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Mineral Resource Potential and Its Development in Saudi Arabia

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ABSTRACT. Sustained mineral exploration efforts in Saudi Arabia have yielded about 3000 mineral showings for some 50 metallic and non metallic minerals and industrial rocks. The Government of Saudi Arabia, as part of its overall economic strategy, continues to pursue further development of its mineral resources through institutional and fiscal support and other incentives. This country with its relatively sound financial status and fairly stable socio-political setting, offers equitable opportunities to mineral investors, both from within and outside the country, to participate and share in the development of its mineral resources. Saudi Arabia plans to exploit its mineral resources to meet mineral requirements of its fast growing economy and supply the surplus, if any, to the international market. Increased mineral activity is expected in Saudi Arabia in the future.

1. Introduction

Historically, Saudi Arabia is not very well known for its mining activities. There are, nevertheless, at least three distinct periods over the last 3000 years during which significant mining production has been reported[1]. First, it was during King Solomon's reign (961-922 B.C.), then during the Abbasid Caliphate (750-1258 A.D.) and lastly, in recent years, when Saudi Arabian Mining Syndicate (1939-1954) was active in the mining of gold from Mahd Ad Dahab – the mine which has produced gold intermittently from King Solomon days and has again been opened-up since 1984[2]. Other than that, nothing significant is reported on the past mining history of this country.

Saudi Arabia has shown interest in the development of its mineral resources since 1947, and the real serious work of infrastructural geology and exploration started in the 1950s and 1960s. This was the period when massive induction of mineral raw materials in the rebuilding of post World War II Europe was under way and the international mineral industry was passing through its 'boom' period. It was during 1967

that the foundation was laid for a well organized mineral exploration program in Saudi Arabia when a separate ministry for petroleum and mineral resources was established with generous budgetary allocations. Since then, Saudi Arabia, aided and assisted by some foreign agencies, has followed a very ambitious exploration agenda which has resulted in numerous mineral finds including precious and base metals, energy minerals (other than petroleum), industrial minerals, construction materials and ornamental stones. Some of these finds have already been developed into operational mines, while others are under further study and investigations.

Despite its 25% share of the known oil reserves of the world and fairly steady earnings from it, Saudi Arabia is acutely aware of the need not only to diversify its economy, but to achieve self-sufficiency in its various industrial sectors as well. This is the underlying principle which is reflected in all of their national thinking and planning. Further, mineral resource and its exploitation is considered to play an important role in the developmental efforts of a country. It is in this context also that the development of the mineral resources has assumed special importance in Saudi Arabia. Mineral development, on one hand, will provide additional avenues for investment and development of other industries with the specific aim of broadening their economic and industrial base, and on the other, release manifold benefits and 'multiplying effects' into the national economic and social development process. Concerted efforts to search, evaluate and develop their mineral resources, therefore, continue in Saudi Arabia.

2. Mineral Resources of Saudi Arabia

Saudi Arabia consists of two distinct geological settings with marked difference in age and lithology. Western part of Saudi Arabia is composed of old metamorphosed rocks of the Precambrian age which form the Arabian Shield – the major source of mineral occurrences and discoveries. The Shield rocks are exposed in the western part of the country, covering almost 1/4*th* of Saudi Arabia. The other setting comprises younger, unaltered and almost undisturbed sediments of Paleozoic, Mesozoic and Tertiary ages. These Cover Rocks rest on the stable Precambrian basement and are spread over north, east and south of the Shield area. Further, intermittent volcanic activity has also been recorded from Tertiary to Recent with some alkali basaltic outflows, mainly in the Shield area. The most amazing Quaternary deposits in Saudi Arabia are, however, sands and gravels masking Cover Rocks which form the great sand deposits[3].

The Shield is the area that holds the highest potential for metallic mineral finds, and includes magmatic and late magmatic deposits in the igneous rocks, contact metamorphic deposits along the boundaries of igneous rocks, stratiform deposits and veins. On the other hand, non-metallic resources are not confined to any specific area; these are distributed all over the country including the Shield. Certain evaporites are also abundant. Some minerals occur in the coastal belt between the Shield and the Red Sea. Exploration of the sea-bed mineral resources of the Red Sea has also given encouraging indications. In brief, Saudi Arabia promises an host environ-

ment which is potentially rich in a variety of metallic as well as non metallic mineralisations.

2.1 Metallic Minerals

Because of its favourable geological setting, the Shield area has been (and still is) the target of extensive exploration activity which has resulted in numerous metallic minerals discoveries. More than 800 occurrences have been reported for gold, out of which about 30 prospects have been drilled to prove their economic worth[4]. Consequently, 12 gold bearing sites have been selected for further development[5] two of which (Mahd Ad Dahab and Al-Sukhaibarat) are already in production.

The base metals (copper, lead and zinc) are associated with volcanic and sedimentary rocks. A total of 75 such prospects have been drilled. Jabal Sayid and Nuqrah are reported to contain minable grades of copper deposits. Potential deposits for zinc are the copper deposits identified in the Nuqrah area, Knaiguiyah area and Al-Massani and Al-Amar. Lead is also associated with copper and zinc deposits.

The high-grade sulphide deposits of Nuqrah and Sarah contain silver. This metal also occurs as an associated mineral with lead, zinc and copper deposits in Saudi Arabia. Large bauxite deposits have been reported in the Cover Rocks at Az Zabirah. Lead, zinc and iron have also been discovered in the same rocks. The main iron deposits in Saudi Arabia are Wadi Sawawin, Jabal Idsas and Wadi Fatima deposits. Two major tin occurrences were discovered in 1980 followed by a spectacular occurrence of tin at Jabal Silsilah in a big ring complex[4]. Other metals indicated in varying concentrations at various points in Saudi Arabia are nickel, cobalt, chromium, titanium, tungsten, molybdenum, arsenic and platinum. Red Sea bed exploration has also yielded locations of metalliferous sediments mineral concentrations. Atlantis II Deep, a borehole drilled 100 kms off the coast of Jeddah, promises workable quantities of zinc, copper, silver, gold and cobalt[3-5].

A six-year study initiated in 1979 exclusively centered its efforts on the exploration of radioactive minerals and materials and rare earth elements (REE) which resulted in the discovery of more than 40 prospects[3]. Al Ghurayyah site has been found to be most promising and is reported to contain REE, niobium, thorium, tantalum and uranium. Jabal Sayid is reportedly rich in uranium also. Other rare elements reported to occur in Saudi Arabia are yttrium, cerium, lanthanum, zirconium, tellurium and vanadium.

Based on the information available so far, Table 1 lists the details of some of the important metallic mineral deposits of the country. Figure 1 shows the location of major metallic mineral deposits in the Kingdom.

Non Metallic Minerals

Saudi Arabia holds a substantial wealth of non metallic mineral resources which like metallic resources are not located in any particular region or area. Instead, these are distributed all over the country and include industrial minerals, construction materials, ornamental stones and coal.

TABLE 1. Metallic mineral deposits of Saudi Arabia.

Mineral deposit	Location	Deposit size	Metal constituent
Mahd Ad Dahab (gold-silver-copper-zinc)	287 km northeast of Jeddah	1.1 m. tons	27 g/t Au, 140 g/t Ag, 2.15% Cu & 12.5% Zn
Al-Sukhaibarat (gold-silver)	65 km southeast of Zalam	8.4 m. tons	2.5 g/t Au & Ag indicated
Al-Amar (gold-zinc)	100 km southeast of Dawadmi	1.07 m. tons	20-30 g/t Au & 1-11% Zn
Al-Shukhtaliat (gold)	50 km west of Zalam	3 m. tons	5.5 g/t Au
Al-Hijar (gold)	80 km northwest of Bisha	6 m. tons	3-4 g/t Au
Al-Souq (gold)	20 km northwest of Zalam	Not available	6.4 g/t Au
Al-Zarib (gold)	50 km east of Rania	300,000 tons	7.3 g/t Au
Mawan (gold)	50 km southeast of Qunfuda	Not available	6.2-19 g/t Au
Al-Najadi (gold)	60 km west of Silsilah	Not available	1.2-3 g/t Au
Al-Massani (gold-silver-copper-zinc)	45 km north of Najran	7 m. tons	2.8 g/t Au, 1.5% Cu, 6.3% Zn & 93.3 g/t Ag
Mashahid (gold)	30 km northwest of Silsilah	Not available	1.1-2.6 g/t Au
Bi'r Tawilah (gold)	50 km east of Zalam	300,000 tons	upto 14 g/t Au
Samara (silver)	15 km southwest of Dawadmi	301,000 tons	450 g/t Ag
Nuqrah (copper-lead-zinc-gold-silver)	200 km northeast of Madinah	1.3 m. tons	1.2% Cu, 2.3% Pb, 10% Zn, 9 g/t Au & 420 g/t Ag
Jabal Sayid (copper-zinc-gold-silver)	350 northeast of Jeddah	29 m. tons	2.5% Cu, 1.4% Zn, 0.5 g/t Au & 40 g/t Ag
Kitam (copper-zinc-lead-gold-silver)	54 km west of Najran	5.4 m. tons	2.1% Cu, 0.69% Zn, 6.12 g/t Ag, 0.23 g/t Au, 0.5-3% Ni & Pb
Rabathan (copper-zinc)	250 km southeast of Jeddah	1.5 m. tons	2.14% Cu, 0.02% Zn, 0.15 g/t Au & 2.45 g/t Ag
Al-Khunaiqia (copper-zinc)	190 km southeast of Riyadh	50 m. tons	1-5 Cu & 5.8% Zn

TABLE 1. Contd.

Mineral deposit	Location	Deposit size	Metal constituent
Shaab At-Tare (copper-zinc gold-silver)	225 km southeast of Jeddah	4 m. tons	0.36% Cu, 1.09% Zn, 0.55 g/t Au & 3.46 g/t Ag
As-Safra (copper)	130 km north of Zalam	27 m. tons	2% Cu
Wadi Shwas (copper-zinc)	320 km southeast of Jeddah	1.2 m. tons	2.13% Cu & 1.57% Zn
Red Sea (zinc-copper-gold silver-cobalt)	100 km west of Jeddah	Major deposit	Zn, Cu, Au, Ag & Co indicated
Wadi Sawawin (iron)	400 km northwest of Madinah	400 m. tons	40% Fe
Jabal Idsas (iron-titanium-vanadium)	175 km southwest of Riyadh	Major deposit	19-55% Fe, Ti & V indicated
Wadi Fatima (iron)	Between Jeddah and Makkah	50 m. tons	45% Fe
Wadi Wassat (iron)	100 km north of Najran	84 m. tons	47% Fe
Az-Zabirah (aluminum)	250 km east of Hail	90 m. tons	57% Al_2O_3

Source: Ref. [3,4,5,6]

The Sirhan-Turayf region in the north of the country and covering about 100,000 km^2 has several areas with near-surface large phosphate rock deposits (with 18-23% P_2O_5); one such deposit, north of Al-Jalamid, has been delineated for over 4.47 billion tons of estimated reserves[4,6], thus making it one of the largest phosphate rock deposits in the world. A high-grade magnesite (96% $MgCO_3$) deposit at Zargat has been explored in details and is considered an important source of the mineral. Large deposits of rock salt (96% NaCl) are reported from Jizan area. Search for potash has been concentrated on the Red Sea coast on a number of areas; drilling results from Farasan Islands have indicated a potential source of potash. In addition to large deposits of high-quality silica sand (99% SiO_2) around Al-Kharg, sand dunes along the Arabian Gulf can be almost unlimited source for good quality silica sand[7]. A wide range of other mineral deposits of diatomite, bentonite, kayanite, garnet, mica, and fluorite have also been discovered in Saudi Arabia[4].

There are a number of sites reporting gypsum occurrences, but Tuwayyil-Kibrit (south) possesses very large deposits of almost pure gypsum. Good-quality clays for brick making and other industrial uses have also been located at many points, some of them being very large in size and extent. Sulfur occurs along with gypsum at

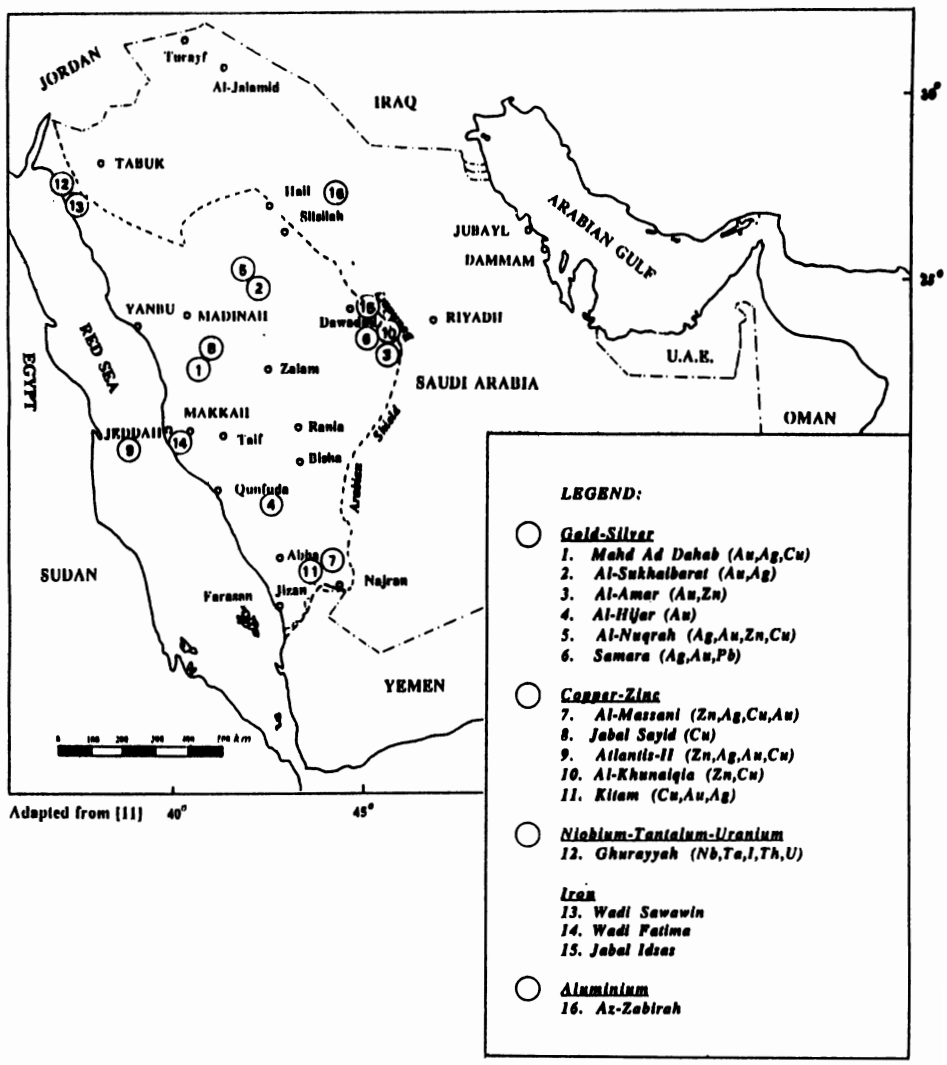

FIG. 1. Major metallic deposits of Saudi Arabia.

Tuwayyil-Kibrit, and in Wadi Wassat as pyrite – a possible source of sulfur. Volcanic cinder and feldspar which are useful industrial materials have been reported as potential economic deposits. Further, extensive occurrences of coal/lignite deposits[8] have been located in the Cover Rocks especially around Riyadh area.

Saudi Arabia is equally rich in limestone, ornamental stones and aggregate deposits. There are large number of limestone deposits and the limestone quality ranges from dolomitic to cement grade to high-purity limestone; size of the deposits could go as high as 5 billion tons (Wadi Al-Najabiyah). Abundance of this raw material has led to the establishment of 8 cement plants at various parts in Saudi Arabia with their overall rated capacity of over 16 million tons[9]. Saudi Arabia's ornamental

stones deposits, exceeding more than 100 sites, consist mainly of granite, marble and limestone[10]. Studies carrried out on aggregate materials around the centers of consumption have proven vast resource of such materials[11].

Figure 2 sites important non metallic mineral deposits and industrial rocks in Saudi Arabia.

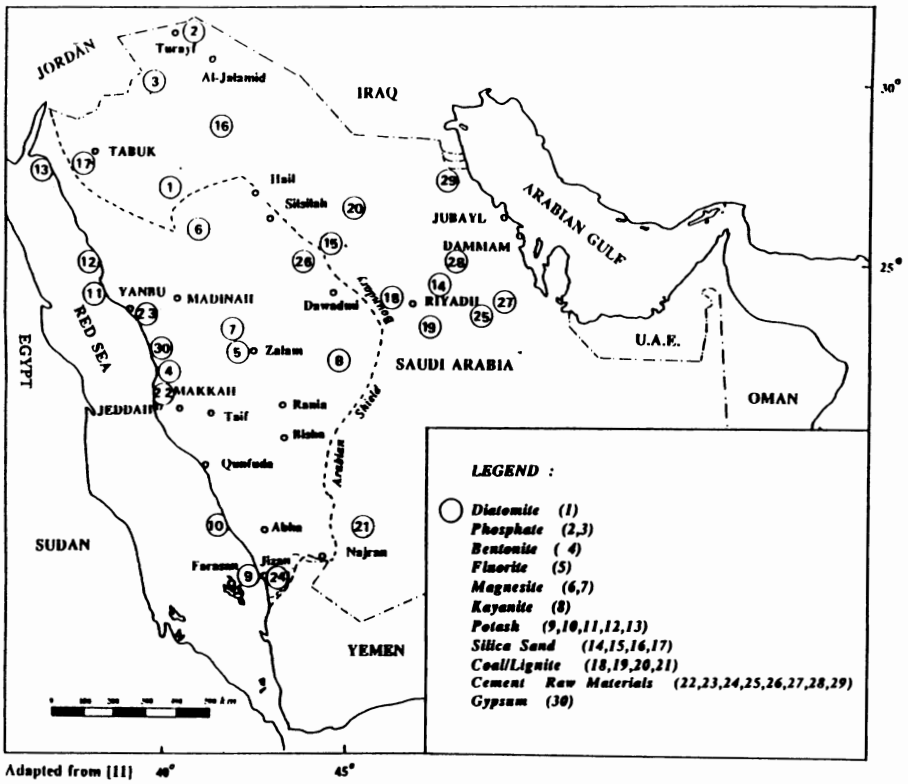

FIG. 2. Non metallic minerals and industrial rocks in Saudi Arabia.

3. Mineral Projects Development

Mineral deposits buried underground do not generate any economic well-being. On the other hand, not all mineral deposits can be converted into profitable mines for reasons of grade, prices, infrastructure, environmental controls[12], market uncertainty, ... , etc. Saudi Arabia has spent vast amounts of resources to compile a mineral inventory comprising over 5000 attested geological documents[13] and the national planners are fully aware of the mineral industry constraints and the need to commercially exploit this mineral wealth for the benefit of the country at large. Constant reviewing and updating of the information made available on different mineral

deposits is regularly undertaken to improve and refine the data on the mineral inventory. It is an ongoing process with the specific objective of harnessing the full potential of the mineral discoveries; mineral deposits are selected for further development when exploration and initial evaluations have indicated the scope and justification for comitting more funds to the mineral deposits.

The Deputy Ministry of Mineral Resources (DMMR), a wing of the Ministry of Petroleum and Mineral Resources (Ministry), and responsible for overseeing mineral exploration in Saudi Arabia, has identified a number of mineral deposits some of which, it seems, have the necessary grades and the initially estimated reserves to warrant immediate consideration for commercial exploitation. Table 2 gives some of the details of these selected mineral projects.

TABLE 2. Mineral, projects development in Saudi Arabia.

Project	Mineral	Proposed prod. tpd	Stage of development
Mahd Ad Dahab	Au*, Ag, Cu, Zn	400	In production since 1984.
Sukhaibarat	Au, Ag	2,000	In production since early 1991.
Al-Shukhtaliat	Au	–	X
Al-Hijar	Au	–	X
Al-Souq	Au	–	X
Al-Zarib	Au	–	X
Mawan	Au	–	X
Al-Najadi	Au	–	X
Mashahid	Au	–	X
Al-Siham	Au	–	X
Samara	Ag	–	X
Al-Massani	Cu, Zn, Ag, Au	2,000	Announced for private sector investment.
Jabal Sayid	Cu, Zn, Ag, Au	2,000	Announced for private sector investment.
Kitam	Cu	–	X
Atlantis - II -Deep	Zn, Cu, Ag, Au, Co	70,000	Technically feasible, awaits better prices.
Al-Amar	Au, Ag, Zn	400	Ready for investment.
Nuqrah As-Safra	Cu, Pb, Zn, Cu, Ag, Au	2,500	XX
Al-Khunaiqia	Zn	–	XX
Wadi Sawawin	Fe	10,000	XX
Wadi Fatima	Fe	–	X
Jabal Idsas	Fe	–	X
Wadi Qatan	Ni	2,000	X
Az-Zabirah	Al	–	XX
Baid Al-Jimalah	W	–	X
Bi'r Tawilah	Sn, W, Au	–	X
Sirhan-Turayf	P	–	XX
Zargat	Magnesite ($MgCO_3$)	400	Announced for private investment.
Ornamental :	Marble :	Varying	Many quarries already in production.
Stones :	Granite :		For new sites feasibility studies continue

Source: Ref. [4, 5, 10, 13, 14, 18]

* Precious metals to be developed in the public sector.

X Feasibility studies expected to finish within 1-5 years.

XX Feasibility studies nearing completion.

As it is apparent from the Table, various mineral deposits selected for further work are at different stages of their development. Two gold mines are already in production. Three prospects, having cleared the initial feasibility stages, have been announced for soliciting private sector investments, while the fourth one is ready for development in the public sector. For other mineral deposits, exploration and other technical studies continue. It is expected that these deposits will be ready for development in the near future.

One of the gold mines (Mahd Ad Dahab) is being run by a state-owned corporation while the other (Al Sukhaibarat) is a joint venture between another state-owned agency and Boliden of Sweden. Recent announcements for copper (Jabal Sayid and Al-Massani) and magnesite (Zargat) are meant for the private sector. However, since as a matter of policy, all precious metals are to be developed in the public sector, the only new gold project (Al-Amar) awaits investment decision and financing arrangements. Joint ventures, both private and public, could be preferred mode of investments if the size and value of the project so warrants.

By 1984-85, some 40 ornamental stones quarries were already in production. In 1985-90 period more than 50 licenses were issued to investors for developing additional sites. This sector, of the mineral industry in Saudi Arabia, is being entirely run by the private sector, and attempts are being made to achieve some measure of self-sufficiency in ornamental stones requirements by exploiting indigenous resource of these stones.

4. Policies and Prospects

Saudi Arabia has so far spent about US$3.75 billion on its mineral resource development program[13]. Allocation of US$1.2 billion for mineral developmental activities in the *4th* Five Year Plan (1985-90) followed by another US$400 million in the subsequent plan period (1990-95) indicates Saudi Arabia's continued emphasis on the development of its mineral resources. Additionally, these financial outlays are also suggestive of their planning to promote and develop non-oil industrial sectors thus working towards a self-reliant economic structure of the country. Growth of non-oil GDP from a meager US$2-3 million in 1970 to over US$55 billion by 1990[4,14] is indicative of phenomenal expansion in the economic activity of the country. Direct contribution of mineral sector to the non-oil GDP is only 0.8% but because of its ability to act as a catalyst for many other industrial activities, and its down-stream effects in the national economy, this sector will be an integral part of any future economic development strategy of Saudi Arabia.

Real oil-money did not flow into Saudi Arabia until early 1970s but this country has demonstrated its commitment to the development of its mineral resources right from 1950 onward. While Geological Survey and other government departments involved with mineral development rarely go beyond infrastructural geology and, if cash available, broad-based regional exploration, Saudi Arabia has not only achieved these goals but gone still further by identifying target areas, undertaking detailed exploration and delineation studies and initiating feasibility studies to prove

overall viability of projects. This country has done more than just to put up the 'risk' money needed to overcome the reluctance of private mineral developers to commit funds during initial phases of mineral development; it has collected vast information on the country' mineral resource potential which provides a solid data base for future mineral development planning in Saudi Arabia.

The next stage in the development of mineral resources of Saudi Arabia is their economic exploitation and utilization. The Ministry through DMMR and state-funded companies has provided the lead to initiate and develop mineral projects. The mineral deposits inventory that has been prepared after a lot of expense both in time and money needs to be harnessed to its fullest potential. Consequent to a slight shift from its previous policy, the Ministry will continue to undertake and disseminate information on basic geologic work, exploration and development, and at the same time, private sector will be encouraged through various supportive measures and incentives to involve itself in exploration and development of indigenous mineral resources and their utilization. This is one of the basic strategic principles which has been emphasized in the current Five Year Plan, and it was this very underlying concept that was kept in mind when Mining Code was revised in 1973[15]. Braced with the free-market-economy concepts and supported by the newly emerging but fairly strong financial and trade institutions, private sector is assuming the role of an equal partner in the economic development of the country. Based on the performance of the private sector during 1990, where it accounted for almost 3/4*th* share of the non-oil GDP, it is expected that this sector will prove equal to the task when it comes to mineral resource development as well.

The Saudi Arabian authorities with an eye on the international expertise, technology and finance have also addressed themselves to the problems of foreign investors whose involvement becomes unavoidable for any sizable developmental effort including development of mineral resources. In a campaign through international press, seminars ... etc., Saudi Arabia has projected itself as "a safer and more secure country (for investments) than at any previous time in its history"[16]. Saudi Arabia's buoyant mood could be attributed to the changed international geopolitical scene, peace on its borders and prospects for a relatively strife-free Middle East in the coming years.

Some of the salient features of this campaign include a 10 years tax-free holiday for any joint venture on the condition that it involves a minimum of 25% Saudi participation in equity, and interest-free loans up to 50% of the cost of project, whether new or old requiring expansion/modernization. A US$10 billion reserve fund has been created for the purpose to attract foreign business and investments. Further, there are almost no foreign exchange controls with no restrictions on remittances of profits or repatriation of invested capital – a major source of concern for foreign investors. Uninterrupted energy supply at appreciably low cost coupled with a growing market in Saudi Arabia should provide additional impetus to any prospective investor. What shape financial, managerial and technical aspects of a joint venture should assume is largely going to be determined by the bargaining options available with each party[17]. Whether it is the development of mineral resources or any other area of

economic activity. Saudi Arabia promises a very stable socio-political environment for investment especially after the recent Gulf crisis. The magnitude of its oil reserves (that can last, at the present rate of world consumption, well up to the end of the next century) and the financial stature and creditability that it enjoys because of it should lend further support to its developmental plans and policies in so much as the foreign investments are concerned.

While Saudi Arabia continues to make steady progress in many of its industrial sectors, the mineral industry which is still in its infancy, is likely to take some time before necessary skills and attitudes are developed to undertake and sustain mineral resource development in the country. The local investors may be reluctant to invest in the mineral industry when other more lucrative and less risky business propositions and opportunities are available. In spite of the mammoth infrastructure that has been spread across the country, there still could be temporary hurdles due to lack of adequate access and/or other facilities in the far-flung areas (that is where mineral deposits are generally located). Harsh climatic conditions at some of the places may pose difficulties in normal mining operations and equipment performance. Scarcity of water could become a critical factor at some of the mineral deposit locations. Temporary shortages in trained manpower at all levels of mineral activities could be circumvented by hiring expatriates especially in the early years of the project's life. Any joint venture, on the other hand, will be required to have a well-planned training program for the Saudis to replace expatriates in due course of time.

Needless to mention that mineral industry whether in Saudi Arabia or any where else has certain special features which make it distinctly different from other industrial sectors. The mineral development planners in Saudi Arabia are aware of the nature of the mineral industry and the difficulties faced by it. Necessary adjustments in policy framework and its follow-through should be undertaken whenever there is a need for it. Last revision of the Mining Code was undertaken in 1973; with almost two decades in between and the proposed mineral projects development program of Saudi Arabia on the anvil, it seems that another revision of the Code may be in order to reflect the new realities of today. When mineral developmental efforts at such a scale are contemplated, a coherent national mineral policy document is a pre-requisite (Mining Code is a poor substitute for any national mineral policy). Any other mining legislation required to properly control and monitor many facets of the mineral industry should also be enacted, if already not there on the Statue Books.

The type of commitment that Saudi Arabia has shown for the development of the mineral resources promises accelerated mineral activity in Saudi Arabia in the coming years.

Conclusion

From the size of the financial outlays on mineral sector development, it seems apparent that development of mineral sector in this country is being pursued as an essential component of the overall economic planning strategy. Five-year plans, *budgetary allocations and policy pronouncements*[4,5,13,14,16] by the Saudi Arabian

government are indicators of their continued interest and emphasis on the search, exploitation and utilization of indigenous mineral raw materials. Backed by its relatively sound financial status, Saudi Arabia offers an attractive fiscal regime and fairly stable investment environment especially for the international investors and mineral developers.

In keeping with its past performance, the private sector in Saudi Arabia is expected to make its due contribution in the mineral resource development process as well. But given the special nature of the mineral industry and the role private sector is being called upon to play in developing indigenous mineral resources, the private sector (as also the foreign investors) may need, among other things, an immediate revision of the Mining Code to meet the present-day requirements of the mineral industry; easier and simplified procedures for granting exploration permits and mining leases is one such change urgently needed. Others include soft-loan facilities and a special 'window' at investment and commercial banks, and, above all, easy access to information at the concerned government departments and ministries. The private sector may also need assistance from the Ministry to help expedite matters concerning infrastructure and other facilities essentially required for the implementation of mineral projects.

Mineral resource development in this country will not be without its share of problems, particularly in the early years, but it is reasonably certain that Saudi Arabia has crossed the threshold and is poised to enter the next phase of its mineral resource development program.

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أهميـــة الثروة المعدنيـــة وتنميتهـــا في المملكـــة العربيـة السعوديـــة

محمود علي درويش و نذير أحمد بت
قسم هندسة التعدين ، كلية الهندسة ، جامعة الملك عبد العزيز
جـــــــدة - المملكة العربية السعودية

المستخلص . إن المجهودات التي لا تتوقف لاستكشاف المعادن في المملكة العربية السعودية قد أثمرت عن حوالي ثلاثة آلاف مؤشر يدل على وجود حوالي خمسين نوعًا من المعادن الفلزية واللافلزية والصخور الصناعية . وتستمر حكومة المملكة العربية السعودية ، كجزء من استراتيجيتها العامة ، في متابعة تطوير وتنمية ثرواتها المعدنية من خلال الدعم القانوني والمالي والحوافز . وعلى عكس البلاد النامية الغنية بالثروات المعدنية ، فإن المملكة العربية السعودية ، بما لها من مركز مالي قوي ووضع اجتماعي وسياسي مستقر ، تقدم فرصًا متكافئة للمستثمرين ، سواءً أكانوا من داخل المملكة أو من خارجها ، لكي يساهموا ويشاركوا في تنمية ثرواتها المعدنية ، ولذلك فإنه من المنتظر أن يزداد النشاط التعديني في المملكة في المستقبل .