

## Highlights of achievement of CMPDI (2018-19)

- CMPDI achieved a new record in the field of exploration during 2018-19. Through departmental drills, it carried out **5 lakh metre of drilling with productivity of 619 metre/drill/month, which is the highest in the history of CMPDI with a growth of about 11% over last year** by adopting modern technology. CMPDI has achieved 13.60 lakh meter of drilling during 2018-19, against MoU target of 13.67 lakh meter, through departmental resources and outsourcing.
- **About 6.6 Billion Tonnes of additional coal resources have been added to the 'Proved category' by CMPDI and its agencies**, through Detailed Exploration covering an area of about 260 sq km and preparation of **24 Geological Reports, which is the highest ever coal resource proved by CMPDI in a year since its inception.**
- CMPDI and its contractual agencies took up exploratory drilling in 114 blocks/mines.
- HRSS survey was carried out in Dipside of Sakhigopal-A block, Talcher Coalfield and Bartara block in Sohagpur Coalfield and the survey is under progress in North of Piparwar Phase-II block, CCL. A sum total of 80 line km. survey has been carried out.
- Vibroseis imported from M/s SERCEL, France were commissioned and deployed in North of Piparwar Phase-II block. Both the vibrators are in use.
- Disposal of 24 Km of disused radiation source was completed with M/s AFRB, BARC Mumbai. All the disused radiation sources were accumulated for the last 30 years.
- Two lakh meter of Geophysical logging were carried out departmentally especially for complimenting non-coring drilling.
- Hydrogeological studies of 15 number of mining projects/mines were taken up for preparation of 'Groundwater Clearance Application' for CGWA approval and EMP Clearance. CMPDI is also carrying out groundwater monitoring of MOEF cleared projects of CIL.
- **31 Project Reports** were prepared with **capacity addition of about 128 Mt per year.**
- 84 Environment Management Plans (including 60 Form-I) were prepared.
- **Rs. 24.23 crore of fund was disbursed for S&T projects of Ministry of Coal which is the highest ever** fund disbursement on account of S&T Projects in a year. 5 nos. of new S&T projects have been completed during the year.
- 22 nos. of reports on controlled blasting and vibration studies were prepared for different mines of CIL to protect the surrounding habitats/important structures and extraction of locked-up coal safely.
- Random sampling and testing of Bulk/Cartridge Explosives & Accessories being used in the mines of CIL were carried out throughout the year and 60 reports were prepared in this regard. Additionally, 40 reports related to optimisation of blasting parameters/powder factor were also.
- CMPDI has been carrying Land Reclamation Monitoring of OC mines and vegetation cover mapping of coalfields in CIL on a regular basis based on satellite data. This has proved to be a very useful data for assessing the land reclamation and restoration in CIL OC mines, keeping in view the environmental concerns of the country and also for fulfilling requirements of MoEF & CC. This year, Land Reclamation Monitoring of 82 opencast projects and 08 clusters of different subsidiaries of CIL have been done.

- Vegetation cover mapping of six coalfields viz. Bander (WCL), Korba (SECL), North & South Karanpura (CCL), East & West Bokaro (CCL) and Singrauli Coalfield (NCL) was also carried out during 2018-19.
- For the first time, satellite-based land rehabilitation report was published in Hindi.
- Coal Mine Surveillance and Management System (CMSMS) along with a Mobile Application named “**Khanan Prahari**” has been successfully developed and was launched by Minister of Coal, Govt. of India on 4<sup>th</sup> July, 2018 at New Delhi.

Coal Mine Surveillance & Management System (CMSMS) is a web based application which can be used to detect, monitor and take action on any kind of illegal coal mining activities being carried on within the leasehold boundaries in the coalfield areas. The System has been found to be working satisfactorily. Till date, total 90 complaints have been received through this system, out of which, 55 complains were generated for CIL Area and 35 complaints have been received for Non-CIL Area. Out of this, 26 complaints were verified by the nodal officers.

- Drones were used for the first time in CIL for benchmarking its capabilities in various technical applications like generation of contours, ortho photos and computation of stock pile volumes. Pilot project was executed in 2 mines of CCL and 4 mines of NCL in outsourcing mode. CMPDI is working towards development of drones for regular operation in the near future. These drone would be a State-of Art equipment, fully loaded with sensors like LIDAR/Optical/Thermal, etc. Once deployed these drones would be used in regular monitoring of volume of Overburden and coal, Generation of updated ortho-photomosaic for operational planning of mines, surveillance and many other vital operations.
- An R&D project is under execution in collaboration with NRSC/ISRO for satellite based regional air quality monitoring in coalfield areas. The project is aimed towards developing a methodology for providing vital online environmental data like PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub> & NO<sub>x</sub> pertaining to coalfields. The work on this project has already started and potential sites for installation of equipment has been identified by joint team of NRSC and CMPDI in Talcher Coalfield (MCL) and Singrauli Coalfield (NCL). Equipment procurement process is going on. This project will be completed in 3 years.
- “Mine Data Management System portal (MDMS)” was developed by CMPDI, by which the monitoring agencies including the State Nominated Authorities and Private Block Allottees are gaining the benefits through retrieval of information pertaining to coal projects which encompasses Environmental Clearance (EC), Forest Clearance (FC), Land Acquisition, Rehabilitation & Resettlement (R&R), financial parameters, HEMM procurement, production and other major infrastructure such as Coal Handling Plant (CHP), silo and railway sidings, etc. from a single source.
- Online Recruitment Portals for the different subsidiaries of CIL have been developed and implemented during the year.
- CMPDI was instrumental in the achievement of companywide certification of CCL for ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007. All the necessary support and guidance, were provided for the successful establishment & implementation of the systems and subsequently obtaining certification for the above standards.
- CMPDI provided support and guidance to ECL at the time of surveillance audit conducted by external certification body. MCL and NCL could successfully transition

from older version of standards ISO 9001:2008 and ISO 14001:2004 to the latest version of these standards based on guidance provided by CMPDI. CMPDI also provided support and guidance to WCL for re-certification in Sept 2018.

- Documentation of Anti-bribery management system manual for CMPDI (HQ) incorporating the requirements of ISO 37001:2016 completed. CMPDI is now implementing ISO 37001:2016 for enhancing the transparency in its Business function.
- Formulation of Strategic Business Plan for CMPDI has been completed and placed in the Board for optimal exploitation of existing resources/expertise & diversification of CMPDI's Business with a view to enhancing its revenue.
- CMPDI undertook scientific sand replenishment studies for sand mining projects in the state of Rajasthan. The study was first of its kind in the country and environmental clearance were obtained based on CMPDI report. Sand replenishment study for a mine lease in Yamuna River in Chitrakoot district of UP was undertaken during the year and report submitted.
- CMPDI has taken up study of riverine ecosystem and carrying capacity of coal mining areas for the first time. Reports for Lakhanpur, Samaleshwari and Siarmal mining projects were prepared and submitted, whereas, study for carrying capacity of Bhubaneswari OCP of MCL is in progress.
- A new concept of deployment of wind break (WB) and vertical greenery systems (VGS) has been designed for controlling the fugitive dust generation from various mining activities for Gevra OCP. In this system wind break system is deployed upwind from the dust generating source and VGS in the downwind direction for the sources where conventional system of water spraying only are not effective.
- The environment laboratory at CMPDI HQ was evaluated by NABL for reaccreditation. The reaccreditation was successfully completed and certification has been extended upto 21<sup>st</sup> June, 2020.
- Geo-Chemical laboratory of CMPDI HQ has been accredited by NABL (National Accreditation Board for Testing and Calibration Laboratories) in accordance with the standard ISO/IEC 17025:2017 w.e.f. 3<sup>rd</sup> Jan.'19 and is valid for two years.
- **Commercial Exploitation of Coal Bed Methane (CBM) within CIL Command Area:**
  - ✓ Project Feasibility Report (PFR) for **Jharia CMM/CBM Block** (under BCCL mining leasehold Area) **approved in-principally by the BCCL Board** on 3<sup>rd</sup> August, 2018 for exploitation of CBM through mode similar to MDO mode;
  - ✓ Project Feasibility Report (PFR) for **Raniganj CBM Block** (under ECL mining leasehold Area) **approved in-principally by the ECL Board** on 22<sup>th</sup> Sept., 2018 for exploitation of CBM through mode similar to MDO mode.
  - ✓ CMPDI to act as Project Management Consultant (PMC) for these projects throughout the entire project life.
- **Coal Mine Methane (CMM) development in CIL:**
  - ✓ Demonstration project on "**Pre-drainage of methane from XVI Top seam, Moonidih mine** (BCCL), Jharia Coalfield has been taken up. The **BCCL Board on 26<sup>th</sup> May, 2018** has approved the PFR and Tender Specification Document for the selection of the suitable experienced developer for Pre-drainage of methane from UG mine.

- **Consultancy Services outside CIL:**
  - ✓ CMPDI has obtained **jobs worth Rs. 70.61 crores during 2018-19** from 28 Organisations which includes consultancy jobs from Ministry of Coal, PSUs/Govt. Organizations and Private Companies.
  - ✓ Jobs worth Rs. 10.89 crores have been successfully completed for 24 Organisations. Some of the major clients are NMDC Limited, Odisha Coal & Power Ltd., THDC India Ltd., Tata Steel, etc.
  - ✓ Some of the major jobs obtained are 'Detailed Coal Exploration of Saharpur Jamarpani coal block of UPRVUNL', 'Consultancy Services for Setting up of Talabira Washery (6.0 Mty) & EIA/EMP Study of Talabira II & III 20 MTPA coal Washery of NLCIL' 'Preparation of EIA/EMP of fly ash disposal into mine voids of Gorbi Mine, NCL of NTPC', 'Consultancy service contract for setting up CHPs at JVROC and KK1OC on EPC model of SCCL', 'Preparation of Detailed Project Report (DPR) for underground working of Dongri Buzurg Mine of MOIL', 'Preparation of Geological Report & Feasibility Report (including Environment Report) for Khliehriat-Sutnga block of Govt. of Meghalaya', 'Detailed Exploration and Preparation of Geological Report for Kalyanpur-Badalpara, Coal Block of HPGCL', 'Detail Exploration and Preparation of Geological Report in respect of Brahamani Coal Block of OMDC'.
- CMPDI was actively involved in reclassification of coking coal to encompass the unclassified Low Volatile Medium Coking (Ash>35%) Coal resources available in plenty in BCCL and CCL. This resulted in addition of two new grades as washery Grade-V (exceeding 35% and upto 42% ash) & washery Grade-VI (exceeding 42% and upto 49% ash) which will result in huge financial benefit to BCCL and saving of Foreign Exchange as import of coking coal will be reduced.
- Bid process management for the first ever Coal washery in MCL i.e. Ib- Valley Washery (10 Mty) was successfully accomplished by CMPDI. CMPDI prepared e-tender document, evaluated the offers, drafted the contract agreement document & work order and is currently scrutinizing the design drawings. Construction of washery is in progress. Similar services are being provided for Jagannath Washery (10Mty) and Hingula Washery (10Mty) of MCL.
- Energy Audit and Energy Benchmarking of electrical energy consumption reports were prepared for opencast mines of NCL. Reports on Annual Diesel Benchmarking for 91 Opencast mines of different subsidiaries of CIL were prepared during the year.
- Reports for installation of Solar Roof top power plants in Lingraj Area, CWS (X) Talcher, Hingula Area and Jagannath Area of MCL with installed capacity of 174 kWp, 224 kWp, 225 kWp and 193 kWp respectively were prepared.
- CMPDI has taken up the job as Project Management Consultant of two new CHPs of 10 MTPA and 6 MTPA capacity at JVR OC and KK1 OC respectively of Singareni Collieries Company Ltd. E-tender document for CHPs at of SCCL has been submitted. The strict adherence to timelines and work quality has been duly appreciated by SCCL.
- An MoU was signed between CMPDI and CSIRO, Australia for a period of 10 years on 16<sup>th</sup> Nov.'18 at Brisbane, Australia. The objective of this MoU is research cooperation in

various areas of coal mining and fostering opportunities for innovative collaboration among scientific leaders.

- CMPDI signed an MoU with Jharkhand State Mineral Development Corporation Ltd. (JSMDCL) to establish strategic alliance for aligning and cooperating with each other in strategic business and commercial interest. Cooperation will be mainly in development of Brownfield/Greenfield projects of JSMDCL and carrying out exploration activities and preparation of Geological Report under NMET. This collaborative effort is a significant step towards utilizing each other's strengths to increase the market share of both, CMPDI and JSMDCL, as well as development of state of Jharkhand.
- CMPDI celebrated Swachhhta Pakhwada from 16<sup>th</sup> Aug.'18 to 31<sup>st</sup> Aug.'18 in which tree plantation including fruit bearing trees was carried out by HQ and all seven RIs. Cleanliness drive was carried out not only in the office premises of HQ and drilling camps of all RIs at but also at different schools, villages to inculcate the habit of keeping self and surroundings clean. Swachhhta Oath was taken at mass level by students, villagers, officials, staff and residents. Quiz Competition, Slogan writing competition, Drawing competition door to door campaign, wall paintings, swachhhta rallies and inter department cleanliness competition was also organized.
- 'World Day for Safety and Health at Work' was celebrated in CMPDI on 28<sup>th</sup> April, 2018 which was an awareness raising campaign intended to focus international attention on the magnitude of the problem, promoting prevention of occupational accidents, creating a safety and health culture which can reduce the number of work related deaths and injuries.
- A Special Vendor Development Programme (Buyer-Seller Meet) was organised by CMPDI on 21.12.2018 especially for the Micro and Small Enterprises owned by Scheduled Castes or Scheduled Tribes.
- Scrap disposal worth Rs. 1.14 crore was achieved registering a growth of about 14% over previous year.

#### **CSR (Major Activities):**

##### **✓ Empowering blind girls:**

- As a part of expansion of Brajkishore Netraheen Balika Vidyalaya, Ranchi 1<sup>st</sup> floor of computer cum training center is under construction by CMPDI and will be handed over soon for providing better facilities to the blind girls.
- Annual fees of twelve blind girl students from this Vidyalaya has been sponsored by CMPDI during the year as part of women empowerment.

##### **✓ Promoting healthcare:**

- Assistance in the form of financial aid for hospitalization and other medical assistance such as consultation, treatment, medicines, pathological tests, physiotherapy and food for fifteen leprosy patients from Jharkhand and West Bengal provided through Pyari Foundation-India Trust, Purulia.
- Periodic medical camps organized in remote villages of some of the backward districts of Jharkhand, Madhya Pradesh, Maharastra, Chhattisgarh and Odisha.

##### **✓ Promoting education among the poor:**

- Sponsorship has been provided to 72 destitute/orphans/backward group students from slum areas which includes school fees, uniforms, school stationary, books & copies of Deo Anna Vivekanand Parmeshwar Public School, Sembo, Ranchi.
  - Promoting education among the poor needy section of society through providing scholarship, sponsorship and other aids to the students of Birsa Ucha Vidhalaya, and Gondwana Primary School, Ranchi.
- ✓ **Infrastructural development in rural areas:**
- Construction of Kalyan Mandaps for villager's congregation at three villages near Kosala camp, Orissa.
  - Construction of a shed for Gram Sabha at Gram Panchayat Singpur village, near Singpur camp, Bilaspur.
  - Construction of two Mid-day meal sheds at Jila Parishad Uchh Prathmik Shala, Kolara, Chimur and Ucha Prathmik Shala, Nandori, Chandrapur, Maharashtra.
- ✓ **Sanitation and Water facility:**
- Installation of two nos. of hand pumps with 300 ft. deep boring including drainage & platform work at Rajkiya Utkramik Madhya Vidhyalaya, Bhaisadon & Murgaon, Latehar, Jharkhand.
  - Construction of Toilets at Rajkiya Utkramik Madhya Vidhyalaya, Murgaon, Latehar, Jharkhand.
  - Installation of six number of hand pumps in Kasmar and Peterwar blocks of Bokaro district, Jharkhand.
  - Providing drinking water connection through borewell at Lamdand village, Kudumkela Camp, Bilaspur.

**Skill Development:**

In addition to skill development of its employees, training were provided to people outside the company:

- ✓ Internship training provided to 328 students of reputed Institutes from all over India.
- ✓ Under Apprentice Act 1961, training is being imparted to 115 apprentices in different disciplines of Drilling, Mechanical, Civil and Computer Science including Diploma Holders.

**Sports:**

- ✓ Two days 'Coal India Inter Company Lawn Tennis Tournament' was organized successfully from 16<sup>th</sup> to 17<sup>th</sup> Feb.'19 by CMPDI, Ranchi at Mega Sports Complex, Khelgaon, Ranchi.
- ✓ Three days 'Inter-RI Athletics Tournament' and Three days 'Inter-RI Badminton Tournament' were organized successfully at CMPDI HQ, Ranchi.

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