

Management of Resources with Zero Waste Approach (Part – IV) Mineral Resources

P. K. Jena

Abstract

Mineral is one of the most important natural resources. The mineral resource is being mined and utilized for meeting our increasing needs of energy, metals and alloys, cement, refractories, pigments, inorganic chemicals and many others. The socio economic developments of the present world have been possible mainly because of this resource. However, the mineral resource being non renewable in nature, is getting exhausted very fast in recent decades. It is apprehended that, unless effective measures are taken to conserve and utilize this resource judiciously, our industrial and socio economic progress would slow down very significantly. In this paper, an attempt has been made to project the major draw backs in harnessing and utilizing the mineral resources for various purposes. In order to make our socio economic development sustainable, it has been suggested to manage the mineral resources properly using environment friendly technologies with zero waste approach. It is emphasized to utilize and recover values from the wastes generated in mining, mineral processing, metal extraction, harnessing energy and producing cement, chemicals etc. Some typical examples of developments in processing of mineral based industrial wastes and the wastes from different secondary sources to recover metal values have been highlighted. Some R & D work carried out by the author and coworkers in these areas have been incorporated in brief.

***Keywords:* Mineral resources, increasing demands, limited resource, proper management, zero waste approach, sustainable development, environment friendly technology.**