

**GOVERNMENT OF INDIA
MINES
LOK SABHA**

UNSTARRED QUESTION NO:3182
ANSWERED ON:16.03.2010
AERIAL SURVEY FOR EXPLORATION OF MINERALS
Rajaram Shri Wakchaure Bhausheb

Will the Minister of MINES be pleased to state:

- (a) whether satellite survey and aerial photography are being used to identify and explore certain minerals in the country including backward and rural areas;
- (b) if so, the details thereof, State-wise;
- (c) the details of the mineral explored during each of the last three years and the current year;
- (d) whether the Government proposes to use this technology to explore / discover mineral mines in the country; and
- (e) if so, the details thereof ?

Answer

THE MINISTER OF MINES AND MINISTER OF DEVELOPMENT OF NORTH EASTERN REGION (SHRI B.K. HANDIQUE)

(a) & (b): Yes, Madam. Satellite imagery and aerial photography are components of remote sensing surveys and have been / are being used for identifying suitable structures favourable for mineral deposits. Geological Survey of India (GSI) has been conducting remote sensing surveys to examine mineral potential of the country including backward and rural areas.

Recent investigations of mineral exploration carried out by GSI (Field Season 2009-2010) using remote sensing in the country are as under:

- (i) Interpretation and integration of geological, remote sensing and aerogeophysical data of part of Bangalore – Penakonda area, Karnataka for delineating of target blocks for different kind of mineralization.
- (ii) Pilot study on the application of Hyperspectral remote sensing in Hutti-Maski schist belt, Karnataka.
- (iii) Evaluation of placer mineral occurrence near Hownavra town, Uttara Kannada district, Karnataka.
- (iv) Geological appraisal of the area east of Bistrampur Coalfield, Surguja district, Chhattisgarh by the application of Remote sensing Techniques with special reference to the stratigraphy frame work and tectonic style.
- (v) Use of Hyperspectral Remote Sensing data for the search of mineralized provinces / area in Precambrian terrain of Eastern and Northern Gujarat.
- (vi) Identification of alternate sand resources in Achenkovil, Manimala, Meenachil and Muwattupuzha river basins of Pattianamthitta, Alappuzha, Kottayam and Ernakulam districts, Kerala.
- (vii) Investigation for basemetal and associated gold in Dholpur area, Jaipur district, Rajasthan.

(c): The details of the minerals explored during each of the last three years and the current year (including remote sensing investigations) are as under:

Mineral Number of investigation taken

	2006-07	2007-08	2008-09	2009-10
Coal & Lignite	33	22	20	23

Base Metal	21	22	19	21
------------	----	----	----	----

Gold 27 23 17 12

Diamond 8 6 5 3

Strategic minerals 3 1 2 3

Platinoid Group of Elements 8 8 3 7

Iron 12 5 5 7

Manganese 2 1 1 3

Chromite - - - 1

Others 11 6 5 12

(d) & (e): Remote sensing technique is an indirect tool which in itself cannot lead to discovery of mineral deposits. It is used in initial stage of mineral exploration to be followed by other exploration techniques on ground for establishing a mineral deposit. Study of mineralized zones / alteration zones in identifying extension of mineralized belt or a new occurrence in geologically potential areas are carried out using remote sensing techniques. Recently GSI is undertaking hyperspectral mapping using satellite and aerial platforms as a modern tool to strengthen the search of minerals in the country.