Happy Life Region

West Mediterranean

BAKA

NATURAL STONE SECTOR REPORT

WEST MEDITERRANEAN DEVELOPMENT AGENCY

February, 2011

FOREWORD

Regional development agencies whose history dates back to old times in developed countries are the models newly adopted in Turkey. These agencies aim to accelerate regional development, ensure sustainability and reduce interregional development disparities in accordance with the principles and policies set in the development plans and programs, through a cooperative networking between local authorities, private sector and civil society.

One of the tasks given to agencies to achieve their aim is whether to do research on determining the resources and opportunities of the region, accelerating economic and social development and enhancing the competitiveness or to support the researches done by other individuals, organizations and institutions.

West Mediterranean Development Agency which largely completed its process of establishment and institutionalization is responsible for providing free consulting services to investors in Antalya, Isparta and Burdur. In addition, through a one-stop shop approach, the agency offers an extensive range of services including coordinating and following-up the permits, licensing procedures and other administrative works within the scope of public institutions and organizations of investors. Furthermore, the agency promotes the investment opportunities of the region both at national and international level in cooperation with relevant organizations.

In line with the mentioned task above, the sector reports were prepared to guide the investors willing to invest in the region and promote the investment opportunities of the region.
At first, Marble, Milk and Dairy Products, Solar Energy, Golf Tourism and Health Tourism Sector Reports of West Mediterranean Region, Tourism Potential of Egirdir Report and Antalya – Konya High Speed Rail-Line Report have been prepared. Over time, many sector reports related with the region will be prepared and investment opportunities of the region will continue to be promoted. Being helpful with these sector reports to investors and all other institutions operating in the region is our greatest wish.

Tuncay ENGİN
Secretary General of WMDA

Dr. Ahmet ALTIPARMAK
Governor of Antalya
Chairman of WMDA

INTRODUCTION

Mining sector is one of the most important sectors in the development of the nations' economies. In developed countries it can be easily seen how mining sector becomes a driving power in the nation's economy.

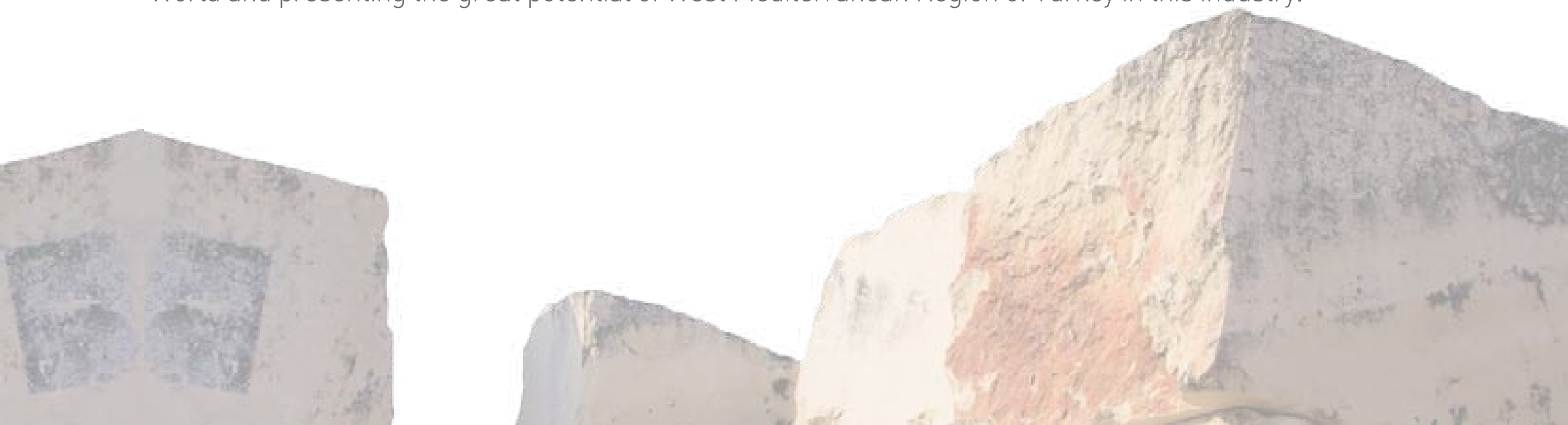
Mining products are the main material of major investment areas such as industrial, energy, agriculture and construction sectors.

With an important production potential, natural stone sector is fairly new in Turkey in terms of industrial usage. Natural stone sector became a shining star in recent years and USA, UK, Central Europe and the Middle East countries have a great importance in terms of consumption of marble.

In order to find the natural stone reserves, quarry and process the stone; highly developed new technologies are being used. In parallel with technological developments, the natural stone extraction and processing have been increasing day by day in terms of quality and amount.

As a result of increasing demand for natural stone, since the beginning of 2000s, natural stone reserves have been detected and processed in West Mediterranean Region. Especially, the marble called "Burdur Beige" which is being extracted and processed in Burdur, became one of the most famous and popular marbles in the World.

The main goal of the Natural Stone Sector Report is showing the status of the natural stone industry in the World and presenting the great potential of West Mediterranean Region of Turkey in this industry.



1. MARBLE SECTOR IN THE WORLD

Due to the usage of natural stone as building and decoration material, natural stone production became very important in economics. In parallel with technological developments, the natural stone extraction and processing have been increased with a minimum loss in recent decades.

Within Alpine-Himalayan belt countries such as; Portugal, Spain, Greece, Turkey, Iran, Pakistan have marble, limestone, travertine and onyx reserves which are so-called carbonate rocks. Spain, Norway, Finland, Ukraine, Russia, Pakistan, India, China, Brazil and South Africa are the high potential countries in igneous rock production.



MAP OF THE WORLD OF NATURAL STONE IN RESERVES

MAJOR PRODUCER COUNTRIES

- CHINA
- INDIA
- ITALY
- IRAN
- TURKEY
- SPAIN
- BREZIL

These countries' share of total production : 71%

China, India, Italy, Iran, Turkey, Spain and Brazil's have 71% of total natural production in the World. Natural stone is the general name of limestone, granite, diyarit, travertine, limestone, breccia, syenite, serpatin and marble rocks. They are called natural stones in general. The distribution of natural stones on the European continent is as follows.

Types of Natural Stone Reserves Found in Europian Countries

COUNTRY	TYPE OF STONE
Germany	There are limestone, granite, diorite and other igneous rock reserves.
Austria	There are beige and gray-colored limestone reserves.
Belgium	There are reserves of limestone. Especially devonian black limestone reserves are important.
Bulgaria	There are Marble, limestone and granite reserves.
Czechoslovakia	There are limestone, breccia and granite reserves.
Finland	There are granite, syenite, and labrodorit reserves.
UK	There are deposits of marble in different colors and lithologies.
Spain	There are limestone and marble reserves.
Sweden	There are granite, syenite and igneous rock reserves composed of labradoritten.
Switzerland	There are beige and gray-colored limestone reserves.
Italy	All kinds of rocks can be used as marble in Italy. Carrara and geranium granite reserves are very important. There are also rich limestone and marble reserves in Italy.
Norway	There are granite, diorite, syenite and labradorite reserves.
Portugal	Limestone, marble and granite deposits are available.
Ukraine	There are deposits of granite and labradorite.
Yugoslavia	Limestone, marble and travertine deposits are available.
Greece	There are limestone, marble and serpatin deposits.

The following table shows the countries importing natural stones and their dollar values around the World. As of 2009, the United States with 3 billion 890 million 342 thousand dollars is the most natural stone-importing country. Chine is in second place with 1 billion 256 million export volume. China import rough natural stone processes it and exports to the other countries in general.

Values of the World Stone Imports

COUNTRY	IMPORT VALUE($)
USA	3,890,341,943
CHINA	1,256,068,503
JAPAN	859,664,698
UK	827,700,434
GERMANY	799,338,000
ITALY	796,103,222
SOUTH KOREA	770,691,581
FRANCE	646,204,084
SPAIN	518,777,322
BELGIUM	438,111,538
HOLLAND	292,133,235
CANADA	291,941,060
SWITZERLAND	264,772,356
POLOND	194,855,300
IRLAND	189,740,634
RUSSIA	166,298,481
TURKEY	162,120,429
SAUDI ARABIA	157,618,895
AVUSTURYA	142,723,049
AUSRTALIA	138,330,128
OTHERS	2,279,211,543
TOTAL	**15,082,746,435**

“Burdur Beige” which is being extracted and processed in Burdur, became one of the most famous and popular marbles in the World.

2. MARBLE SECTOR IN TURKEY

Turkey has high quality natural stone reserves along with Anatolia to Tricia Region. Distribution of marble reserves is as follows; 32% in Aegean, %26 in Marmara, 11% in Central Anatolia, 31% in Eastern Anatolia, Southeastern Anatolia, Black Sea and Mediterranean Region.

Due to its geological structure, Turkey has very rich underground resources. Natural stones (especially marble) are one of the most important of them. With its richness of marble types and reserves, its dynamic structure and experience, its easy adaptation to new technologies , having an advantage of transporting by seaway, and having a rich variety of colors; Turkish Marble Sector has an important place in the world marble market.

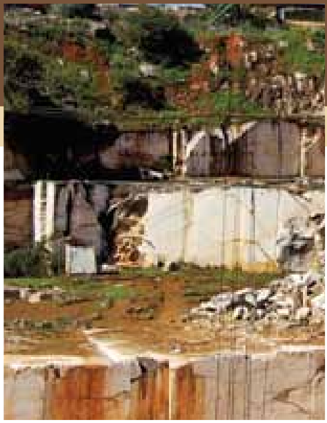


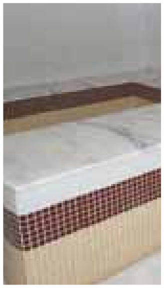
"Due to its geological structure, Turkey has very rich underground resources."

Main types of the natural stones found in Turkey are; marble, travertine and granite. It is estimated that there are 3.8 billion m^3 marble, 2.7 billion m^3 travertine and 995 million m^3 granite reserves in Turkey. With these figures, Turkey has an important share in world's estimated natural stone reserves. Natural stone sector in the world has a market size of 20 billion $. 70 percent of the worldwide natural stone production is carried out by 7 countries, including Turkey. In Turkey 650 different types of marble is detected, with separate colors and patterns.

Natural stone sector entered to a new era after covered by the Mining Law in 1985. From this date onwards, sector grew each year more over the previous and today it is in the first place in the mining sector exports.

In Turkey; there are 2.100 marble quarries, 1500 small-and medium sized plants and 7500 workshops in the marble sector. A total of 300.000 workers are employed. Almost all production is made by the private sector. Turkey's annual natural stone production is 4 million m^3 and the total capacity of the marble processing units is 6.5 million m^2 per year.



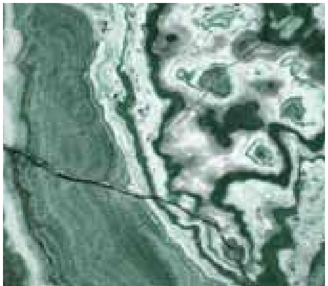


Natural Stone Production for Years 2003-2008

TYPE	UNIT	PRODUCTION				
		2004	2005	2006	2007	2008
Diabase	m^3	790	458	0	2.071	1.276
Ignimbrite	m^3	39.82	5.282	20.174	18.486	26.313
Marble	m^3	1.207.584	1.578.780	1.355.740	2.801.757	2.262.537
Onyx	m^3	57	451	2.578	5.663	230.616
Travertine	m^3	601.068	696.454	1.017.672	995.065	759.118
TOTAL	**m^3**	**1.849.319**	**2.281.466**	**2.896.164**	**3.825.042**	**3.279.860**

TYPE	UNIT	PRODUCTION				
		2004	2005	2006	2007	2008
Andesite	Ton	81.9	517.831	2.485.956	4.115.184	3.307.107
Basalt	Ton	28.555	74.589	2.909.031	4.914.124	8.448.618
Granite	Ton	125.03	160.93	320.069	252.354	367.959
Decorative Stone, Mosaic, Slate	Ton	17.592	31.506	382.377	1.111.024	161.166
Serpentine	Ton	0	1.027.345	5.763	305.262	
TOTAL	**Ton**	**253.077**	**2.487.201**	**6.103.196**	**10.697.948**	**12.284.850**

Note: The unit of the production figures for andesite, basalt and granite is tone



Today, classic marble production methods have been left and new technologies started to be used. Marble processing capacity of the production units is continuously increasing. Number of firms which are exporting marble as an intermediate or final product instead of raw material is continuously rising.

From natural stones which are being exported, the highest added value products are marble and travertine. Marble is exported either in block form or in cut and polished form. Export potential of the sector is growing rapidly in parallel with the current investments. Between 2003 and 2008, Turkey's natural stone export rose from 2.1 million tons to 5.1 million tons with an increase rate of %142. Revenue gained from exports increased from 431 million dollars to 1.4 billion dollars with an increase rate of %224. In 2009, with the effect of global economic crises, this figure declined to 1.2 billion dollars. Export figure for the first 10 month of 2010 is 1.3 billion dollars. Natural stone is exported to 80 different countries. China, United States, Iraq and England are the biggest export markets. In recent years exports to Middle East countries have increased significantly, mainly to Iraq.

"Turkey's annual natural stone production is 4 million m^3 and the total capacity of the marble processing units is 6.5 million m2 per year."

Figures for Turkey Natural Stone Export

PRODUCT		UNIT	2005	2006	2007	2008	2009
Blocked Marble	Amount	(ton)	1.569.165	2.140.163	1.583.481	1.942.081	2.495.736
	Value	(1000 $)	159.682	244.084	162.913	221.775	318.87
Processed Marble	Amount	(ton)	1.230.143	1.408.620	770.675	913.94	1.372.831
	Value	(1000 $)	603.723	736.926	414.799	524.043	682.425
Blocked Granite	Amount	(ton)	188.688	205.568	4.315	1.631	1.052
	Value	(1000 $)	12.563	14.53	342	164	91
Processed Granite	Amount	(ton)	18.024	20.011	30.816	37.388	32.27
	Value	(1000 $)	9.841	9.34	12.546	25.675	18.564
Others	Amount	(ton)	33.818	29.441	2.349.142	2.230.653	1.053.845
	Value	(1000 $)	15.527	15.112	652.039	630.418	202.751
TOTAL	**Amount**	**(ton)**	**3.039.838**	**3.804.803**	**4.738.429**	**5.125.693**	**4.955.734**
	Value	**(1000 $)**	**801.336**	**1.019.992**	**1.242.639**	**1.402.075**	**1.222.705**

Source: Undersecretary of Foreign Trade

"From natural stones which are being exported, the highest added value products are marble and travertine."

3. MARBLE POTENTIAL OF THE WEST MEDITERRANEAN REGION

WMR has a rich variety of minerals and has important reserves. Mining sector constitutes the 40 percent of the all exports within the region.

> "Burdur Beige is about to become a World famous brand.

Marble industry is one of the developing branches of the mining sector in the West Mediterranean Region. WMR's potential about marble has been discovered recently and a rapid growth is taking place in this area.

Burdur has very rich reserves in this area, marble can be found in all districts of Burdur.

Marble type named as "Burdur Beige or Burdur Brown" is famous in the world markets for its color, its hardness, and its other properties that; it does not reflect sun shine, it absorbs water less, it is not affected from basic acids and it can be polished easily. Burdur Beige or Burdur Brown is on the way to be a trade-mark in world marble markets.

The labor force trained by public education centers, and vocational training centers is growing in Burdur and they work in small workshops same is in Bursa textile industry. This growing force became one of the major sources both economically and for the solution of unemployment. Especially women employees can draw pictures by using marble pieces. Products manufactured in Burdur have a great demand in foreign markets.

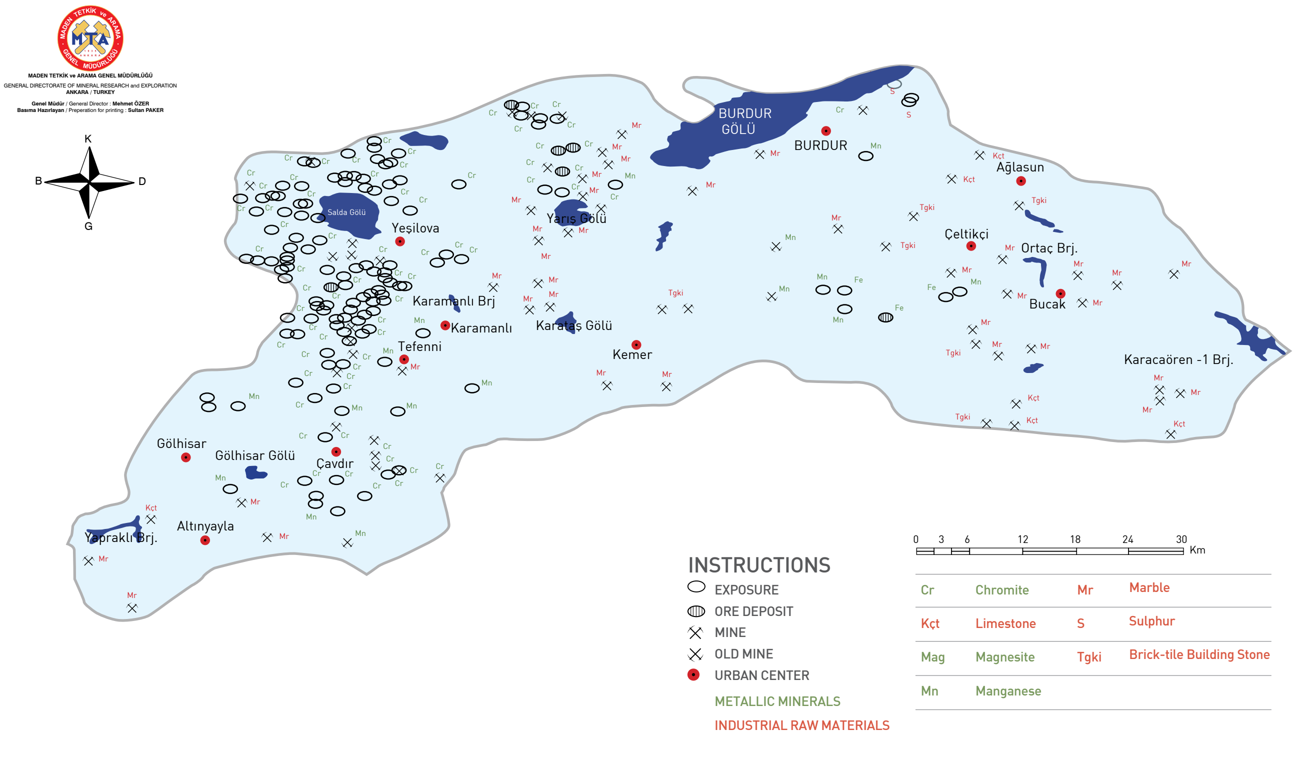
There are 100 Marble quarries and 110 small and medium-sized plants in the West Mediterranean Region. 7 thousand 500 workers are employed in these enterprises.

In Burdur Province, there are 70 marble quarries, 100 marble processing units and 7 manufacturers which produce marble processing machines. A total of 4250 people are employed in the marble sector in Burdur.

85 percent of the current production is exported and the remaining 15 percent is sold to internal market. Revenue gained from exports in the first 11 months of 2010 is 150 million dollars. 50 percent of the marble exported is in processed form, 30 percent is in bloc form and the remaining 20 percent is mosaic. Marble is mainly exported to China, USA, India, Russia, Jordan, Israel, Saudi Arabia and United Arab Emirates.

40 million tons of marble reserves are estimated within Burdur province. In 2009, the volume of marble production was 4 million m^2.

MINERAL MAP OF BURDUR

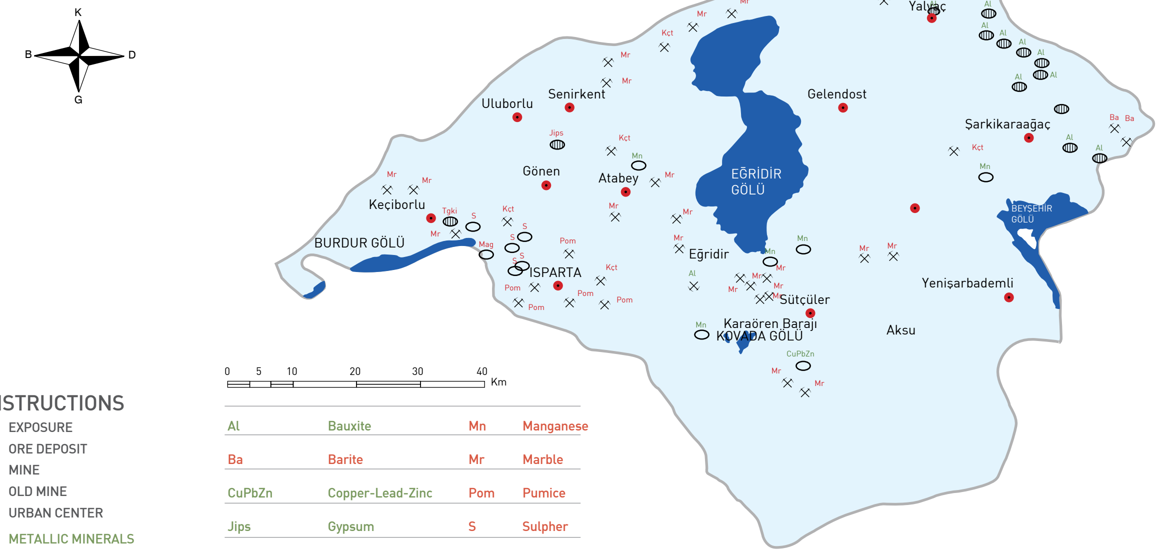


In Isparta province, there are 21 marble quarries and 9 marble processing units. There are beige colored marble reserves in Gokcebag and black colored marble reserves in Belence districts.

31 million m^3 of marble reserves is estimated within Isparta Province. 1,000 people are employed in faciliti-es operating in this sector. In 2009 annual revenue of these facilities was 78 million TL. And the export figu-re was $ 23 million.

MINERAL MAP OF ISPARTA

MADEN TETKİK ve ARAMA GENEL MÜDÜRLÜĞÜ
GENERAL DIRECTORATE OF MINERAL RESEARCH and EXPLORATION
ANKARA / TURKEY
Genel Müdür / General Director : Mehmet ÖZER
Basıma Hazırlayan / Preperation for printing : Sultan PAKER



INSTRUCTIONS

- EXPOSURE
- ORE DEPOSIT
- MINE
- OLD MINE
- URBAN CENTER

METALLIC MINERALS

INDUSTRIAL RAW MATERIALS

Al	Bauxite	Mn	Manganese
Ba	Barite	Mr	Marble
CuPbZn	Copper-Lead-Zinc	Pom	Pumice
Jips	Gypsum	S	Sulpher
Kçt	Limestone	Tgki	Brick
Mag	Magnesite		

There are 40 companies extract and process natural stone in Antalya.

MINERAL MAP OF ANTALYA

MADEN TETKİK ve ARAMA GENEL MÜDÜRLÜĞÜ
GENERAL DIRECTORATE OF MINERAL RESEARCH and EXPLORATION
ANKARA / TURKEY
Genel Müdür / General Director : Mehmet ÖZER
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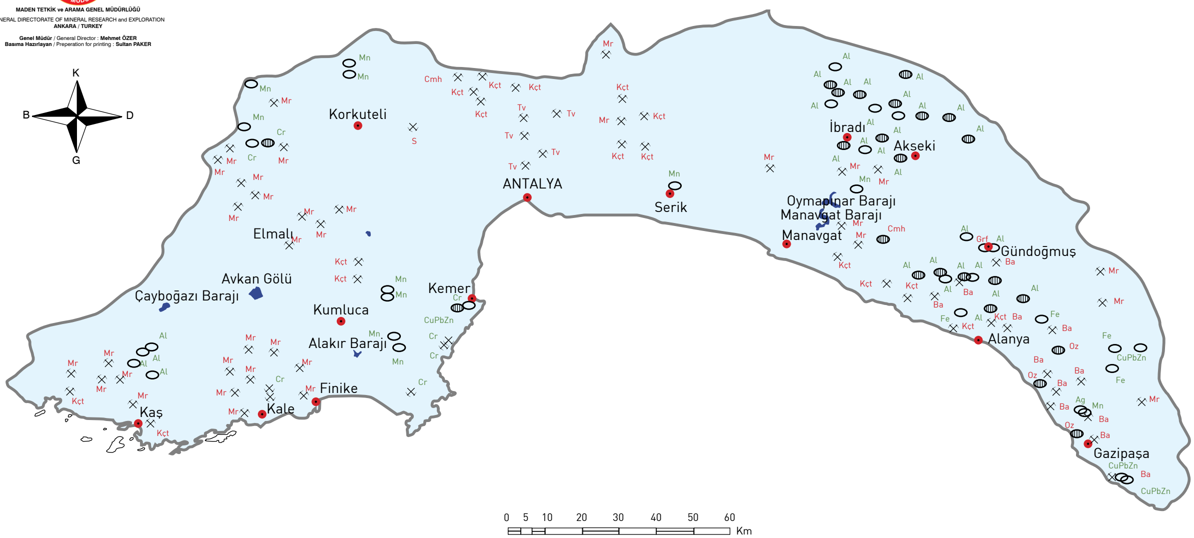

INSTRUCTIONS

- EXPOSURE
- ORE DEPOSIT
- MINE
- OLD MINE
- URBAN CENTER

METALLIC MINERALS
INDUSTRIAL RAW MATERIALS

Ag	Silver	Grf	Graphite
Al	Bauxite	Kçt	Limestone
Ba	Barite	Mn	Manganese
Cr	Cromite	Mr	Marble
Cmh	Cement raw Materials	Qz	Quartzite
CuPbZn	Copper-Lead-Zinc	S	Sulphur
Fe	Iron	Tv	Travertine

4. CONCLUSION

Natural stone is the fastest growing sector within mining sector. It is also on the way to become one of the leading sectors in the export of Turkey

Most firms operating within the region sell marble in block form. However, instead of selling the marble in block form, selling it after processing, will generate much more value-added and much more revenue.

A marble processing unit that will be established in the WMR will be an advantageous and a high profit margin investment for reasons as follows;

- There are rich marble reserves in the region
- The current companies are exporting marble unprocessed which is a great loss in terms of sale price
- The presence of colored marbles such as Burdur Beige and Burdur Brown which are on the way to be a trade-mark worldwide.
- Marble produced or processed within the region, can be transported easily by sea, motor or railway with low costs.

- Strong demand from foreign markets to the marble products, especially from China
- Marble producers have been organized as chambers and associations, by this way they operate in a more efficient manner.
- The presence of the young and dynamic workforce

Sources

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