

## Cluster Profile

### Marble Processing, Rawalpindi



#### ***Turn Potential Into Profit***

Small and Medium Enterprises Development Authority (SMEDA)  
Ministry of Industries and Production (MoI&P)  
Government of Pakistan

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# 1 Description of Cluster

## 1.1 Introduction

Marble is a timeless and exquisite natural stone known for its unparalleled beauty, elegance, and versatility. It has been a symbol of luxury and sophistication for centuries and remains a highly prized material in architecture, art, and interior design.

Marble is a rock resulting from metamorphism of sedimentary carbonate rocks, most commonly limestone or dolomite (rock). Metamorphism causes variable recrystallization of the original carbonate mineral grains. The resulting marble rock is typically composed of an interlocking mosaic of carbonate crystals. Primary sedimentary textures and structures of the original carbonate rock (protolith) have typically been modified or destroyed.

Pakistan has an estimated 300 billion tons of marble reserves scattered in the Khyber Pakhtunkhwa, Balochistan and Punjab areas. There is a high demand for this from Pakistan in the international market, and Pakistan is one of the important marble exporters in the world.

It is believed that more than 90 percent of these reserves are hidden in areas of KPK especially in newly merged districts. The lack of mining facilities due to low investment by the local Government, the industry has to face many challenges. There is a presence of massive reserves of this in Balochistan. The Marble is cut into blocks and taken to processing units, where it is cut and refined.

Pakistan has massive mineral possessions as well as marble. Sandstone is tattered equally for structure rationale and development, while onyx is a partially-translucent and usually tattered by developing production. Accessibility to strong quality marble treasury in Pakistan with immense magnitude and the claim of these stones in the overseas marketplace (i.e. European Union countries, Central Asian countries etc.) make this division truly massive in proportion. Recognition of PASDEC for growth of marble and granite division designate Government's curiosity in this division and is an optimistic/positive signal for the shareholder in this business. Marble contributes 0.008% to GDP and ranks 5th among all the minerals. This shows that this industry has a great potential in Pakistan and this share can rise in future and incoming years.

Presently, Rawalpindi marble products cluster is comprising of around 400<sup>1</sup> manufacturing units and is providing direct employment opportunities to around 7,000 people. The cluster is primarily catering for the domestic market needs, especially at local Rawalpindi level and adjoining regions. However, large units have been able to establish sales networks across the country and exporting as well.

<sup>1</sup> Source: Trade Development Authority of Pakistan (TDAP) RCCI members

## 1.2 Defining the Products

In Rawalpindi, like in many other regions of Pakistan, the marble industry manufactures a diverse range of marble products, both in their raw and finished forms. There are some typical marble items you can encounter in Rawalpindi, but not limited to the following.

- Marble Blocks
- Marble Slabs
- Marble Tiles
- Marble Countertops
- Marble Sculptures
- Marble Vases and Decorative Items
- Marble Columns and Balustrades
- Marble Mosaics
- Marble Fireplace Surrounds
- Marble Stairs and Steps
- Marble Sinks and Basins
- Marble Fountains
- Marble Inlays and Borders

## 1.3 Core Cluster Actors

The processing units of the above-mentioned products are the core cluster actors. According to industry sources, Rawalpindi marble products manufacturing cluster comprises of around 375 to 400 processing units, with majority of the units are of small and medium sizes. The key industry statistics are as follows:

**Table 1: Marble Products Processing Cluster, Rawalpindi**

Number of Units	<p>Approximately 350-400 units</p> <p>100 Units, Large and Organized (<i>Mostly registered Member of Rawalpindi Chamber of Commerce and Industry and Islamabad Chamber of Commerce &amp; Industry</i>)</p> <p>150-200 Units, Medium and Small (<i>Organized and Registered Member of Rawalpindi Chamber of Commerce and Industry</i>)</p> <p>Moreover, as per Rawalpindi Chamber and Industry Sources there are around 150 units of Small and Cottage size operating as unorganized sector in Rawalpindi. These units process different products like slabs, tiles, sculptures, and more etc. These Units are connected with different distributors and shop</p>
Employment Generated	<p>Owners in different cities for their products selling. Most of their sale is domestic.</p> <p>About 6,000-8,000 people are directly employed by the processing units. Most of the marble processors engage the temporary labor as per the production requirement and demand.</p>
Estimated Revenues	<p>The estimated employment generation involving temporary labor or indirect labor is not available.</p>
Capacity Utilization	<p>Approximately Rs. 45 Billion</p> <p>70% to 90%</p>

Source: Rawalpindi Chamber of Commerce & Industry (RCCI); All Pakistan Marble Industries Association (APIMA);

## 1.4 Other Cluster Actors

The key cluster support actors who provide support services to core cluster in the area are including but not limited to raw material suppliers, machinery suppliers, finishing and packaging service providers etc.

**Table 2: Other Support Actors of Marble Products Processing Cluster, Rawalpindi**

Description	Details
Raw Material and Chemical Suppliers	<p>The raw materials required for marble processing in Rawalpindi, as in any marble processing center, primarily include high-quality marble blocks sourced from nearby quarries or suppliers. These marble blocks serve as the primary raw material for the industry.</p> <p>Additionally, other essential materials and chemicals like diamond-tipped cutting tools, abrasives, polishing compounds, epoxy resins, and water are used in various stages of marble processing. Skilled labor is also a crucial resource, as artisans and technicians are required for cutting, shaping, polishing, and finishing the marble products. Rawalpindi's proximity to marble-rich regions in Pakistan, such as the Punjab and Khyber Pakhtunkhwa provinces, ensures a steady supply of raw marble blocks, making it an ideal location for marble processing activities in the region.</p>
Machinery Suppliers	<p>Marble processing machinery in Pakistan is predominantly imported from various countries, including Japan, Korea, China, and Germany, owing to their advanced technology and precision. While imported machinery remains a crucial part of the industry, locally manufactured equipment is also increasingly prevalent. Karachi, Lahore, and Gujranwala serve as key hubs for both imported machinery suppliers and manufacturers of local machinery. These cities play a pivotal role in supporting the marble processing industry by providing access to a wide range of machinery options and facilitating the maintenance and repair needs of businesses in this sector. This combination of imported and locally produced machinery contributes to the efficiency and growth of Pakistan's vibrant marble processing industry.</p>
Traders, Wholesalers and Distributors	<p>Most of the Marble processors are directly involved in marketing and distribution of finished products in both local and international markets. This interconnected network ensures the consistent availability and accessibility of marble products, not only in the local market but also in international markets, this collective effort contributes significantly to the growth and sustainability of Rawalpindi's marble industry, both domestically and on a global scale.</p>

## 1.5 Geographical Location

The cluster is scattered across the city of Rawalpindi, but the primary concentrations are on:

- I-9 Markaz,
- I-9/1
- I-9/3
- Rawalpindi Cantt (Westridge)
- Tarnol
- Sangani

The majority of the organized sector is situated within I-9 Markaz, I-9/1 and I-9/3. However, the organized sector can also be found in other areas mentioned above.

## 1.6 Current Cluster Scenario

The marble industry in Pakistan has established itself as a formidable player in the global market, actively exporting premium-quality marble products to international destinations. Notably, there is substantial demand for Pakistani marble in countries including the United States, Canada, the Middle East, and Europe, where it is highly regarded for its exceptional quality and aesthetic appeal.

In an effort to remain competitive and cater to the evolving demands of the global market, the industry has undergone a process of modernization and technological advancement. The adoption of cutting-edge equipment, such as diamond wire saws and CNC machines, has become increasingly prevalent, enhancing efficiency and precision in both mining and processing operations.

However, despite these positive developments, the cluster faces persistent challenges. Environmental concerns related to quarrying practices demand vigilant attention, and the industry grapples with limitations in infrastructure, which can hinder the efficient transportation of marble products. Additionally, there is a recognized need for further skill development within the workforce to harness the full potential of advanced technologies. Recognizing the importance of the marble industry to Pakistan's economy, the Government has stepped in to provide support through a range of policies and incentives. These



measures are designed to encourage investment in the sector and promote exports, further bolstering its position on the global stage.

Pakistan's reputation for producing high-quality marble products remains intact, and this commitment to excellence is an integral aspect of the industry's ethos. There is a steadfast dedication to maintaining and enhancing product quality, ensuring that Pakistani marble continues to meet and exceed international standards, thereby securing its place as a valued commodity in the global marketplace.

## 2 Analysis of Business Operation

### 2.1 Production Operations

The marble production process encompasses several crucial phases, commencing with the extraction of raw marble blocks and culminating in the creation of refined marble products. This multifaceted journey involves meticulous steps that ensure the highest quality standards are met.

**Geological Survey and Prospecting:** The production journey of marble begins with a meticulous process of geological surveys and prospecting. Geologists engage in a careful examination of the composition of the Earth's crust to identify potential regions rich in marble deposits. Employing advanced exploration techniques, they skillfully pinpoint quarry sites that will form the foundation of the entire production process.

**Quarrying:** Quarrying is a pivotal step in extracting marble from its natural habitat. It involves the use of an array of heavy machinery and equipment, including diamond wire saws, channeling machines, and drilling tools. These instruments are employed to delicately separate large blocks of marble from their geological encasement. Typically, these blocks are then cut into rectangular shapes to prepare them for subsequent processing.

**Transportation to Processing Facilities:** After extraction, the journey of the raw marble blocks commences as they are transported to dedicated processing facilities. This logistical phase may encompass short-distance movement within the quarry area or more extensive journeys to central processing units, depending on the quarry's geographical



location.

**Cutting and Shaping:** Within the processing facility, the raw marble blocks undergo precision cutting and shaping to attain their ultimate forms. Employing cutting-edge equipment such as large gangsaws, diamond wire saws, and block cutters, artisans carefully fashion the marble into slabs, tiles, or other predetermined dimensions. This phase necessitates precision to minimize material wastage and maximize the utilization of the raw material.

**Finishing:** Achieving the desired lustrous finish becomes the focus of the subsequent phase for the cut marble pieces. This critical stage revolves around the meticulous polishing of marble surfaces, accentuating their brilliance and visual allure. Polishing machinery, alongside abrasive materials like diamond polishing pads, play a pivotal role in this transformation.

**Quality Control:** Stringent quality control measures are implemented throughout the entire production process. Comprehensive inspections occur at various intervals to scrutinize the marble for imperfections, ensure uniform coloration, and validate dimensional accuracy.

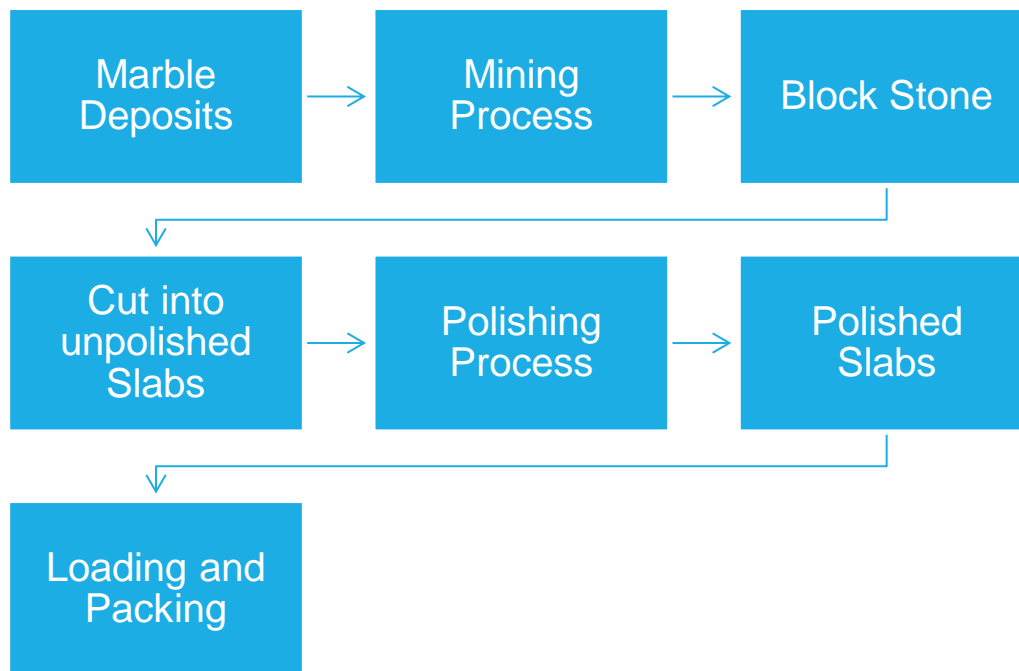
**Packaging and Storage:** Upon successful inspection and finishing, the finished marble products are thoughtfully packaged to safeguard them during transit and prepared for distribution. Depending on the specific circumstances, certain marble items may find temporary respite within warehouses before their dispatch to their ultimate destinations.

**Distribution and Sales:** The finished marble products embark on a journey through a diverse spectrum of distribution channels. These cater to wholesalers, retailers, construction firms, and an array of clientele. The distribution strategy flexibly adapts to the nature of the marble product and the particular markets it serves.

**Installation:** The zenith of the marble production journey is realized in the installation phase. Proficient artisans adroitly install marble products across diverse applications, encompassing flooring, wall cladding, countertops, and ornamental elements, all meticulously aligned with the exact specifications of the customer. Precision and expertise are instrumental to ensure accurate placement and alignment.

**Maintenance:** The enduring allure and longevity of marble creations hinge on the conscientious upkeep bestowed upon them. A structured regimen of proper maintenance is indispensable, encompassing periodic cleaning, diligent sealing, and timely repairs as necessitated. These measures ensure that marble products continue to radiate their timeless elegance.

#### Process Flow Diagram (Marble Extraction & Processing)



## 2.2 Raw Materials

As far as stone type is concerned, industry is processing sunny grey, white, zebra Lasbella green, carara etc. and these stones are sourced from Lasbella, Loralai and mines from KPK. Daily procurement of this cluster can be averaged out at 200-300 tons per day, 70% of which comes in semi-finished form. Raw material is procured mostly through payment on delivery. Usually it's just a phone call, which starts the process, and mine processors (raw stone) and/or processor (semi-finished slabs/tiles) send the raw material by using their own delivery systems. The truck drivers bring the collection bill with them and take the signature from the buyer with the payment. It is necessary to mention that almost 20% of the trucks are hijacked in between the route by other stone processors if the raw stone is in good shape. Truck drivers when scrutinize, tells that the truck was punctured or engine failed, because of which he had to sell the material to the nearest processor. The reason

for the whole scenario is that during shortage of material, processors give tips to truck drivers for getting raw material. Drivers also try to hold back from the cantt region where police take bribe for entrance into the city in daytime area. Truck drivers are also penalized by road authorities due to overweight. This cost is then transferred to the purchaser of the raw material. The reason for overloading is that because of being in irregular shape the actual output is less and therefore per ton transport fee is set at lower levels.

### 2.3 Technology Status

The marble industry in Pakistan has been progressively embracing modern technology to enhance various facets of its operations. Within the sector, technological advancements have been notably visible in quarrying and processing, quality control, and marketing strategies. Modern quarrying equipment, including diamond wire saws and advanced drilling machinery, were being adopted to extract marble blocks with greater precision and efficiency. In processing units, the integration of CNC machines, waterjet cutting systems, and automated polishing lines has improving the accuracy and quality of marble shaping and finishing. Quality control procedures benefited from the implementation of imaging and scanning technologies, ensuring that finished products met stringent quality standards.

Furthermore, digital marketing and sales strategies have been on the rise, as businesses leveraged online platforms and 3D visualization tools to showcase their marble products to a global audience. Sustainability practices are also gaining prominence, with some enterprises exploring eco-friendly technologies for water recycling, dust management, and waste reduction to minimize the environmental impact of quarrying and processing operations.

### 2.4 Marketing & Sales

Rawalpindi's Marble Cluster engages in the sales of marble products across major regions, both locally and internationally. Locally, it caters to Rawalpindi, Islamabad, and the broader Punjab and Khyber Pakhtunkhwa provinces, serving construction, interior design, and architectural demands. Internationally, the cluster exports to prominent regions such as the Middle East, including Saudi Arabia, UAE, Qatar, and Bahrain, due to their demand for luxury marble products. European markets like Italy, Spain, Greece, and Turkey appreciate the aesthetic value of Rawalpindi's marble. North America, particularly the United States, offers opportunities in high-end residential and commercial projects. Emerging markets in

Asia, including India and China, show increasing interest, while participation in international trade shows and online marketplaces facilitates global sales transactions, contributing to the cluster's expanding global presence.

## 2.5 Financing

Rawalpindi's marble cluster is a diverse landscape, incorporating a range of funding approaches and sources. Marble businesses within the cluster rely on conventional bank loans, which include both term loans for substantial investments like machinery and working capital loans for day-to-day expenses. Government support in the form of grants and subsidies is channeled towards industry development, infrastructure enhancement, and the promotion of eco-friendly practices. Private equity and venture capital investments play a pivotal role in driving growth and innovation, often resulting in a share of ownership for investors. The cluster also relies on secure trade finance tools such as letters of credit and export financing to facilitate international transactions. Supplier credit arrangements and leasing agreements contribute to cost management and cash flow optimization.

## 2.6 Human Resource Management

The human resources within Rawalpindi's Marble Cluster exhibit significant capabilities, encompassing quarrying expertise, technical proficiency, artisanal skills, and a range of educational backgrounds, including geological, engineering, art and design, and business qualifications. Quality control and safety protocols are diligently maintained. However, there is room for improvement in areas such as skills development, digital literacy, language proficiency, environmental awareness, and certifications. Enhancing these aspects can further empower the workforce to adapt to industry advancements, tap into international markets, and foster a culture of innovation, thus bolstering the cluster's competitiveness and sustainability in the marble industry.

## SWOT Analysis

### Strengths

- Rawalpindi possesses abundant high-quality marble resources, ensuring a consistent supply of raw materials.
- The region benefits from a skilled and experienced workforce, contributing to

craftsmanship and product quality.

- Rawalpindi's marble is historically renowned for its exceptional quality, making it a trusted brand.
- A diverse range of marble products, including tiles, slabs, sculptures, and architectural elements, cater to diverse customer needs.
- The growing construction and interior design sectors in Pakistan create substantial local market demand for marble products.

### **Weaknesses**

- The industry may lag in adopting advanced technology for mining and processing, affecting efficiency and competitiveness.
- Quarrying and processing operations can have adverse environmental impacts if not managed sustainably, potentially leading to regulatory issues and public scrutiny.
- Some quarrying areas in Rawalpindi face infrastructure limitations, including inadequate roads and utilities, hindering transportation and operations.
- Occupational safety standards may not always be adequately enforced, posing risks to workers well-being and potential legal issues.
- Intense competition from other marble-producing regions within Pakistan and globally exerts pricing pressure and challenges market share.

### **Opportunities**

- Exploring and expanding exports to international markets, particularly in the Middle East, Europe, and North America, presents significant growth opportunities.
- Investing in modern machinery and processing techniques can enhance productivity, reduce waste, and improve product quality.
- Diversifying into new marble types, finishes, and product applications can attract a broader customer base.
- Embracing eco-friendly practices and obtaining sustainability certifications can meet the growing demand for environmentally responsible materials.
- Leveraging government incentives and policies aimed at boosting the marble industry can facilitate growth and development.

### **Threats**

- Economic fluctuations can significantly impact the construction industry, influencing the demand for marble products.

- Intense global competition from countries with lower labor costs and established marble industries can challenge the cluster's competitiveness.
- Stricter environmental regulations and compliance requirements may increase operational costs and necessitate costly environmental mitigation measures.
- Given the region's susceptibility to earthquakes and natural disasters, the industry faces the risk of infrastructure damage and supply chain disruptions.
- Events like transportation strikes or disruptions in the supply chain can affect operations and delivery schedules, impacting the industry's ability to meet customer demand.

### 3 Institutional Setup

#### 3.1 Entrepreneurs Associations

##### **All Pakistan Marble Industries Association (APMIA)**

Address: 1st Floor, Plot # 45, Street # 10, I-9/2 Industrial Area, Islamabad  
 Tel: +92-345-5239199, +92-51-4432774, +92-51-4433508  
 Email: [info@apmia.org.pk](mailto:info@apmia.org.pk), [apmia.ho@gmail.com](mailto:apmia.ho@gmail.com)  
 Web: <http://www.apmia.org.pk>

##### **Rawalpindi Chamber of Commerce and Industry (RCCI)**

Address: Chamber House # 39, Civil Lines, Mayo Road, Rawalpindi  
 Tel: (+92 51) 5111055  
 Web: [www.rcci.pk](http://www.rcci.pk)

#### 3.2 Support Institutions

##### **Regional Business Center (RBC) – Small & Medium Enterprises Development Authority (SMEDA)**

Address: Chamber House # 39, Civil Lines, Mayo Road,  
 Rawalpindi  
 Tel: (+92 51) 9273019-20  
 Web: [www.smeda.org.pk](http://www.smeda.org.pk)  
 Email: [rbcrawalpindi@gmail.com](mailto:rbcrawalpindi@gmail.com)

##### **Punjab Small Industries Corporation (PSIC)**

Address: Regional Office Moti Mahel, Murre Road, Rawalpindi  
 Web: [www.psic.gov](http://www.psic.gov)

**Pakistan Stone Development Company (PASDEC)**

Address: Address: 2nd Floor, ICCI Building, Street 11, G 8/1 Islamabad.  
 Tel: (92 51) 9263465-7  
 Web: [www.smeda.org.pk](http://www.smeda.org.pk)  
 Email: [info@pasdec.org.pk](mailto:info@pasdec.org.pk)

**Trade Development Authority of Pakistan (TDAP)**

Address: Regional Office, 26-D, West Kashmir Plaza, Blue Area  
 Islamabad  
 Tel: (+92 51) 9212174, 9207348  
 Web: [www.tdap.gov.pk](http://www.tdap.gov.pk)

### 3.3 Banks and Financial Institutions

Almost all the registered financial institutions of Pakistan have their branches in the cluster.

## 4 Major Issues and Problems

- Quarrying and processing of marble can have adverse environmental impacts, including deforestation, habitat disruption, and air and water pollution, leading to regulatory challenges and public opposition.
- Many businesses within the cluster may still rely on traditional methods for quarrying and processing marble, hindering efficiency, productivity, and product quality.
- Some quarrying areas in Rawalpindi lack adequate infrastructure, such as roads, utilities, and transportation networks, which can impede the movement of raw materials and finished products, affecting overall operations.
- Occupational safety standards may not always be adequately enforced, posing risks to the health and safety of workers, potentially resulting in accidents and injuries due to inadequate safety measures.
- The marble industry faces intense competition, both domestically and internationally, which can lead to pricing pressures, reduced profit margins, and challenges in gaining market share.
- Economic fluctuations can impact the construction industry, which is a major consumer of marble products, resulting in fluctuations in demand during economic downturns.
- Global competition, especially from countries with lower labor costs and established marble industries, poses a threat to the competitiveness of Rawalpindi's marble



cluster in international markets.

- Compliance with environmental regulations and labor laws can be challenging for some businesses within the cluster, increasing operational costs in the process.
- Rawalpindi's susceptibility to earthquakes and other natural disasters can disrupt operations, damage infrastructure, and lead to significant losses.
- Events like transportation strikes, disruptions in the supply chain, or delays in obtaining raw materials can affect production schedules and customer commitments.
- While Rawalpindi has a skilled workforce, there may be a shortage of specialized skills, particularly in the use of modern technology and equipment.
- With a growing emphasis on sustainability and environmental responsibility, the industry may face challenges in adopting eco-friendly practices and meeting sustainability standards.
- Exporting marble products to international markets may involve navigating complex trade regulations, tariffs, and export documentation, creating barriers for some businesses.

## 5 Investment Opportunities

The growing market both at domestic and international levels offers many lucrative investment opportunities to the investors. The need for following projects as potential investment opportunities in marble Cluster Rawalpindi has been identified on the basis of the key strengths of this cluster

- High-Quality Marble Blocks
- Custom Marble Artifacts
- Architectural Marble Elements
- Marble Slabs for Interiors
- Marble Furniture and Decor
- Marble Veneer Panels
- Marble Flooring Solutions
- Marble Restoration Services
- Innovative Marble Mosaics
- Export-Oriented Marble Products
- Marble Countertops and Vanities

- Marble Medallions and Borders
- Marble Outdoor Landscaping Features
- Marble Wall Cladding
- Marble Inlay and Embellishments

Moreover, the following Pre-feasibilities on following are available on SMEDA website and can be consulted for further information.

1. Marble Mosaic Manufacturing Unit,
2. Marble and Onyx Products Manufacturing Unit,
3. Marble Processing Plant

The said documents can be downloaded from [www.smeda.org.pk](http://www.smeda.org.pk).

In case of any other relevant inquiry kindly visit your nearest [SMEDA Office](#)