

## Legal Frame Work for Exploitation of Beach Sand Mineral Resources: Historical Perspective and Action by Government of India for conservation

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### Abstract:

India is bestowed with several Beach Sand Mineral (BSM) occurrences along its 7200 km long coastline. The exploitation/recovery of BSM resources is governed by various provisions of the Acts and Rules issued by the Government of India. Till 1998, the mining of BSM was reserved (excluding garnet and sillimanite) for the public sector only. Department of Atomic Energy (DAE), intending to maximize the value addition of BSM within the country, brought out a policy resolution, which allowed the private entities in mining and processing of BSM resources except for the mineral monazite.

Mining and development of any mineral are governed by the Mines and Minerals (Development & Regulation) (MMDR) Act, 1957 and the rules made thereunder. MMDR Act, 1957 has undergone major amendments in 2015 and by virtue of the provisions under the Act, new rules were framed for the first time in the country, exclusively for grant of mineral concession in respect of atomic minerals. As per the provisions of a new rule, all BSM deposits (above threshold) come under the purview of the Government Company or Corporation owned or controlled by the Government. This paper deals with legal provisions for the exploitation of BSM resources and recent amendment by the Government of India for conserving these minerals of strategic importance, in the national interest.

**Key words:** *Beach sand, strategic minerals, mineral laws, conservation, amendments in laws, India*

### Introduction

The BSM in the mining parlance means economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite. Among these, monazite mineral contains thorium and rare earth elements (REE), which is of strategic importance. Further, thorium is notified as ‘Prescribed Substance’ under the Atomic Energy Act, 1962, as it has direct application in the atomic energy programme of the country. After DAE’s policy in 1998, private entrepreneurs were allowed to mine and process the BSM resources (except monazite). However, after the recent policy changes only the Government companies can exploit the BSM resources.

### Historical Background

#### MMDR Act and Rules

The Government of India set out Industrial Policy Resolution on April 6, 1948 and as per the policy resolution, certain industries and minerals were reserved for the Government sector only. The Mines and Minerals Regulation and Development (MMRD) Act, 1948 was enacted with an objective to regulate mines and oilfields and for mineral development on the lines of Industrial Policy Resolution, 1948.

In 1957, Parliament decided that the regulation and development of Mines and Minerals should be under a separate Act and enacted, MMRD Act, 1957 on 28.12.1957. It extends to the whole of India. The

MMRD Act was later renamed as Mines and Minerals Development and Regulation (MMDR) Act, 1957 in 1999. Three types of mineral concessions are granted under this Act viz.,

Reconnaissance Permit  
Prospecting License  
Mining Lease

#### Beach Sand Minerals under MMDR Act, 1957

The mineral concession, conservation, development and mining of the BSM is sanctioned, governed and administered by the Central Government and the State Government under the provisions of MMDR Act, 1957, the Mineral Concession Rules (MCR), 1960 and the Mineral Conservation and Development Rules (MCDR), 1988. Initially, all the BSM except garnet and sillimanite were listed as ‘Specified Minerals’ under the first schedule of MMDR Act, 1957.

In 1986, a new thrust to the mineral development activity in the country was given with an amendment to MMRD Act, 1957; accordingly, a mining plan duly approved by the Central Government was made as a prerequisite for the grant of any mining lease. Director, AMD has been authorized to approve the mining plans in respect of certain ‘Specified Minerals’ listed under the first schedule of MMDR Act, 1957. The list includes some of the BSM viz., ilmenite, rutile, leucoxene, zircon and monazite for which mining

plans are to be approved by the Director, AMD. Mining Plans in respect of other BSM (garnet and sillimanite) are to be approved by the Indian Bureau of Mines (IBM). The mining leases were granted for a maximum period of thirty years and can be renewed for a period not exceeding twenty years.

In 1994, the first schedule minerals were divided into different categories as; Part-A: Hydrocarbons Energy Minerals, Part-B: Atomic Minerals and Part-C: Metallic and Non-Metallic Minerals. All the BSM (except for garnet and sillimanite) were listed under the category of Atomic Minerals.

Till 1998, the mining of BSM except for garnet and sillimanite was reserved for the Public Sector. Private firms entered the BSM industries towards the mid-eighties and were allowed to mine/recover only garnet and sillimanite. The mining leases were granted on a first-come-first-serve basis considering the financial and technical capabilities of the applicant.

The MMDR Act, 1957 has undergone major amendments in 2015 and as a result, the old practice of grant of mineral concessions from first come first serve basis was abolished and a method of competitive bidding including e-auction for grant of the lease was brought in. Several new rules in line with the amendments were promulgated, which include:

- 1) The Atomic Minerals Concession Rules (AMCR), 2016
- 2) The Minerals (Other than Atomic and Hydrocarbons 3) Energy Minerals) Concession Rules, 2016
- 3) The Mineral Conservation and Development Rules, 2017
- 4) The Mineral (Auction) Rules, 2015
- 5) Other allied rules

After the amendments, mineral concessions are to be granted through the auction for which separate rules i.e., the Mineral (Auction) Rules, 2015 were notified by the Central Government. However, the atomic minerals were kept out of the purview of auction mode for lease grants.

By virtue of the amendment in the Act, the Central Government has been vested with powers to make separate rules for grant of mineral concessions in respect of atomic minerals. In exercise of the powers conferred under the newly inserted section 11B of the MMDR Act, 1957, the Central Government promulgated the Atomic Minerals Concession Rules, 2016 on 11.07.2016 and the same day, all the BSM including garnet and sillimanite were brought under the list of Atomic Minerals.

AMCR, 2016 is promulgated for the regulation of mineral concessions in respect of Atomic Minerals. The concept of "Threshold Value" for Atomic Minerals was introduced in AMCR, 2016. In respect of the BSM, the threshold value of 0.75% monazite in total heavy minerals (THM) was notified. As per the provisions of the rules, Government Company or Corporation owned

or controlled by the Government were allowed to work in the BSM deposits containing monazite equal to or above the notified threshold value as defined in Schedule A of AMCR, 2016. The mineral concessions in respect of the BSM deposits containing monazite less than 0.75% in THM are governed by the provisions of Mineral (Other than Atomic and Hydrocarbons Energy Minerals) Concession Rules, 2016. The mining leases under AMCR, 2016 shall be granted for a period until the entire reserve of minerals in the mine is exhausted.

### Atomic Energy Act and Rules

The Government of India enacted the Atomic Energy Act, 1948 (29 of 1948) for the development, control and use of atomic energy for the welfare of the people of India and other prescribed purposes. In 1962, the Atomic Energy Act, 1948 was superseded by the Atomic Energy Act, 1962 (33 of 1962). As per the Act, Prescribed Substance means any substance including any mineral which the Central Government may, by notification, prescribe, being a substance which in its opinion is or may be used for the production or use of atomic energy or research into matters connected therewith.

Under the BSM, monazite, ilmenite, rutile and leucoxene and zircon were under the list of 'Prescribed Substance'. As per the Industrial Policy Resolution, 1991, the mining and production of ilmenite, rutile, leucoxene and zircon were reserved for the Public Sector only. Considering the growing demand for ilmenite, rutile, zircon and/or their value-added products in the domestic as well as international markets and the BSM resources in the country, the BSM sector was opened for private entrepreneurs. DAE vide notification on "Policy on Exploitation of BSM" the entry of private entrepreneurs into beach sand operations for ilmenite, rutile, leucoxene and zircon. The entry of private entrepreneurs in the BSM operations has been placed in three categories:

- a) Mining and mineral separation.
- b) Value addition per se to the products of (a).
- c) Integrated activities (comprising both (a) and (b))

The main objective of the BSM policy (1998) was to maximize the value-addition to the raw-materials within the country, upgradation of the existing process technologies to international standards and attracting funds and new technology through private participation (domestic and foreign).

The handling/extraction of the 'Prescribed Substances' attracts the provisions of Atomic Energy (Working of the Mines, Minerals and Handling of Prescribed Substances) Rules, 1984, Atomic Energy (Radiation Protection) Rules, 2004 and other allied Rules/policy. The firm desirous to mine/extract the 'Prescribed Substances' are required to obtain a licence under Atomic Energy Rules, 1984 from DAE. The titanium minerals ilmenite, rutile and leucoxene, and

zircon were delisted from the 'Prescribed Substances' w.e.f. 01.01.2007.

As per the latest notification issued by DAE ((S.O. 1592(E) dated 28.04.2016)) on "Updation of the list of Prescribed Substances, Prescribed Equipment and Technology", the uranium and thorium ores that contain more than 300 ppm of uranium and/or thorium comes under the category of 'Prescribed Substance'. Hence, the extraction of the BSM having monazite containing more than 300 ppm of thorium and/or uranium attracts the provisions of AE Rules, 1984.

#### **Step initiated by Government to Conserve BSM resources:**

The BSM viz., ilmenite, rutile, leucoxene, monazite, zircon, sillimanite and garnet occur together as a group of associated minerals with varying concentrations in beach sands and other placers deposits. With the development of the latest technologies, monazite and zircon have found applications in strategic and hi-tech applications. Zircon, the main mineral of zirconium also contains the rare earth element, hafnium. Monazite is a mineral that contains rare earths and thorium. Zirconium, hafnium and thorium are very important and strategic elements for the 3<sup>rd</sup> Stage Nuclear Power Programme of the country. Monazite being the primary source of thorium and rare earths, occurring in association with the BSM, any loss or pilferage of monazite or zircon due to mineral processing or handling of the BSM will be a significant loss to the country, affecting the national security.

In view of National Security, to meet future strategic needs and to protect and conserve the critical elements viz., rare earths, thorium, zirconium and hafnium occurring in the BSM, Ministry of Mines (MoM) has amended the threshold value in respect of monazite in THM for BSM from 0.75 % to 0.00%. As a result, mineral concession in respect of the BSM deposits is now brought under the government control and firms other than government are not allowed to work in the BSM mining. Accordingly, MoM has issued an order dated 01.03.2019 to all the concerned State Governments for premature termination of all the mineral concessions of the BSM under the provisions of the MMDR Act, 1957 held by private companies.

#### **Conclusion**

The amendment of the threshold value of monazite in THM (0.00% monazite in THM) in

AMCR, 2016 implies that the mineral concessions in respect of the BSM deposits are to be granted to a government company or corporation owned or controlled by the government.

However, DAE's resolution dated 06.10.1998; "Policy on Exploitation of BSM" contemplates the private participation for mining, mineral separation and its value addition of the BSM resources. Further, the Consolidated FDI Policy Circular of 2017 issued by the Department of Industrial Policy and Promotion states that 100% Foreign Direct Investment (FDI) is permitted for mining and mineral separation of titanium-bearing minerals and ores, its value addition and integrated activities.

In order to overcome such ambiguity and to govern the BSM resources at par with MMDR Act, 1957, it is imperative for the government to revise the Consolidated FDI Policy Circular of 2017 for mining and mineral separation of titanium bearing minerals and ores issued by the Department of Industrial Policy & Promotion.

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