



The Palestinian Stone & Marble Sector

Sector Brief 2006

Prepared by

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In collaboration with

The Union of Stone & Marble Industry (USM)

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1. Market Size and Demand:

The importance of the stone and marble industry in Palestine is a widely accepted notion, even with current discrepancies about the **size of the market** and differing figures provided by official and nonofficial organizations, there is little doubt about its potential for thriving growth given a more stable political and economic environment. Prior to the Al-Aqsa 'Intifada' annual industry sales figures reached \$450 million, which makes the Palestinian stone and marble industry not only a significant local industry but also a real international player. Even with the definite decline in sales both local and international caused by the last 5 years of political unrest and an economic slump, estimates of annual industry sales in 2005 reached \$270 million, compared to \$220 million in 2004 – as indicated earlier there are differing opinions and different figures available, these figures are considered to be very conservative if we look at those estimates provided by the Union of Stone & Marble Industries (USM), which gives us a much higher annual sales figure of \$400 million, PCBS places it closer to \$200 million

The most recent available data on **markets and sales destinations** for Palestinian stone and marble products shows the Israeli market as the primary market with 55% of total sales. Locally, sales account for 32%, and even with a decline in international sales of Palestinian stone and marble, largely due to the current political and economic situation, the industry's share of international markets in total sales reached 13%. However; it should be noted that compared to 2004, the international markets have grown in importance from 10% of total sales to 13% of total sales. The table below gives somewhat different numbers for market shares, this is less current data and it comes from a study done by the Palestine Trade Center- PalTrade in Cooperation with the USM in 2004

Table (1): Market Share by Stone and Marble products by destination

Type of product	WB	Israel	Gaza	Export	Total
Polished Stone	9%	82%	2%	7%	38%
Rough Stone	22%	74%	2%	2%	31%
Bush Stone	32%	67%	-	1%	7%
Light Chiseled	65%	33%	-	2%	10%
Other Types	31%	57%	3%	9%	14%
% of Market	27.3%	65.1%	1.8%	6.1%	100%

2. Products and Services

The main products and product lines in Palestine fall into the following categories:

Slabs: This is the product of processing the blocks by a gang saw with the block cut into slabs of different thickness according to needs. Cutting can also be done by multi-blade block cutting machines, although this method is not in common use in Palestine. The thickness of slabs is 2cm, where as other thickness such as 3cm, 4cm, 5cm are also available. The size and dimensions of the slabs depend on the size and dimensions of the block being processed. Different finishing is applied according to need and demand.

Tiles: This is a product that is produced in the following standard sizes:

30cm x 30cm	1-2 cm thickness
40cm x 40cm	1-2 cm thickness
30cm x 60cm	2 cm thickness
60cm x 60cm	2 cm thickness
30.5cm x 30.5cm	1-2 cm thickness (12"x12")
40.6cm x 40.6cm	1-2 cm thickness (16"x16")
45.7cm x 45.7cm	2 cm thickness (18"x18")
30.5cm x 61cm	2 cm thickness (12"x24")
61cm x 61cm	2 cm thickness (24"x24")

Other cut-to-size dimensions are available. Custom cut products are considered to be one of highest added value products, requiring a high investment in production lines to meet export quality standards. Different finishing is applied according to need and demand.

Building Stones: This is the traditional classic product of the majority of the Palestinian stone and marble facilities in Palestine. These materials are produced in different finishes and used for construction and not as a decorative component. This comes in different thickness ranging from 3cm to 8cm. The added value of this product is the lowest among other products and it consumes a high volume of the raw material.

Headstones: This is a niche market product that is targeting a special segment of the market. The Holy Land origin gives this type of product a highly comparative advantage. This is a high added value product.

Decorative and ornamental products: This type of products is usually produced in the workshops and satisfies the local market needs. This is a high added value product

Kitchen and counter tops: This type of product is usually produced in the workshops and the imported materials; either granite or marble has a good share of the local market.

Blocks: This is considered the primary product from the quarries. Blocks are considered a stand alone product that can be exported, and traded. The sizes of the blocks depend on the technology used in the extraction process and the nature and thickness of the quarry layers and their quality. Usually this is classified as large (2m

x 1.5m x 1.8m), medium (1.5m x 1.2m x 1.5m), and small (1.3m x 1.2m x 1m), size blocks. Each block size is dealt with and processed by different machineries and production lines.

Different production lines and technology implemented in Palestine allow the producers to produce different types of finishing including the following:

1	Polished	2	Honed
3	Flamed	4	Antiqued
5	Brushed	6	Bush hammered, light or heavy
7	Chiseled, light or heavy	8	Split face

Polished stone constitutes approximately 38% of total Palestinian sales. Of this, 82% is sold to the Israeli market. The consumption of polished stone in the West Bank and Gaza markets exceeds 11% of the total and more than 60% are for export. Palestinian polished stone (which is called marble) is highly sought-after in international markets, mainly in beige and yellow colors.

Rough stone ranks second in terms of sales performance and accounts for 31% of total sales. Similarly, the majority of sales go to Israel (74%), but more is sold in the Palestinian market (22%) when compared to polished stone. Light chiseled stone ranks third and captures 10% of total sales. In contrast to polished and rough stones, this stone is widely sold in the West Bank (65%) and 33% of total sales is directed to the Israeli market. Other stone, such as bush stone (hammered), is popular in the Israeli market where 67% of sales is made in Israel. The following table provides detailed results of the market share of each type in major markets.

Types of Raw Stone identified by code and geographical location:

Code	Stone Type, Description	Area
HB 01	Yellow Bani Naim -Hebron	Hebron
HI 01	Injasah Ardi	Hebron
HI 02	Injasah Sad	Hebron
HSH 01	White Shiokh/ Red Veins	Hebron
HSH 02	Beige Shiokh	Hebron
HTF 01	Taffouh	Hebron
HTR 01	Tarqumia	Hebron
HY 01	Yellow Yatta	Hebron
BB 03	Slaieb	Bethlehem
BB 01	White Khallet Hejjeh	Bethlehem
BB 02	Yellow Khallet Hejjeh	Bethlehem
RB 01	Grey Beirziet	Ramallah
NJ 01	Jammae'in	Nablus

Source: Marble & Stone of Palestine Booklet by PalTrade & USM

3- Sector Output & Capacity:

Based on several resources including, the USM, research done by the Development Alternatives Institute/ Market Access Program- DAI/ MAP, The Palestinian Federation of Industries (PFI) and PalTrade' own resources, the total **production level** of stones in Palestine is estimated around 22 million square meters.

Historical data from before the Al-Aqsa Intifada on production levels and sales levels prove that the industry is certainly capable of expanding its output levels given comparable past circumstances, namely political stability and economic growth. And even statistics in the last two years show that the industry has in fact started its recovery and is actually growing again. Numbers published by USM indicate that the **total production** of the industry has increased from 12 million square meters to 14.5 million square meters. **Industry-wide sales** amounted to \$220 million in 2004 and \$270 million in 2005. **Total investment** in the industry is estimated at around \$700 million.

In terms of its **contribution to the Palestinian economy**, various sources including the USM place the industry contribution to GNP at about 4.5% and 5.5% to Gross Domestic Product.

There is a need for scientific information on the approximate reserve of stone resources in Palestine; this can be obtained if a comprehensive geological survey is conducted to determine the size and nature of the national stone reserve

4. Sector Structure

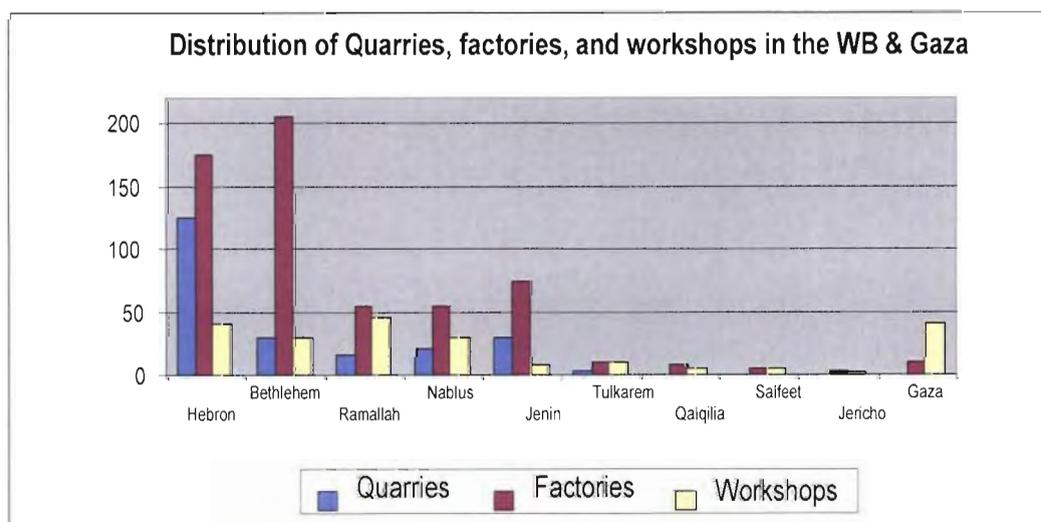
Area	Number of establishments (cutting, shaping Facilities, Quarries, Workshops)
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The industry is made up mainly of family operated small to medium privately owned partnerships and sole proprietorships. Based on the USM, 80% of establishments in the sector are family operated, and even in partnerships, partners are usually from the same family. The initial investment to operating in the industry averages a quarter of a million dollar.

The industry is also characterized by the existence of many small operations and the dominance of a couple of major players who have accelerated in both production levels, sales volumes, sophistication, resources and market access. Some of the most prominent players known very widely in the Palestinian market and who are also the leading exporters include:

- Nassar Investment Company,
- Zafaran Marble Company,
- Suhil & Sahib Trade & Ind. Co.,
- Atlas, Al-Waleed, Bani
- Naim for Stone & Marble Co.,
- Al-Raeda'h Company for Marble & Stone,
- Al Hamein Co.,
- Overseas Co.

More than one thousand establishments contribute to the output of the Palestinian stone and marble industry. The establishments in the sector are spread all over Palestine. More than half of the establishments are located in the southern region of the West Bank, in Hebron and Bethlehem. The middle region of the West Bank is more of a consumer than a producer. Gaza is the least consuming region of the sector's products on population basis.



Most establishments are **processing factories, quarries, or small workshops** with little integration between the quarrying and processing functions. Quarries are less sophisticated than processing facilities, the staff of the quarry is usually production oriented, with no accounting or marketing employees. To a lesser extent, this phenomenon is also found in processing facilities, large and small.

Hebron	351
Bethlehem	277
Ramallah	147
Nablus	113
Jenin	120
Tulkarem	25
Qalqilia	15
Salfeet	12
Jericho	4
Gaza	60
Total	1124

USM

The local stone industry is represented by **one association**; the Union of Stone and Marble Industry in Palestine (USM) headquartered in Bethlehem, and maintains branches in Hebron, Nablus, and Jenin.

The association was established in 1996 as an independent, non-governmental and non-profit membership-based organization. The Union represents around 400 companies all over Palestine (reaching 40% of the estimated total establishments and 100% of the big exporting companies).

5. Employment / Human Resource

The industry is a major source of employment in the West Bank. According to the USM, this industry provides jobs to more than **15,000 workers** and employees, while official statistics place the figure at just over 10,000 (official statistics do not include informal workers).

Average wages and value added per worker are estimated anywhere between \$2,750 to \$6,000 and \$6,600 to \$15,000 per year by PCBS and USM, respectively. The large discrepancy in these figures is due to the discrepancy in the gross output estimated for the sector, which USM estimates to be near \$400 million while PCBS places closer to \$200 million. The large differences may be due to the existence of a large informal sector in Palestine, underreporting of output, undocumented sales to Israel, and other factors.

Tables below give more information about labor in the stone & marble industry including: the percentage of workers by place of residence, the percentage of workers in the stone industry by year, percentage of workers by gender & year, percentage of workers by level of education

Region / Area	Percentage of Workers by Place of Residence	
	2004	
Jenin	8.6	
Toulkarim & Qalqiliah	10	
Nablus & Salfet	16	
Ramallah & Al-Bireh	16.5	
Al Quds (Jerusalem)	12.4	
Bethlehem & Jericho	17.3	
Hebron	16.6	
Total	14	

PCBS Labor Survey 2004

Percentage of Workers In the Stone Industry by Year			
2001	2002	2003	2004
13.9	12.9	12.5	12.7

PCBS Labor Survey

	Percentage of Workers by Gender & Year			
	2001	2002	2003	2004
Male	14.7	13.9	13.6	13.7
Female	9.5	8.1	7.6	8

PCBS Labor Survey

Education Level	Percentage of Workers by Level of Education				
	Years of Schooling				
	0	1-6	7-9	10-12	+13
	5.5	14.6	18.5	15.6	4.3

PCBS Labor Survey

6. Sector Map

The relationships between participants in the stone and marble industry are complex and vary by product and market. The sub-sector map below provides a graphical representation of these relationships and the different channels through which the product reaches the local, Israeli, and other export markets.

The stone and marble sector is driven by the availability of natural resources in the over 200 quarries in Palestine. The land of the quarry is either owned by the extractor or leased from the owner, leasing fees range from \$14,000 to \$57,000 depending on the size of the quarry and potential quality of its stone. Quarry ownership controls the industry, and competition is focused on price, except for certain colors of stone that are scarce. Many producers and dealers compete fiercely to capture the same market.

Historically, building stone for the local and Israeli markets has been the conventional product of the industry. Quarry operators producing building stone for these markets have varying degrees of integration. Most of the quarries produce building stone in blocks or slabs and sell their products to processing facilities or export them to Israel. Quarry operators may also retain stone shaping workers on-site and produce finished building stone for sale directly to consumers or to building contractors. Direct sales to consumers (home owners or commercial builders) are estimated at 25% of sales of building stone in the local market. Due to instability in demand after September 2000, block cutting contractors came to existence as quarry owners became increasingly incapable of maintaining block cutting operations on site. Many quarries currently maintain nothing but their ownership/ lease of the quarry, while block cutter contractors bring their own workers and even equipment to the quarry site, cut the required block size, and transport it for processing.

Small workshops and larger processing facilities purchase blocks or slabs from quarries or block cutters. Small workshops also purchase blocks and slabs from larger processing facilities, adding even more cost. These processing facilities fabricate either building stone or more value-added products such as counter tops. Workshops' target market is local end users. However, large size workshops sell to local contractors.

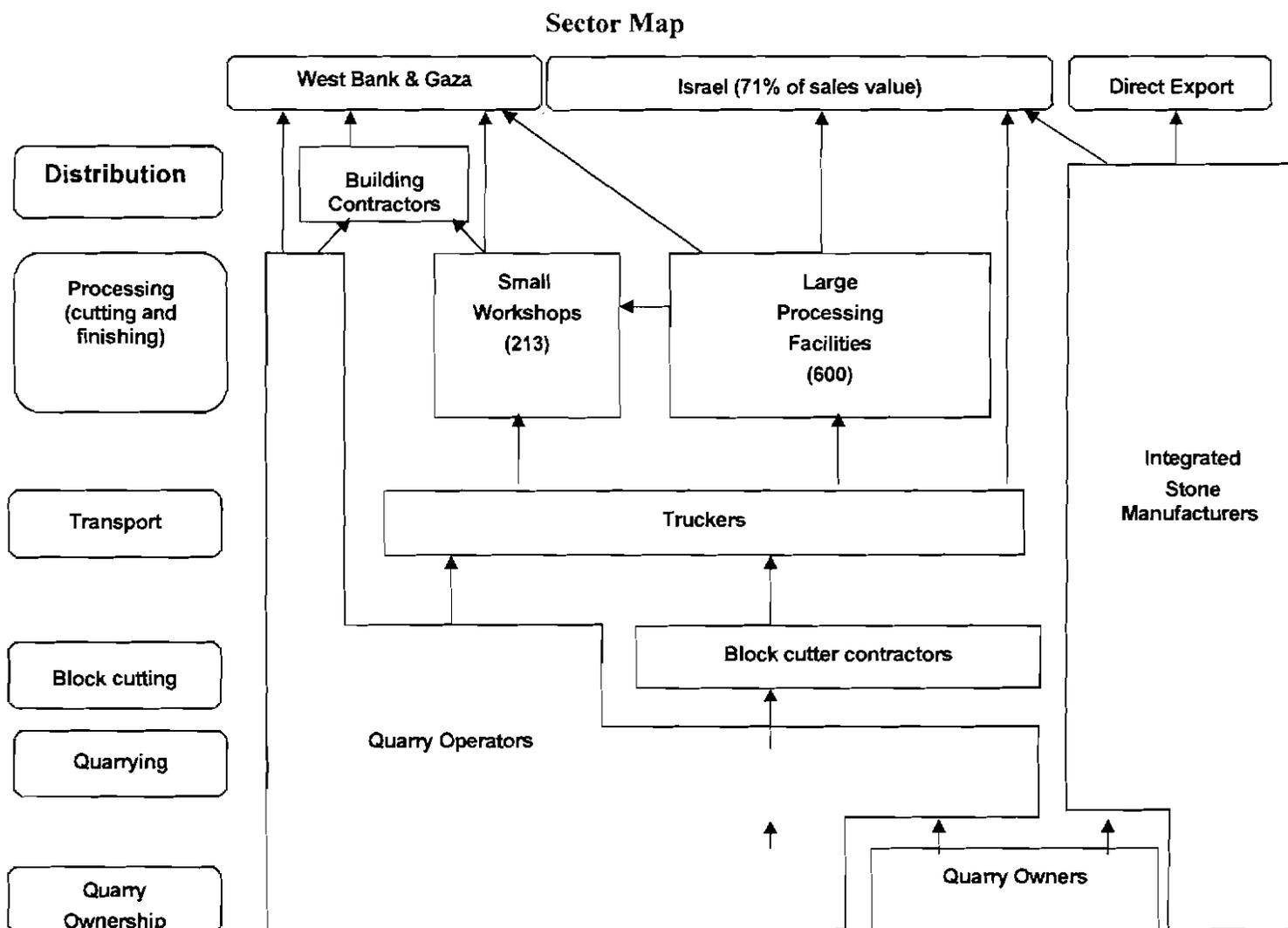
A somewhat different category of operators are represented in the diagram as "Integrated Stone Manufacturers". While they also produce the traditional building stone product, these manufacturers have the capacity to produce more sophisticated finished and semi-finished products such as polished slabs and tiles for the export markets. These manufacturers also supply the local market with building stone.

Few facilities are fully integrated from quarrying to product finishing, Integrated quarry/ processing operations (whether for building stone or other finished products)

are more cost competitive than non-integrated processing facilities since they can account for raw materials at cost rather than their market price.

Due to the enormous weight of stone, transportation is a major activity. Each time a product of the industry is moved, in any stage of operation, it is moved by a truck. Some integrated manufacturers have their own transport vehicles. One manufacturer has even established loading and transport facilities at the Israeli/ Jordanian Damieh border terminal. Most, however, depend on contracted truckers to move their goods.

Not represented in the diagram below is the flow of imported materials through the sector. Imported materials, much of which is granite unavailable in the local market, are typically used by small workshops and larger processing facilities for higher-value added products such as kitchen countertops or tiles



7.SWOT Analysis

STRENGTH	BASED ON
Supply of unique raw materials	High quality and variety of the natural resource found in Palestine.
Machinery and Equipment	Leading exporting companies have installed up to date processing machinery with high capital investment.
Availability of human resources	Long-standing tradition of the industry assures high availability of skilled workforce.
Unique country of origin value	Holy Land origin delivers symbolic value and ensures perception of uniqueness.
Existing market presence	Many of the targeted regional & international markets are already reached and accessed.
Support institutions	Existence of business and trade support institutions consisting of USM, PalTrade and PFI, creates potential for industry-wide support in standards, technical assistance and access to markets.

WEAKNESS	BASED ON
Limited homogeneity of some product varieties	Some varieties of stone are limited by the size of the deposit or quarrying methods, limiting the size of order that can be fulfilled from homogeneous material.
Limited knowledge of material deposits	The annual production rate is excessive for the size of the country and the size of the national deposits is unknown due to lack of geological field survey and satellite imaging.
Lack of national standards	Lack of national standards for stone and stone products and limited awareness of the impact of standards in benchmarking Palestinian product vs. foreign products on consumer perceptions.
High waste	Waste produced in both quarrying and processing is high as an industry and compared to other producers.
Limited functional capacity of enterprises	The sector is heavily dominated by small quarries and workshops with little or no capacity for export and unsophisticated management capacity (management, marketing, financial, operational, and technical skills).
Limited export marketing experience	Companies with export experience are a minority. Most firms have no marketing function and depend on Israeli buyers for exports.
Weak business and trade services	Lack of necessary services to the sector such as export marketing services, packing design, geological services, and testing services.
Lack of vocational training and technical institutions	There are no vocational training programs or technical institutions to develop skilled workforce and promote innovation in the industry.

OPPORTUNITY	BASED ON
Growing demand globally	The global market has been growing steadily. Projections of growth continue to be positive.
Favorable trade agreements in key markets	The primary targeted markets for this sector (Jordan, Saudi Arabia, UAE, Kuwait, Qatar, and the USA) all afford tariff-free access to Palestinian products.
Niche market	Tombstones and mortuary sculpture markets may offer an opportunity to meet underserved markets, especially in USA and Germany, particularly if finishing technology is introduced to produce appropriate finishes and colors.
New products	The mosaic, statuary, garden décor, and other decorative markets extend product mix, offer chance to use waste and by-products, and increase value added.
Emulation of Spanish and Turkish models	These two leading Mediterranean suppliers constitute a good example to follow due to similarities in raw materials.

THREAT	BASED ON
Downturns in the Israeli market	Shrinking of the Israeli market, increasing competition from Turkish and Chinese suppliers, and increased restrictions on Palestinian access to the Israeli market could threaten the sector's key export market.
Israeli restrictions on movement of people and goods	Israeli military checkpoints, back to back system, and other obstacles within Palestine and on its borders makes transport of goods and movement of people for the purpose of business transactions difficult.
Arab country restrictions on entry of people and goods	Difficulty of access of Palestinian businesspeople to some Arab countries, such as Saudi Arabia, impedes access to the markets.
Competition from Turkey and China	Growth in the exports of these two leading suppliers depresses prices and poses strong competition in target markets.
Growth of the Chinese export sales	Low production costs in China put excessive price pressures on international markets
Depletion of resources	Intense quarrying and sale of low value-added raw materials may deplete resources with minimal return.
Competitive coverings choices	Market can categorize stone and marble as just another floor covering choice along with carpet, wood and ceramics.

8- Conclusion and Recommendations

The Stone & Marble industry can regain its past stamina if the problems and challenges faces by the industry are better understood and the necessary support provided.

- Lobbying for the industry: There is a demand and potential markets for Palestinian stone in several markets Arab and otherwise, however in important markets like that of the Saudi Arabia, entry barriers are preventing access. Lobbying efforts are needed to make an important market like this one and other markets open and available to the Palestinian stone industry
- Support of supporting organizations: The industry supporting organizations like the Union of Stone & Marble are in need of technical & financial support to be able to effectively support the sector and provide valuable assistance where needed. The union currently lacks this ability because of primarily its financial inabilities.
- Accessing new technologies: Large companies in the industry are technology oriented and use up to date machinery and methods of production, however, the vast majority of small companies are not technology oriented and this reflects on the quality of their production. Large investments are needed to attain the type of machinery that would allow these companies to become more competitive locally and internationally and its one of the important obstacles in the way of development. Access to finance is extremely important to the development of this sector.
- New know-how and innovation: although labor force in the stone industry is highly skilled, there is little vocational training for new generations of workers and not much in terms of innovation, differentiation or development of new products. Specialized trainings both vocational and managerial are important tools needed in the development of the sector.
- Marketing: serious, innovative export market directed marketing is very important if the industry is take advantage of its strengths, especially in the way of promoting the uniqueness of holy land stone, and other aspects of Palestinian stone and marble, building an international image will allow the industry better access to international markets and ad value to the quality of Palestinian stone and marble.

Information Sources Used in this Report:

- **Various reports by the Palestinian Central Bureau of Statistics (PCBS) 2001 -2004** including several special requests for information, the economic surveys, the industrial surveys, the labor surveys, the establishments' survey, external trade surveys, national account reports.
- **Palestinian Marble & Stone Industry 2005:** A study conducted by **DATA Research & Studies Co.** in cooperation with the Industrial Modernization Center-IMC, and the Palestinian Federation of Industries -PFI. 2005
- **The Palestinian Stone & Marble Cluster 2005,** competitiveness assessment report, **Development Alternatives Institute- DAI.**
- **Articles in The Industrialist 2004-** a periodical issued by the **Palestinian Federation of Industries –PFI**
- **The Union of Stone and marble Industry (USM).**
- **Marble & Stone of Palestine 2004:** The Palestine stone and marble technical specifications catalogue developed by the Palestinian Trade Center **PalTrade** in cooperation with **The Union of Stone and marble Industry (USM)**
- **Stone & Marble Trade Development Strategy 2005** developed by the Palestinian Trade Center **PalTrade** in cooperation with **The Union of Stone and marble Industry (USM)**