

GOVERNMENT OF ORISSA  
DEPARTMENT OF STEEL & MINES

--

No. 3011/SM, Bhubaneswar, the 26.4.2011  
IV(A)SM-185/09

**ORDER**

Sub: **Project on digitization of lease maps and use of satellite imagery to detect illegal mining.**

Government is laying utmost importance on using satellite imagery for detection of illegal mining and a project has been launched with the help of ORSAC for digitization of the mining lease boundaries giving priority to bulk minerals in Joda, Keonjhar, Jajpur and Mayurbhanj district. It is seen that 61 mining lease boundaries have been digitized in Joda and Koira mining circles of Keonjhar and Sundargarh district, where as only 17 mining lease map pertaining to the above 61 cases have been given to ORSAC for digitization.

1. This project is being personally monitored by the Director of Mines assisted by the nodal officer, Joint Director of Geology, Directorate of Geology. It should be ensured by the Dy. Director of Mines, Joda and Mining Officer, Koira that the remaining 44 mining lease boundaries are supplied to ORSAC within two weeks and compliance reported.

2. Satellite imagery data of World view is available with ORSAC. This matter has been discussed with CEO, ORSAC and data can be made available with the Directorate of Geology which has requisite hardware and software for utilising satellite data. A protocol for use of data should be developed. This data should be used for verifying the lease hold area and free hold area for Keonjhar & Sundargarh district initially to detect instances of illegal mining. This should be initiated in the month of May itself.


3. Reporting of the above activities should be given on a monthly basis in the two formats enclosed.

4. A detailed project proposal has also been submitted by ORSAC for up-gradation of the lab in Directorate of Geology for detection of illegal mining using satellite imagery which is under consideration and approval will be communicated shortly.

Steps may kindly be taken immediately to ensure that :

- a) Digitisation of boundaries of mining leases is completed in Keonjhar, Koira, Baripada and Jajpur mining circles.
- b) Mining lease maps are supplied to ORSAC
- c) Satellite imaginary data is taken from ORSAC and used for detection of illegal mining starting from Keonjhar district.
- d) After approval of Government is obtained, up-gradation of hardware and software may be undertaken immediately.

Personal attention should be given to the programme to enable it to be implemented efficiently & in a time bound manner.

  
Commissioner-cum-Secretary  
to Government

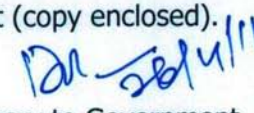
Memo No. 3012/SM Dated 25<sup>th</sup> April, 2011.

Copy forwarded to the Director of Mines, Orissa, Bhubaneswar/CEO, ORSAC, Plot No.45/48 (P), Jayadev Vihar, Unit-XVI, Bhubaneswar / Collector, Keonjhar / Collector, Jajpur/ Collector, Baripada and Collector, Sundargarh for information and necessary action.

  
Deputy Secretary to Government

Memo No. 3013/SM Dated 26<sup>th</sup> April, 2011.

Copy forwarded to DDM/MO, Koira, Joda, Baripada, Jajpur and Keonjhar for information and necessary action with reference to letter No.4281/SM Dt. 08.07.2010 of Steel and Mines Department (copy enclosed).

  
Deputy Secretary to Government





GOVERNMENT OF ORISSA  
DEPARTMENT OF STEEL & MINES

No. 4281 /S&M, Bhubaneswar Dated 8.07.2010  
IV(A)SM-185/09

From  
Shri Manoj Ahuja, IAS  
Commissioner-cum-Secretary to Govt.

To  
The Director of Mines, Orissa,  
Bhubaneswar

**Sub: Digitization of maps of Mining Leasehold areas.**

Sir,

It has been decided by Government for digitization of maps of various mining leasehold areas, verification of boundaries using DGPS and cross verification with actual ML maps and using satellite imagery to detect illegal mining in the State. In the first phase this project will be taken up on a pilot basis in Keonjhar district.

2. ORSAC has been entrusted the work of digitization of the cadastral map of the mining leases and also carry out the digitization of survey boundary using DGPS. As per the requirement of IBM circular No.2/2010 dated 06.04.2010, ORSAC has been recognized by the State Government as the agency for carrying out survey using DGPS in the State.

3. It is, therefore, requested that while carrying out this exercise, the following procedure may be followed for which similar instructions have also been issued by IBM vide circular No.2/2010 dt.6.4.2010 of the Chief Controller of Mines, IBM, Nagpur for preparation of mining plans/scheme of mining/progressive mine closure plan and scheme of prospecting:

- i. The mining lease/prospecting license boundary showing all Khasra numbers/Survey Nos on a Cadastral Map on original plan (not the photo copy) published by the competent authority of State Government

under relevant law shall be submitted along with application for Mining Lease/ Prospecting License/Reconnaissance Permit/RML/Mining Plan/ Scheme of Mining/Progressive Mine Closure Plan and Scheme of Prospecting by the Lessee/Applicant/Licensee. This should be done by July 31<sup>st</sup> 2010. ORSAC shall vectorise the cadastral maps and integrate with the digitized cadastral revenue maps.

- ii. The boundary pillars of each mine lease/prospecting license are to be fixed precisely. The lessee at his own expenses erect and at all times has to maintain and keep in good repair boundary marks and pillars necessary to indicate the demarcation shown in the plan/lease map annexed to the lease as required under Rule 27 (1)(g) of M.C. Rules. 1960. Each boundary pillars shall be surveyed using DGPS (at least 2 hours observation) for its ground position by an agency recognized by the State Government, which is ORSAC. Since ORSAC has already established ground control points in Keonjhar District, they should indicate the same in the maps. At the time of survey a survey team comprising of officials from Mining Department, Forest Department and Revenue Department shall verify and authenticate the position of the boundary pillars. During the survey labour support and bush clearances of boundary lines will be made available to ORSAC by the lessees.
- iii. The Geo-referenced mining lease / prospecting license map prepared using DGPS shall be superimposed on Geo-referenced vectorised cadastral map. On integration, the Geo-referenced mining lease/ prospecting license map shall be duly matched with Geo-referenced vectorised cadastral maps.
- iv. In case of forest areas, the boundary pillars shall be fixed on ground with reference to at least three permanent ground features in and around mining leases/ prospecting licenses.
- v. The Geo-referenced mining leases/Prospecting licenses map shall be superimposed on latest high-resolution satellite data (cloud-free) derived from merging of Cartosat-2 and LISS-IV (scale 1:5,000)

- covering an area of 500 meters from the mining lease / applied area boundary.
- vi. The satellite data products are available from NRSC, Hyderabad. The superimposed output in the form of soft copy and hard copy should be submitted along with the application for Mining Lease/ Prospecting License/ Reconnaissance Permit / RML / Mining Plan/ Scheme of Mining/Progressive Mine Closure Plan and Scheme of Prospecting. The soft copy submission should be in the standard format and digitized maps should be in shape of file, which can be imported in any GIS database.
- vii. The above maps will be base for preparation of all statutory purposes as well as working plans of the mines.
4. The Director of Mines is to supply a list of Mines where this work will be taken up to the Forest & Environment Department so that the said Department can take up digitization work of forest areas in these mines on priority basis for Keonjhar district.
5. The survey may be undertaken for the lease boundary at the first instance after which the safety zone and surface right area can be surveyed and such pillars verified and corrected.
6. If during survey and verification, instances of mining beyond the approved area is noticed, punitive action as deemed proper may be initiated under the law.
7. The survey may be undertaken immediately in Joda, Keonjhar and Bonai Mining Circles in the order of (i) working mines which are now operational (ii) working mines suspended and (iii) mines which are not working.
8. Collector, Keonjhar and Collector, Sundargarh will supervise and coordinate the above exercise in their districts. Any clarification or problems faced may be brought to the notice of the undersigned.

Yours faithfully,

  
Commissioner-cum-Secretary to Govt.

Memo No. 4282 Date 08-07-2010

Copy forwarded to the Forest & Environment Department/Revenue & Disaster Management Department for kind information and necessary action. The Forest & Environment Department are requested to ensure digitization of the maps of Keonjhar District on priority basis as per decision taken in the meeting taken by the Chief Secretary, Orissa, a copy of which has been endorsed to them in this Department Letter No.3780/SM dt.19.6.2010.

  
Under Secretary to Govt.

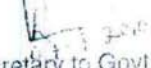
Memo No. 4283 Date 08-07-2010

Copy forwarded to the Chief Executive, ORSAC, Bhubaneswar/M.D., OCAC, Bhubaneswar/ Director of Geology, Orissa, Bhubaneswar/Collectors, Keonjhar/Sundargarh/ all DDMs for kind information and necessary action.

  
Under Secretary to Govt.

Memo No. 4284 Date 08-07-2010

Copy forwarded to the Chief Controller of Mines, Indian Bureau of Mines, Nagpur/Regional Controller of Mines, IBM, Bhubaneswar for kind information.

  
Under Secretary to Govt.

Memo No. 4285 Date 08-07-2010

Copy forwarded to the P.S. to Chief Secretary, Orissa/ P.S. to Commissioner-cum-Secretary, Steel & Mines Deptt./ P.S. to Special Secretary, Steel & Mines Department/ P.S. to Additional Secretary, Steel & Mines Department for kind information of Chief Secretary, Orissa/ Commissioner-cum-Secretary, Steel & Mines Department/ Special Secretary, Steel & Mines Department/ Additional Secretary, Steel & Mines Department respectively.

  
Under Secretary to Govt.

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