

**GOVERNMENT OF INDIA  
MINES  
LOK SABHA**

UNSTARRED QUESTION NO:498  
ANSWERED ON:07.07.2009  
AERIAL SURVEY FOR EXPLORATION OF MINERALS  
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**Will the Minister of MINES be pleased to state:**

- (a) whether aerial survey conducted to explore minerals and promote mining especially in backward and rural areas;
- (b) if so, the outcome of such survey, State-wise;
- (c) whether some foreign companies have been entrusted with the work to explore minerals during the last three years;
- (d) if so, the details thereof and the reasons therefor; and
- (e) the steps taken by the Government to assign survey work to Indian companies?

**Answer**

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

(a) & (b): Yes, Sir. Regional level surveys including aerial surveys are done by the Geological Survey of India(GSI) and also, with respect to Uranium mineralization, by the Atomic Minerals Directorate for Exploration and Research (AMD) of the Department of Atomic Energy. The National Geophysical Research Institute (NGRI) also carries out aerial surveys for various purposes including mineral exploration.

Recent GSI aerial multisensory surveys involving Magnetic, Spectrometric, Radiometric and Electromagnetic methods by Twin Otter Aircraft of GSI have been carried out in Mamandur(Tamil Nadu), Aladahalli, Gadag, Wajrakarur-Vendavati basin, Kolar-Kadiri-Ramgiri area (Karnataka and Andhra Pradesh), Agartala-Silchar [for Oil and Natural Gas Corporation (ONGC) in Tripura and Assam], Ratnagiri (Maharashtra), Siliguri-Guwahati [for ONGC, West Bengal and Assam], Tosham-Singhana (Haryana-Rajasthan), Sukinda-Baripada (Jharkhand, Orissa), Bundi- Bharatpur (Rajasthan), Agucha-Malpura-Chaksu (Rajasthan), Moradabad-Bareilly [for Oil India Limited(OIL), Uttar Pradesh and Uttarakhand], Gorakhpur-Mazaffarpur (for OIL, Uttar Pradesh, Bihar), Satyamangalam (Tamil Nadu), Hindoli, Bhilwara, Gangapur-Nasirabad (Rajasthan), Chhattisgarh basin (Chhattisgarh, Orissa), Betul-Chhindwara (Madhya Pradesh), Narayanpet- Raichur (Karnataka, Andhra Pradesh), Hungund-Mudhol (Karnataka), Jhansi (Madhya Pradesh and Uttar Pradesh), Lalitpur (Andhra Pradesh), Bangalore-Penakonda and Mulubagal-Tambalpalle(Karnataka and Andhra Pradesh), Nagpur-Wardha Valley (Maharashtra), Baihar-Kutru area (Madhya Pradesh and Chhattisgarh), Cannanore-Cape Comorin (Coastal area, Kerala), Kanker area in Bastar craton (Chhattisgarh) and in Mauranipur-Sarial area (Madhya Pradesh and Uttar Pradesh).

The significant mineral potential identified by GSI is as under:

State      Mineral Commodity

Rajasthan      Copper, Lead, Zinc and Gold

Madhya Pradesh,      Chhattisgarh      Copper, Zinc, Kimberlite  
and Maharashtra      (host rock for diamonds)

Karnataka      Copper, Gold

Jharkhand      Copper, Nickel

The Atomic Minerals Directorate for Exploration and Research (AMD), a constituent unit under the Department of Atomic Energy, carries out airborne surveys over areas having suitable geological setting for Uranium mineralization. The States where exploration activities including the aerial surveys have been concentrated are Andhra Pradesh, Karnataka, Jharkhand, Rajasthan, Haryana and Madhya Pradesh.

The National Geophysical Research Institute (NGRI) has been taking up sponsored surveys for different government and non-government agencies. These agencies included the GSI, OIL, AMD and State Government departments.

Aerial surveys are conducted in India by private parties under Reconnaissance Permits for exploration of minerals in the mineralized zones of the country. These belts also include backward and rural areas. As per data maintained by the Indian Bureau of Mines (IBM), prior approval for grant of 297 Reconnaissance Permits covering a total area of about 4,26,351 sq km has been conveyed in 14 States. During Reconnaissance geological, geophysical and geochemical surveys are undertaken, and reconnaissance operations can involve aerial surveys.

(c) & (d) : Since 1972, GSI carries out aerial surveys through its own aircraft or outsources it to NGRI. Due to non-availability of expertise on airborne geophysical data acquisition, the AMD entrusts some of the survey work on outsourcing basis to NGRI as well as foreign companies but remains closely associated with the data acquisition during all operations. During 2008-09 the work has been outsourced to M/s Geotech Airborne Survey Pvt. Ltd, West Indies. NGRI has not outsourced any of its work to any foreign company/contractor.

As per the provisions of the Mines and Minerals [Development and Regulation] Act, 1957, the State Government may grant Reconnaissance Permits to only an Indian National or a company registered under Section 3 (1) of the Companies Act, 1956.

(e) : The GSI is operating its own aircraft and has recently procured a helicopter for multisensor surveys at low altitudes. The AMD is also in the process of procuring a Time Domain Electromagnetic (TDEM) system and AMD scientists have undergone training on the said system. On procurement of TDEM, it is envisaged that AMD will be able to carry out surveys.