

CHAPTER IXL I M E S T O N E S A S
B U I L D I N G S T O N E

Limestone not only has qualities of a good building stone, but possesses many more additional merits so as to have an edge over other building stones. Its ornamental beauty in the form of marble is unsurpassed, and in a way it can be considered as the king among the building stones. Taj Mahal built in marble as far back as 16th century, even today remains one of the wonders of the world.

The advantage of limestone as building stone is in its softness. This renders it easy for cutting, grinding, polishing and carving figures, statues, and designs in it.

Dressed blocks of limestones are extensively used as rubble in masonry works. It is also used as a crushed aggregate in concrete works, and is accepted as good road metal. Chips of marble and dolomite are

used in the manufacture of mosaic tiles.

Gujarat abounds in resources of limestones for the use as building stones. A brief account of the present utilisation of limestones and marbles in the State and future possibilities of development are given in the following pages.

Mainland Gujarat

Banaskantha district:

Delhi marbles in the Ambaji area have been worked for several centuries, and are reported to have been used in the building of Jain temples of Dilwara (Mt. Abu), Palitana, Girnar and other places, as early as 10 centuries back.

These marbles have a variety of colours and shades, such as white, pink, green, black, etc., some of them are plain, while others have some patterns because of coloured spots or strips. A number of quarries are being systematically worked in the Ambaji area to exploit this stone. These marbles dressed into blocks 1.5 x 1.5 x 1.5 metre-size prepared at the quarry site,

are further cut into slabs. The slabs are polished by grinding with emery powders of different mesh. The polished marble slabs are sold in the market at Rs.50/- to 75/- per sq.m.

At present marble blocks are being taken from quarries to Abu Road for preparing the finished product. The development of this industry depends upon the demand for the marble.

Marble, since the dawn of civilisation, has enjoyed a unique position as the most decorative construction material all throughout the world, and it still continues to be in great demand. With such vast resources of marble in the Gujarat State, it is not unlikely that with reduced cost of production, our country can develop a good export trade in this ornamental stone.

Baroda district:

(a) Dolomitic limestones of marble variety occur in abundance in the area 10-15 km north of Chhota-Udepur at Kanawant, Jhair, Wanar, Dhamori, Padlia, Bervi, Chatawada, Dedigam, Ambala, etc. At present these are

mainly used as chips in mosaic tiles. These crystalline dolomitic limestones can very well be utilised as marble slabs for building purposes.

(b) The variegated limestones of Sandara consists of marbles of pinkish drab, ash grey, deep bluish black, white, and pale yellow colours. These take quite good polish.

These are not exploited so far, and deserve attention.

(c) Serpentinous marbles near Chhuchhapura are well known as Motipura marbles, and are termed as 'Verde antique'. It is extensively quarried and used as ornamental stone of great beauty. These are sold at Rs.115/- to 120/- per sq.m.

Sabarkantha & Kaira districts:

Lameta limestones (Grade-VI) near Balasinor in Kaira, and at Gabat in Sabarkantha districts also find use as building stones. The present large scale use of this rock is as guardstones and milestones along highways, road metal, material for soling, as crushed

aggregates in concrete works, and occasionally as a rubble for masonry work. Being easy to cut and dress, the use of this stone can be popularised as a rubble in construction of buildings and other structures.

Broach district:

Bagh limestones of Narmada valley have not so far attracted attention of builders and engineers, except using them as road metal. There is a brief reference in the publications of Roy (1951), and Coggin Brown (1955) mentioning their suitability as a building material.

Massive limestones from Gora, Lindi, Vanji, etc., can be put to use as a rubble in masonry works.

These limestones are metamorphosed to some extent, and are fine grained with various attractive colours ranging from grey, greenish grey, pink, black, etc. It is worth using chips of these rocks in mosaic tile industry. These also can very well be used as crushed aggregates in concrete work.

Broach and Surat districts:

Tertiary limestones of Dinod, Kanerao, Kandh and Tarkeshwar areas are easy to excavate, and are thus cheaper. These are extensively used in the construction of roads as soling material. These stones have yellow colour with embedded fossils, and are used in public gardens in preparing decorative artificial hillocks, mounds and caves.

Saurashtra

Miliolitic limestones of Saurashtra are known to be one of the best building material. These are popularly known as 'Porbandar Stone'.

Miliolites can easily be cut by an axe or a saw to any size and shape, and can easily be carved. However, those are hardened on exposure. It has a pleasing appearance. These cut blocks are locally known as 'BELA' and usually have a size of 35 x 55 x 20 cm for being used in construction works of buildings. One person can easily take out about 5 to 6 belas a day and are sold at Re.0.50 per piece. **Plate VII.**

PLATE VII



**Kirti Mandir - Porbandar, Memorial
of Mahatma Gandhi - Built in
Miliolite Limestone.**

Quarries in these limestones with cut faces varying from 5m to 30m are common in Amreli, Bhavnagar, Jammagar and Junagadh districts.

Moreover, the waste chippings from the quarries are utilised by the Associated Cement Companies at Porbandar and at Tata chemical Works at Mithapur.

Kutch

Miliolite limestones find extensive use as building stones in this region also, as is in Saurashtra.