**Developing the mineral sector**

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On August 4, 2021 I was waiting to meet the Federal Secretary Ministry of Petroleum and Natural Resources to discuss the gasification of Thar Coal. A Chinese delegation walked in. On introduction, I found out that the Chairman of Metallurgical Corporation of China (MCC) had come with his delegation to seek extension of lease for the Saindak Copper-Gold Mine in Balochistan. It was perhaps destiny as I shook hands with them, I went back in time. The year was 1992, I had recently returned from the United States after gaining higher education and experience. MCC was the contractor for Saindak Metals Limited (SML) hired to build the first large scale mining project in the country. With my experience of copper mining and metallurgy in Arizona, it was a dream come true as my expertise was sought to steer the first large-scale mining project in my homeland. Little did I know that vested interests were at work. Despite my warnings and protests, there was no course correction and the project was handed over to the Chinese contractor on a fixed yearly lease.

[Pakistan, Iran want peace, stability in region: FM Qureshi](https://nation.com.pk/27-Oct-2021/pakistan-iran-want-peace-stability-in-region-fm-qureshi)

Had we prepared ourselves to build and then run the Saindak Mine, the experience could have been replicated to nearby Reko Diq and other mining projects in the country. Then I got a chance to work on developing the Kalabagh Iron Deposit. During my term as Chairman Pakistan Science Foundation (PSF), I got a telephone call from the Prime Minister’s (PM) office asking if Kalabagh could be exploited. I took up the challenge. The Metals and Minerals Center of PCSIR, under the guidance of an expert, was funded to revisit the Krupp Renn process that was earlier used to extract iron from this resource. Using a reverberatory furnace they were able to produce upgraded iron luppens that could be used as scrap in electric arc furnaces. After my term ended, PCSIR approached the Punjab Government for funding a pilot plant but instead, German experts were hired to develop a commercially viable project. The report is now with the Punjab Mining Company (PMC). Development of the Thar Coal Deposit proved to be another crusade. The main challenge was extraction of the ‘black gold’. There were mining challenges for which a test mine was proposed. Again, due to a lack of commercial mining experience, it was an uphill task. As Chairman PSF, I wrote the first paper on the development of this massive energy resource in 2004. It took 14 long years before I could reach the bottom of the open pit of the mine to touch the thick coal seam.

[PM Imran Khan congratulates Pakistan team over New Zealand win](https://nation.com.pk/27-Oct-2021/pm-imran-khan-congratulates-pakistan-team-over-new-zealand-win)

Reko Diq was grossly mishandled due to lack of local expertise. Again I tried for a negotiated settlement as I knew all the players. Delay was in no one’s interest. The plan was to bring everyone on the table and agree on the way forward. For this purpose I travelled to Toronto as well but there were too many players and interests from our side. Finally, it has been reported that a settlement has been reached and work will start soon.

Then came the Chiniot iron deposit which is located under the old city. Tall claims were made about the resource by the previous government which were not true. It is a high grade iron ore suitable for a steel mill based on the latest direct reduction process. The challenge again is in large-scale commercial mining followed by processing at site. Saindak, Reko Diq, Kalabagh, Chiniot and Waziristan are metal deposits while Thar, at 175 billion tonnes, is one of the largest coal deposits of the world. The success at Thar has paved the way for large-scale commercial mining in the country. The public private partnership model of SEMEC (Sindh Engro Coal Mining Company) has worked well, such a model can be replicated in all the above projects. A similar approach was adopted for the large Sui Gas deposit discovered in 1952. PPL (Pakistan Petroleum Limited) owns and pumps out the gas at site which is then sold to two gas transmission/distribution companies (SNGPL, SSGC). Thanks to this natural resource, Pakistan remained an energy surplus nation for about five decades. It was gross mismanagement that today we have to import Liquified Natural Gas (LNG) from Qatar at a very high price. LNG can be replaced with Synthetic Natural Gas (SNG) produced from above ground Gasification of Thar Coal at a much lower cost. It is a commercially viable technology. My work on production of SNG continues despite roadblocks.

[Opposition to seek National Assembly session to debate price hike](https://nation.com.pk/27-Oct-2021/opposition-to-seek-national-assembly-session-to-debate-price-hike)

Once a natural deposit has been discovered and its size estimated by geologists, the next step is its extraction. Pilot or test mines and bulk samples are required for process development and testing which are usually not available. Putting the pieces together continues to be a challenge. Only ore samples from Kalabagh are easily available while Chiniot poses a challenge of tunnel mining to reach the deposit under the old city. Now that mining and power generation has started at Thar coal samples are available for gasification studies. Pakistan has huge, unexplored mining potential that has to be exploited by qualified and trained mining and metallurgical engineers who take over from the geologists. Most geological surveys have been completed, now the extraction phase has to start.

At its peak production, Pakistan Steel Mills produced about 2 million tonnes of steel while the yearly requirement is close to 5 million tonnes. Copper is imported and recycled while the output from Saindak is shipped to China. In the original Reko Diq contract, the plan was to ship the concentrate for overseas refining with no downstream processing in the country. Self reliance demands that our metal needs are met by local mining and refining with value addition. Now that the Prime Minister has decided to focus on the development of this vital sector, the future holds promise. Metals are the basic building block of a nation which have been missing in the land of the pure mainly because of a lack of expertise and vision combined with vested short-term goals of individuals at the helm.

[PML-N MPA Sania Ashiq reports 'harassment, defamation' to FIA](https://nation.com.pk/27-Oct-2021/pml-n-mpa-sania-ashiq-reports-harassment-defamation-to-fia)

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The success at Thar has paved the way for large-scale commercial mining in the country.