often be difficult to dispose of), provides a good sources of pozzolanas in Europe and the USA, there are a growing number of developing countries now using more and more pozolanas in combination with lime or OPC.

Pozzolanas, by their diverse and nature, tend to have widely varying characteristics. The chemical composition of pozzolanas varies considerably, depending on the source and the preparation technique. Generally, a pozzolana will contain silica, alumina, iron oxide and a variety of oxides and alkalis, each in varying degrees. This presents problems for small-scale manufactures wishing to use pozzolanas in a lime or OPC-pozzolana mix where there are no laboratory facilities available for testing the raw materials, then it is difficult to maintain standards and produce a consistent product.

However **incorrect understanding and characterization** of these Agro-industrial residues as mineral admixture can result in loss of performance in the construction sector. Therefore elaborate studies of the aspects related to the characterization, evaluation and use of residue is very important.

Bagasse is the fibrous residue obtained after crushing and extraction of juice from sugarcane, is a major sugar industries waste product in India. Nowadays, it is common place to reutilize sugarcane bagasse ash as a biomass fuel in boilers for vapor and power generation in sugar factories. As a result large quantity of bagasse ash is generated; this is causing a serious disposal problem for the industry.

The variation in temperature and duration of burn of bagasse significantly affect the size of particles and composition of resulting ash which influences the way in the material behaves as pozzolana when mix with cement and also it may contain high level of silica and alumina enabling its use as a supplementary cementitious material in cement pozzolana binders.