

# Marble & Granite

## Sector Brief

The objective of this short write-up is to provide the reader with an overview of the sector. The information covers global trade of the product, status of Pakistan's exports and summary of industry structure. Trade information for global comparisons has been obtained from PC-TAS, International Trade Centre's Database. Latest available export data on Pakistan has been obtained from the Federal Bureau of Statistics, Pakistan.

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## 1. Introduction

Natural stones are an integral part of the human history in terms of ornamental and construction use. Dimensional stones are produced in more than 42 countries of the world while 12 of these producers are dominant in the international market i.e. 6 European countries and 3 each from Asia and Africa.

Technological advances in the last seventy years had increased the world production and consumption of dimensional stones to 49.5 million tons. Due to increase in world consumption the granite and marble international trade reached US\$ 2.5 billion mark in 1999. Italy is the major player in the international market and exported 38% of the dimensional stone's exports, while its imports were 18% of the international imports. Other major exporters include Spain, Turkey and Portugal while major importers were USA, China, Germany and Hong Kong.

### 1. Global Trade of Granite

Granite and sandstone exports (SITC 27313) have shown a decline in the last five years by about 22%, however, in 1999 exports increased slightly, by approximately 1%.

| Value in \$ million |      |        |         |         |       |
|---------------------|------|--------|---------|---------|-------|
| World Exports       |      |        |         |         |       |
|                     | 1995 | 1996   | 1997    | 1998    | 1999  |
| WORLD               | 843  | 842    | 740     | 644     | 653   |
| Growth % age        |      | -0.05% | -12.16% | -12.94% | 1.46% |

#### 1.1. Major Trade Players

India has been the main exporter of granite and sandstone for the last five years. Its exports have declined by 46% in five years but it managed to capture 15.11% of the granite trade in 1999. Norway, which had 12.15% of the export share and Italy, capturing 8.47% of granite market in 1999 were two other major exporters.

| Value in \$ million |        |        |       |       |       |               |
|---------------------|--------|--------|-------|-------|-------|---------------|
| Major Exporters     |        |        |       |       |       |               |
|                     | 1995   | 1996   | 1997  | 1998  | 1999  | % Share in 99 |
| INDIA               | 182.72 | 175.10 | 91.25 | 98.72 | 98.72 | 15.11%        |
| NORWAY              | 68.50  | 76.38  | 79.52 | 76.51 | 79.41 | 12.15%        |
| ITALY               | 71.42  | 73.45  | 68.62 | 70.10 | 55.34 | 8.47%         |
| CHINA               | 71.74  | 65.50  | 56.20 | 53.51 | 49.50 | 7.57%         |
| SPAIN               | 53.98  | 52.22  | 62.86 | 50.24 | 47.03 | 7.20%         |
| USA,PR,USVI         | 38.04  | 36.45  | 38.65 | 40.20 | 35.54 | 5.44%         |
| FINLAND             | 43.33  | 39.13  | 38.16 | 32.83 | 34.04 | 5.21%         |
| Other               | 313    | 324    | 305   | 222   | 254   | 38.85%        |

Italy has been the largest importer of granite and sandstone for last five years and accounted for 31.48% of total imports with a value of US\$ 365 million in 1999. China's imports of granite and sandstone had increased by 9 times approximately in these five years and was second with 10 % of world imports of granite in 1999.

| Value in \$ million |        |        |        |        |        |               |
|---------------------|--------|--------|--------|--------|--------|---------------|
| Major Importers     |        |        |        |        |        |               |
|                     | 1995   | 1996   | 1997   | 1998   | 1999   | % Share in 99 |
| ITALY               | 389.96 | 377.23 | 379.97 | 379.11 | 365.07 | 31.48%        |
| CHINA               | 11.59  | 19.66  | 45.67  | 53.43  | 115.51 | 9.96%         |
| SPAIN               | 68.60  | 81.28  | 87.30  | 91.98  | 96.26  | 8.30%         |
| GERMANY             | 73.84  | 77.02  | 71.79  | 84.76  | 78.82  | 6.80%         |
| JAPAN               | 193.90 | 151.03 | 140.80 | 91.08  | 68.23  | 5.88%         |
| FRANCE              | 61.11  | 57.68  | 54.08  | 57.29  | 58.02  | 5.00%         |

## 1.2. Pakistan:

In 1999 granite accounted for US\$65 thousand in foreign exchange earnings, which was approximately 0.01% of international granite exports. The share reached a high of 0.03% in 1998 when Pakistan exports were US\$ 208 thousand, other than that exports were in the range of US\$ 61-87 thousand.

| Value in \$ thousand               |        |        |        |        |        |
|------------------------------------|--------|--------|--------|--------|--------|
| Pakistan Exports Granite+Sandstone |        |        |        |        |        |
| Years                              | 1995   | 1996   | 1997   | 1998   | 1999   |
| Value                              | 66     | 61     | 87     | 208    | 65     |
| Growth %                           |        | -8%    | 43%    | 139%   | -69%   |
| Quantity (tons)                    | 521    | 375    | 744    | 1,360  | 610    |
| Growth %                           |        | -28%   | 98%    | 83%    | -55%   |
| Average Price                      | 126.68 | 162.67 | 116.94 | 152.94 | 106.56 |

Pakistan is also a regular importer of granite and sandstone and imported granite worth of US\$ 70 thousand in 1996. Pakistan export price per ton was in the range of US\$ 106-162 per ton, while import price reached a high of 493 and a low of 89 US\$ per ton in the previous five years.

| Value in \$ thousand               |      |      |      |      |      |
|------------------------------------|------|------|------|------|------|
| Pakistan Imports Granite+Sandstone |      |      |      |      |      |
| Years                              | 1995 | 1996 | 1997 | 1998 | 1999 |
| Value                              | 36   | 70   | 9    | 53   | 5    |
| Growth %                           |      | 94%  | -87% | 489% | -91% |

For international comparisons the data used is for the year 1999. However, data is also available for Pakistan for the year 2000-2001, which shows that there has been an increase in exports from US\$65 thousand to nearly US\$143 thousand while imports were upto US\$ 28.77 thousand in 2000-01.

Some of the leading importers from Pakistan include Italy, which imported 49% of Pakistan's granite in 1999 while Singapore is another identifiable importer but its imports were nil in 1999.

| Quantity in '000' tons & Value in \$ thousand |      |     |      |     |
|-----------------------------------------------|------|-----|------|-----|
| Pakistan Major Export Partner                 |      |     |      |     |
| Country                                       | 1998 |     | 1999 |     |
|                                               | V    | Q   | V    | Q   |
| ITALY                                         | 151  | 854 | 32   | 293 |
| SINGAPORE                                     | 16   | 105 | 0    | 0   |
| Other                                         | 41   | 401 | 33   | 317 |

## 2. Global Trade of Marble

Marble exports have registered negative growth in last two years but if the last five years are analyzed, it shows a positive growth of 6%.<sup>1</sup>

| Value in \$ million |      |        |       |        |        |
|---------------------|------|--------|-------|--------|--------|
| World Exports       |      |        |       |        |        |
|                     | 1995 | 1996   | 1997  | 1998   | 1999   |
| WORLD               | 1758 | 1938   | 1974  | 1961   | 1863   |
| Growth % age        |      | 10.25% | 1.83% | -0.66% | -5.01% |

Marble exports can be distinguished in three categories i.e. raw marble, rough worked and finished marble. All of these have a comparable share in total exports but finished marble has had the lion's share of about 50% throughout the previous five years. All have experienced negative growth but raw marble has increased its share in total marble exports from 19% to 24% in the previous five years.

| Value in \$ million                   |      |        |        |        |        |
|---------------------------------------|------|--------|--------|--------|--------|
| Marble etc.                           |      |        |        |        |        |
|                                       | 1995 | 1996   | 1997   | 1998   | 1999   |
| Value                                 | 325  | 390    | 456    | 451    | 446    |
| Growth % age                          |      | 19.95% | 16.70% | -1.08% | -0.98% |
| Share in Total Marble Exports         | 19%  | 20%    | 23%    | 23%    | 24%    |
| Marble Rough worked                   |      |        |        |        |        |
|                                       | 1995 | 1996   | 1997   | 1998   | 1999   |
| Value                                 | 546  | 589    | 610    | 584    | 531    |
| Growth % age                          |      | 7.93%  | 3.42%  | -4.19% | -9.12% |
| Share in Total Marble Exports         | 31%  | 30%    | 31%    | 30%    | 28%    |
| Marble (Raw, rough worked & finished) |      |        |        |        |        |
|                                       | 1995 | 1996   | 1997   | 1998   | 1999   |
| Value                                 | 887  | 958    | 909    | 926    | 886    |
| Growth % age                          |      | 8.11%  | -5.20% | 1.93%  | -4.38% |
| Share in Total Marble Exports         | 50%  | 49%    | 46%    | 47%    | 48%    |

<sup>1</sup> World trade of marble is reported under different SITC codes (27312, 66134 & 66136). For the purpose of analysis, all these codes have been summed up to get the overall picture of the world's trade of marble.

## 2.1. Major Trade Players

Italy is the main exporter of marble for the last five years. Its exports have declined but it managed to capture 49.54% of the marble trade in 1999. Other major exporters include Spain, which had 15.42% of the export share and Turkey, with an increase of 111% in five years, captured 7.71% of marble market in 1999.

| Value in \$ million |         |         |         |         |        |               |
|---------------------|---------|---------|---------|---------|--------|---------------|
| Major Exporters     |         |         |         |         |        |               |
|                     | 1995    | 1996    | 1997    | 1998    | 1999   | % Share in 99 |
| ITALY               | 1040.18 | 1123.21 | 1077.42 | 1027.36 | 922.80 | 49.54%        |
| SPAIN               | 181.00  | 229.71  | 280.69  | 280.05  | 287.16 | 15.42%        |
| TURKEY              | 67.88   | 82.80   | 99.83   | 113.98  | 143.64 | 7.71%         |
| PORTUGAL            | 126.20  | 126.34  | 107.93  | 112.14  | 110.65 | 5.94%         |
| GREECE              | 118.55  | 125.18  | 132.62  | 115.54  | 93.21  | 5.00%         |
| MEXICO              | 15.25   | 22.11   | 36.53   | 43.55   | 59.20  | 3.18%         |
| CHINA               | 27.46   | 32.39   | 38.46   | 47.94   | 44.98  | 2.41%         |
| Other               | 182     | 196     | 200     | 220     | 201    | 10.79%        |

USA has been the largest importer of marble for the last two years. Its imports have doubled in last five years and it shared 22.88% of total imports with a value of US\$ 366 million in 1999. Hong Kong was second with approximately 9.78 % while China had third largest share in 1999 imports of marble.

| Value in \$ million |        |        |        |        |        |               |
|---------------------|--------|--------|--------|--------|--------|---------------|
| Major Importers     |        |        |        |        |        |               |
|                     | 1995   | 1996   | 1997   | 1998   | 1999   | % Share in 99 |
| USA                 | 179.99 | 200.88 | 245.11 | 316.03 | 366.45 | 22.88%        |
| HONG KONG           | 168.36 | 221.63 | 328.20 | 221.25 | 156.57 | 9.78%         |
| CHINA               | 62.33  | 74.72  | 96.18  | 113.72 | 149.94 | 9.36%         |
| GERMANY             | 195.22 | 164.56 | 140.22 | 135.06 | 96.69  | 6.04%         |
| ITALY               | 90.60  | 96.16  | 95.13  | 94.17  | 90.18  | 5.63%         |
| SPAIN               | 61.20  | 65.78  | 63.88  | 70.38  | 77.35  | 4.83%         |

If imports are analyzed separately on the basis of categories of marble, Italy, Hong Kong and USA were the largest importer of raw, rough worked and finished marble respectively.

## 2.2. Pakistan:

Pakistan only exports raw marble, and in 1999 it accounted for US\$5.1 million in foreign exchange earnings, which was approximately 0.28% of international marble exports. The share has increased from 0.17% (in 1995), while in value the exports have increased by 69% in previous five years.

| Value in \$ thousand         |        |        |        |        |        |
|------------------------------|--------|--------|--------|--------|--------|
| Pakistan Exports Marble etc. |        |        |        |        |        |
| Years                        | 1995   | 1996   | 1997   | 1998   | 1999   |
| Value                        | 3,044  | 3,944  | 4,188  | 4,767  | 5,155  |
| Growth %                     |        | 30%    | 6%     | 14%    | 8%     |
| Quantity (tons)              | 9,780  | 13,579 | 17,839 | 17,219 | 15,234 |
| Growth %                     |        | 39%    | 31%    | -3%    | -12%   |
| Average Price                | 311.25 | 290.45 | 234.77 | 276.85 | 338.39 |

Pakistan is a regular importer of raw marble, and imported 8,866 tons of marble valuing US\$ 411 thousand in 1999. Pakistan raw marble export price per ton was in the range of US\$ 234-338 per ton, while imports reached a high of 387 and a low of 28.67 US\$ per ton in the previous five years. Pakistan also imported rough worked marble in previous five years and in 1999 the foreign exchange expense for this category was upto US\$ 174 thousand.

| Value in \$ thousand         |         |        |        |        |        |
|------------------------------|---------|--------|--------|--------|--------|
| Pakistan Imports Marble      |         |        |        |        |        |
| Years                        | 1995    | 1996   | 1997   | 1998   | 1999   |
| Value (Total)                | 86      | 164    | 509    | 466    | 411    |
| Growth %                     |         | 91%    | 210%   | -8%    | -12%   |
| Quantity (tons)              | 220     | 413    | 1,677  | 6,680  | 8,866  |
| Growth %                     |         | 88%    | 306%   | 298%   | 33%    |
| Value Marble etc.            | 84      | 164    | 429    | 295    | 237    |
| Growth %                     |         | 95%    | 162%   | -31%   | -20%   |
| Quantity Marble etc. (tons)  | 218     | 413    | 1,453  | 6,106  | 8,266  |
| Growth %                     |         | 89%    | 252%   | 320%   | 35%    |
| Average Price                | 385.32  | 397.09 | 295.25 | 48.31  | 28.67  |
| Value Rough Worked           | 2       | -      | 80     | 171    | 174    |
| Growth %                     |         | -100%  |        | 114%   | 2%     |
| Quantity Rough worked (tons) | 2       | -      | 224    | 574    | 600    |
| Growth %                     |         | -100%  |        | 156%   | 5%     |
| Average Price                | 1000.00 |        | 357.14 | 297.91 | 290.00 |

Some of the leading importers from Pakistan include USA which imported 52% by value of Pakistan's marble in 1999 while Taiwan is another major importer sharing 15.12% of Pakistani exports of marble in 1999.

| Quantity in '000' tons & Value in US\$ thousand |      |      |      |      |              |
|-------------------------------------------------|------|------|------|------|--------------|
| Pakistan Major Export Partner                   |      |      |      |      |              |
| Country                                         | 1998 |      | 1999 |      |              |
|                                                 | V    | Q    | V    | Q    | Avg. price/t |
| USA                                             | 2111 | 4534 | 2685 | 4513 | 594.95       |
| TAIWAN                                          | 957  | 2841 | 781  | 1733 | 450.66       |
| ITALY                                           | 444  | 2254 | 369  | 1953 | 188.94       |
| UNTD ARAB EM                                    | 221  | 626  | 197  | 635  | 310.24       |
| BANGLADESH                                      | 346  | 4364 | 146  | 2351 | 62.10        |
| JAPAN                                           | 68   | 205  | 66   | 110  | 600.00       |
| HONG KONG                                       | 64   | 193  | 25   | 164  | 152.44       |
| SINGAPORE                                       | 109  | 284  | 22   | 66   | 333.33       |

For international comparisons the data used is for the year 1999. However, data is also available for Pakistan for the year 2000-2001, which shows that there has been an increase in exports from US\$5155 thousand to nearly US\$5843.9 thousand while imports have increased to US\$1048 in 2000-01 from US\$ 411 in 1999.

### **3. Pakistan Marble & Granite Industry**

Marble and Granite is the sixth largest mineral extracted, the others being coal, rock salt, lime stone and china clay. Since 1990 mining & quarrying has consistently contributed 0.5% to the GDP. According to the industry estimates 1.37 million tons of marble and granite were produced while 97% of it was consumed locally.

Little efforts were made in the past to identify and estimate marble and granite reserves in the country. Some of the reserves of marble and granite were however calculated with the efforts made by development projects and concerned departments.

According to estimates, there are 160.2 million tons of marble reserves in the country out of which 98% are in NWFP. Granite reserves, only at one place in Northern areas show a total of 414 million tons while other reserves of granite are spread all over NWFP, Balochistan and Sindh.

| <b>Leases and Reserves in the Country</b> |                      |           |              |                    |           |              |                                 |                |
|-------------------------------------------|----------------------|-----------|--------------|--------------------|-----------|--------------|---------------------------------|----------------|
|                                           | <b>No. of Leases</b> |           |              | <b>Leased Area</b> |           |              | <b>Reserves in Million Tons</b> |                |
|                                           | <b>ML</b>            | <b>PL</b> | <b>Total</b> | <b>ML</b>          | <b>PL</b> | <b>Total</b> | <b>Marble</b>                   | <b>Granite</b> |
| <b>NWFP</b>                               | 124                  | 156       | 280          | 80789              | 34438     | 115227       | 157.9                           | N.A            |
| <b>Balochistan</b>                        | -                    | -         | 203          | -                  | -         | 104139       | 2.2                             | N.A            |
| <b>Sindh</b>                              | -                    | -         | N.A          | -                  | -         | N.A          | N.A                             | N.A            |
| <b>Punjab</b>                             | -                    | -         | -            | -                  | -         | -            | -                               | -              |
| <b>Northern Areas</b>                     | -                    | -         | -            | -                  | -         | -            | N.A                             | 4140           |
| <b>FATA</b>                               | 4                    | 4         | 8            | 5620               | 3976      | 9596         | 0.1                             | -              |
| <b>Total</b>                              | 128                  | 160       | 491          | 86409              | 38414     | 228962       | 160.2                           | 4140           |

#### **3.1. Mining Industry**

Mining is done in the country on primitive techniques including uncontrolled blasting. In majority of the mines basic machinery and equipment like compressors, drill sets and lifters are not available. This not only leads to colossal wastage but also to low production at mines. Average production of the majority of mines is 10 tons per day and none of the mine owners and mining experts at mines knows the reserves, topography of the mine and chemical or geological analysis of the stone therein.

#### **3.2. Processing Industry**

Processing industry for dimensional stones in Pakistan started to develop in late sixties with housing construction and industrial activity picking up most of the product without quality-consideration and using local processing equipment. The mid seventies brought imported plants from Italy. Initially, the plants were second generation machines that were barely good enough to cut slabs and tiles at high speed but they had no quality consideration.

Very few units with complete range of machinery and equipment capable of processing stone in accordance with international standards were established in the last decade. Utilization of these units is nearly half of their installed capacity due to inappropriate raw materials. There are only about 25-30 units which have all appropriate machinery to do one of the sequential activity, either of cutting slabs section or cross cutting. Their present condition is explained in the following table.

| <b>Significant Industry and Installed Machinery in Pakistan</b> |                           |                  |              |             |                |            |                   |                       |                         |                   |
|-----------------------------------------------------------------|---------------------------|------------------|--------------|-------------|----------------|------------|-------------------|-----------------------|-------------------------|-------------------|
| <b>Name of City</b>                                             | <b>Total No. of Units</b> | <b>Gang Saws</b> |              |             | <b>Cutters</b> |            |                   | <b>Auto Polishers</b> | <b>Manual Polishers</b> | <b>Chip Tiles</b> |
|                                                                 |                           | <b>Imported</b>  | <b>Local</b> | <b>Mini</b> | <b>H.V</b>     | <b>48"</b> | <b>12" to 36"</b> |                       |                         |                   |
| <b>KARACHI</b>                                                  | 180                       | 14               | 16           | 1           | 20             |            | 630               | 3                     | 300                     | 36                |
| <b>HYDERABAD</b>                                                | 6                         |                  |              |             |                |            | 10                |                       | 2                       |                   |
| <b>QUETTA</b>                                                   | 3                         |                  | 1            |             |                |            | 9                 |                       |                         |                   |
| <b>MULTAN</b>                                                   | 35                        |                  |              |             |                |            | 49                |                       | 5                       |                   |
| <b>FAISALABAD</b>                                               | 28                        |                  |              |             |                | 2          | 53                |                       | 2                       |                   |
| <b>SARGODHA</b>                                                 | 6                         |                  |              |             |                |            | 10                |                       |                         |                   |
| <b>LAHORE</b>                                                   | 93                        | 2                | 2            |             |                | 3          | 200               |                       | 19                      | 2                 |
| <b>GURANWALA</b>                                                | 11                        | 1                |              |             |                | 1          | 20                | 2                     | 2                       | 1                 |
| <b>SIALKOT</b>                                                  | 6                         |                  |              |             |                |            | 8                 |                       |                         |                   |
| <b>GUJRAT</b>                                                   | 6                         |                  |              |             |                | 1          | 11                |                       |                         |                   |
| <b>RAWALPINDI</b>                                               | 112                       |                  | 15           | 4           | 1              | 10         | 165               |                       | 4                       |                   |
| <b>ISLAMABAD</b>                                                | 51                        | 2                | 23           | 4           | 3              | 5          | 200               |                       | 18                      | 4                 |
| <b>NWFP &amp; FATA</b>                                          | 148                       | 3                | 46           |             | 21             | 70         | 850               | 7                     | 33                      | 2                 |
| <b>TOTAL</b>                                                    | 685                       | 22               | 103          | 9           | 45             | 92         | 2215              | 12                    | 385                     | 45                |

The total population includes another 1000 units with over 2000 cutters of 12 - 36 inches. These units come under unorganized sector and specific information about them is not available.