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Shahabad Stone Misuse Scheme in India

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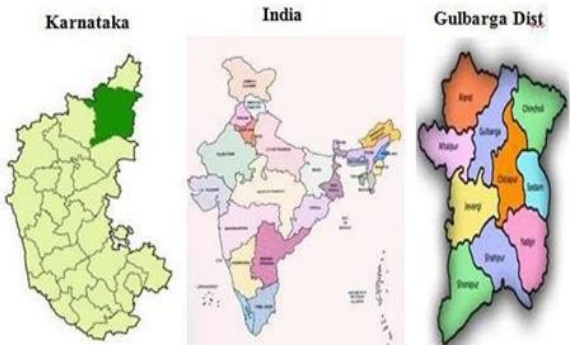
Abstract: Calcareous stone holds in India is around 85,600 million tons. Amid the mining and preparing of these stones Calcareous stone waste is created. TIFAC(Technology Information, Forecasting and Assessment Council, Department of Science and Technology, Govt. of India), in the year 1999, had completed an exploration and created a report called Solid waste age and use in calcareous stone industry-TMS 151. As indicated by this report Solid waste created by India per annum is 17.8 million tons, and it gets amassed to 250 million tons. These waste causes tremendous inconveniences by polluting water bodies, influences soil richness, and when they are dumped in water bodies causes seepage issues. This examination paper particularly centers around the waste produced in the town named Shahabad, in North Karnataka. This paper gives the properties, the issues made by this Shahabad stone waste age and the conceivable therapeutic measures.

Key words: Shahabad stones, stone waste, Kagini river, disposal problems, physical properties, chemical.

1. INTRODUCTION

Natural security in Shahabad town has raised awesome concerns. Shahabad is a town in north Karnataka, with scope of 17,1333 (177'59.880"N and longitude of 76,933 (7655'59.880"E). This territory has part of calcareous stone stores called Shahabad stones. The dressing of this stone produces gigantic measure of misuse of sizes running from 5mm to about 150mm expansive stone squanders. The dealing with and arranging off of this stone waste has emerged as a major issue over the most recent 10 years.

As per TIFAC's report of 1999, by 1989-1990 around 97 million tones of waste were created as stone waste all finished India, by 1993-1997 it had touched 118.6 million tons and it determined that by the year 2000 it would achieve 139 million. Shahabad stone waste contributes 1/third of the aggregate waste produced each year which is a high number.



2. STONE WASTE GENERATED IN INDIA

In the year 1999, About 17.8 million tons of calcareous waste was delivered in India. Around 12.2 million tons were dismissed in the mine locales, around 5.2 million tons were delivered through cutting and trimmings or as it were site dressing, around 0.4 million tons were created as slurry at handling and cleaning units.

Out of 6773 mines of calcareous stone mines just 5400 mines are being worked. Be that as it may, the creation has expanded as demonstrated as follows

YEAR	PRODUCTION
1989-1990	76.0 million tonnes
1993-1994	97.0 million tonnes
1996-1997	118.6 million tonnes
1997-2000	139.0 million tonnes
2001-2005	188.6 million tonnes

3. EFFECTS OF STONE WASTE IN SHAHABAD TOWN

Shahabad town has the stores of Shahabad stones and real movement of this region is stone quarrying. Hand dressing is done in site and part of little stones of sizes 20mm to huge chunks of unpredictable states of about untruths scattered everywhere throughout the quarry. This waste

involves space, thus they dump everything over the town and they think that its hard to arrange it off. Broadly utilized systems for reusing honed in the district is utilizing it to lay pathways in patio nurseries and utilizing 20mm-80mm stones in vases for beautiful purposes. The quarry proprietors think that its extremely hard to dispose of this loss as consistently the quarry out stone, they dress them in the site and ordinary immense measure of waste is created. These stones are dumped into the close-by Kagini waterway, thus, this causes pollution of water assets. Ill-advised routine with regards to transfer has additionally prompt Drainage issues when the waste is dumped in the seepage entry. Expansion of quarry has additionally turned into an issue as they are not ready to successfully arrange the waste and the waste lie in the quarry itself making an absence of room for augmentation, creation and handling of these stones. There is a critical need to use this waste successfully in a domain agreeable way and furthermore pick up a helpful utilize.

The accompanying impacts additionally have been seen because of stone squanders:

- Soil ripeness is influenced – These are supplement lacking, contains overwhelming metal phytotoxic ants and inordinate salts, which annihilates vegetation.
- Microbial action is annihilated in soil.
- Mine expansion turns into an issue as the waste is dumped in mine destinations itself.
- Handling issues.
- Disposal issues.

4. PHYSICAL APPEARANCE

5. PHYSICAL PROPERTIES

The stones from the site were gathered and were pulverized and sieved. 20mm stone size was gathered independently to be utilized as a part of discovering the physical properties. The stones were squashed and rakish fit as a fiddle. The stones were washed altogether sun dried and stove dried before use in the test to guarantee they are without clean. Tests were done to locate the physical properties thinking about it as course total.

PROPERTY	VALUES OBTAINED
Specific Gravity	2.0
Density	2.64kg/cm^3
Impact Value	16%
Compressive Strength	25-36 N/mm^2
Water Absorption	1.2%
Hardness on Mohr's Scale	4
Modulus of Rupture	21-35 N/mm^2
Porosity	Very low to low

6. CHEMICAL PROPERTIES

Tests demonstrated that these stones are siliceous in nature with some level of argillaceous materials, and hints of lime, magnesia and Titanium di oxide. The accompanying table demonstrates the rates of these components:

CHEMICAL	PERCENTAGE
SiO_2	55%- 65%
Alumina	15%- 20%
Iron (elemental)	04%- 08%
Soda	02%- 04%
Lime	0.5% - 01%
Magnesia	0.5% - 03%
TiO_2	0.4%- 0.5%

7. RECOMMENDATIONS

On the off chance that calcareous stones are utilized sensibly none of the calcareous stone waste will make such issues. For use and preparing of Shahabad stones present day and propelled innovation must be utilized which won't just lessen stone waste yet additionally the Government can use the as of now delivered stone waste. Wire Saw Mining methods must be utilized as opposed to Quarrying by impacting, this will decrease wastage in the mining stage from 60 to 85% to 20 to 30%. Assist lessening of wastage should be possible by utilizing little estimated obstructs for delivering little tiles and pieces. Indeed, even improving things, for example, window boxes and plate can be made out of the created stone waste. Amid the mining and utilization stages legitimate reviewing will bring about appropriate use of the waste. The Government can find a

way to deliver slaked and fast lime from these stone squanders. At the point when these stones are ground utilizing miniaturized scale pounding strategy for calcium carbonate, these stones can be powdered and utilized as fillers in fillers in paints, plastic and paper businesses. Lime-Silica blocks can be produces from the slurry delivered amid the cleaning of stones. This should be possible by blending the slurry alongside Silica. Mining and tax collection rules must be brought together in every one of the states all finished India.

By receiving the above suggestions, numerous positive focuses can be accomplished. This decreases wastage essentially as well as by delivering other esteem included items, work is created. It likewise helps the economy, decreases natural contamination, in this manner Shahabad town won't confront genuine risk of Kagini stream water contamination. Because of the fabricate of Silica-Lime blocks, fruitful earth stores can be secured which are utilized as a part of block businesses for standard blocks make. In this manner, compelling usage of these Shahabad stone waste will help the economy, make new work openings and furthermore diminish natural contamination in the town of Shahabad.

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