

Highlights of achievement of CMPDI (2019-20)

- **About 7.77 billion tonnes of coal resources were added to the proved category through Detailed Exploration covering an area of about 292 sq km through 25 Geological Reports, which is the highest ever coal resources estimated by CMPDI in a year since inception.** In addition to this, about 9.75 billion tonnes of new resources were estimated through Promotional (Regional) Exploration covering an area of about 140 sq km through 6 Geological Reports.
- CMPDI has carried out 12.94 lakh metre of drilling under Detailed Exploration against MoU target of 14 lakh metre and 1.16 lakh metre of drilling under Promotional (Regional) Exploration against the target of 1.53 lakh metre during 2019-2020.
- 2D seismic survey was carried out, by Vibroseis imported from M/S SERCEL, France, in 3 blocks i.e. North of Piparwar Phase-II (North Karanpura CF), Jharkhand, Northern part of North of Arkhupal (Talcher CF), Odisha & Nigwani Bakeli-A (Sohagpur CF), MP and this work is under progress in 2 coal blocks.
- About 2.17 lakh meter of Geophysical logging were carried out departmentally especially for complimenting non-coring drilling.
- CMPDI took up exploratory drilling in 128 blocks/mines under Detailed Exploration and 17 blocks under Regional Exploration in Coal & Lignite.
- A Report on “Exploration Status of Coal Bearing Area as on 01.04.2019” was prepared and submitted. The report covers the summary account of exploration status & blockings in the GSI reported potential coal bearing area of 19400 sq km as on 01.04.2019.
- Hydrogeological studies of 21 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 and hydrogeological studies for water supply.
- Integrated Hydrogeological study on Amb River for analysing the impact of coal mining on the base flow at Makardhokra-I Expn. OC Mine of WCL was successfully completed for the first time.
- **32 Project Reports** were prepared with **capacity addition of about 178 Mt per year.**
- 52 Environment Management Plans (including 31 Form-I) were prepared.
- **Slope stability** assessment for OB dumps and Highwalls for 46 coal projects for compliance of regulation 106 of DGMS was prepared.
- `39.27 crore of fund was disbursed for R&D and S&T projects during 2019-20.
- 12 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, 42 reports related to optimisation of blasting parameters/powder factor were also prepared.

- CMPDI has been carrying Land Reclamation Monitoring of OC mines on a regular basis based on high resolution satellite data. In 2019-2020, Land Reclamation Monitoring of total 87 projects comprising of 52 Opencast Projects producing more than 5 mcm (Coal+OB) category and 27 opencast projects and 08 clusters producing less than 5 mcm (Coal+OB) category of different subsidiaries of CIL have been completed.
- Vegetation Cover Mapping of CIL Coalfields based on high resolution satellite data is being done regularly for assessment of impact of mining on land use/vegetation cover in the coalfield region. During 2019-2020, Vegetation cover mapping of six coalfields viz. Kamptee and Wardha Valley Coalfields (WCL), Talcher Coalfield (MCL), Jharia Coalfield (BCCL), Bishrampur Coalfield (SECL) and Makum Coalfield (NEC) has been successfully completed.
- Land Use / Cover Mapping of Core & Buffer zone based on satellite data of 31 OCP/UG Mines were done during 2019-20. Further, Land Use Cover Map for the leasehold area of 15 UG projects of SECL was also completed for MoEF & CC compliance.
- A CIL funded Project of ‘Preparation of updated topographical maps in major Indian Coalfields using Remote Sensing Techniques’ by Survey of India was completed. Under this project, updated toposheets on 1:5000 Scale with 2 m contour has been prepared for 29 coalfields.
- In new technology adoption, Supply Order for 2 Drones have been placed which will be used for surveying and mapping applications. These are State of Art equipment fully loaded with LIDAR/Optical/Thermal sensors. To augment capacity, 3 more Terrestrial Laser scanners (TLS) are also under procurement.
- **High resolution satellite survey** of Kaniha OCP Expansion (MCL) for detection of unauthorized structures with selective DGPS survey was carried out.
- Monitoring of First Mine Connectivity (FMC) Projects has been started in Nov.’19 through MS Project Server established at CMPDI, Ranchi.
- CMPDI with its expertise consultancy service delivered the work of “Formulation and Implementation of IMS (ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018) for Pakri-Barwadi Coal Mine Project of NTPC”. 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 successfully carried out the work of “Upgradation of Energy Management System Standards of CIL HQ” from ISO 50001:2011 to ISO 50001:2018.
- Documentation of Anti-Bribery Management System, ISO 37001:2016, along with sensitization/awareness training to officials of BCCL for implementation of ABMS was completed.
- The Job of transition from old standard (OHSAS 2007 to ISO 45000:2018) for MCL & ECL and Upgradation of companywide IMS for BCCL was successfully carried out well within the stipulated time.
- Auditors of BIS has recommended for renewal of license of QMS (ISO 9001:2015) for CMPDI after completion of recertification Audit.
- Surveillance assessment of CMPDI by QCI NABET has been successfully carried out in January, 2020. CMPDI has been accredited as an EIA Accredited Consultant Organization (ACO) with addition of a new sector viz. **Offshore and Onshore Oil and**

Gas exploration, development and production, for EIAs of Coal Bed Methane. CMPDI has continued its accreditation for preparation of EIAs in the **Coal Mining, Coal Washery and Thermal Power Plant sectors.**

- Scheme for STP based on **Phytorid technology** (constructed wetland) with zero power requirement and zero waste generation has been submitted to ECL. Based on CMPDI Scheme ECL has undertaken the construction of STP at New Kenda Colony.
- Scheme for ETP of Hospital liquid waste for Central Hospital Singrauli, NCL has prepared for the first time by CMPDI.
- **Wind Break (WB) and Vertical Greenery Systems (VGS)** have been designed for controlling the fugitive dust generation from various mining activities for Lakhanpur, Bhubneshwari and Kulda OCPs of MCL. 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.
- Supply order was issued for 12 Nos. of “**Continuous Ambient Air Quality Monitoring System CAAQMS**” (11 for MCL and 1 for CMPDI) which was urgently required to be procured to fulfill statutory compliance/directives by MCL and CMPDI.
- CMPDI took up the challenge of developing a total of nine colonies of CIL and its subsidiaries as Mini-smart Cities as per the action plan drawn out after CPSE conclave held in April 2018. The job is quite unique and diverse in its nature. CMPDI has successfully compiled and submitted DPR for six nos. of Colonies of CIL subsidiaries i.e. Nigahi Colony (NCL), Jagruti Vihar Colony (MCL), Basundhara Colony (MCL), Koyla Vihar colony (WCL), Indira Vihar Colony (SECL) and Nehru Shatabdi Colony (SECL) in scheduled time.
- **Status Report of Coal Sector** was prepared for undertaking sustainable development in the coal sector in India. The draft report has been submitted to Ministry of Coal.
- **Report** for fly ash disposal for Vindhyaachal Super Thermal Power Plant (VSTPS), NTPC, covering leachability study of fly ash for disposal into Gorbi mine pit of NCL was submitted.
- CMPDI finalized modalities for preparation of **Natural and Community Resource Augmentation Plan (NCRAP)** to deal with violation cases of coal projects for grant of Environmental Clearance.
- NDT Cell of CMPDI HQ has been accredited with NABL certification which is in accordance with the standard ISO/IEC 17025:2017 for its facilities in the field of 'Testing' in Non-destructive testing (NDT).
- Coal & Mineral Preparation Laboratory of CMPDI HQ has also been accredited with NABL certification which is in accordance with the standard ISO/IEC 17025:2017.
- The S&T project “**Sustainable livelihood on reclaimed open cast mines: A technology enabled integrated approach in the Indian coal sector**” jointly implemented by CMPDI, TERI SAS and BCCL has won the 3rd Innovative practices award, 2019, for Sustainable Development Goals (SDGs). The award was presented during the Inaugural Session of 14th National Convention held in Mumbai on 31st May’19.
- The S&T Project “**Assessment of mine water environment and development of**

suitable and cost effective mine void aqua eco-system for promoting Fish culture in abandoned coal quarries of Coal India Limited” completed in association with Birsa Agriculture University, Ranchi. Monitoring of PM_{2.5} through satellite monitoring system is under progress.

▪ **Coal Bed Methane (CBM)/Coal Mine Methane (CMM) development in CIL:**

- ✓ Global Bid Document (GBD), prepared for selection of Technology Provider from Concept to Commissioning for CMM Drainage at Moonidih UG Mine, BCCL, has been approved by BCCL Board for further needful by BCCL.
- ✓ Model Bid Documents (NIO & MRSC) were prepared for Selection of CBM Developer (CBMD) for the Development of CBM in CIL Areas where CMPDI is the Principal Implementing Agency (PIA) for Subsidiaries.
- ✓ “Preliminary Assessment Report on Prospect of CBM in NEC Area, Makum Coalfield prepared and submitted based on which further CBM exploration may be planned in NEC Areas.

▪ **Consultancy Services outside CIL:**

- ✓ CMPDI has **obtained jobs worth Rs. 27.20 crores during 2019-2020** from 21 Organizations which includes consultancy jobs from PSUs/Govt. Organizations including Ministry of Coal and Private Companies.
 - ✓ **Jobs worth `18.58 crores have been successfully completed** for 21 Organisations. Some of the major clients are NTPC Ltd., Odisha Coal & Power Ltd. (OCPL), Ultratech Cement Ltd., Gujarat Industries Power Company Ltd. (GIPCL), NLC India Ltd., etc.
 - ✓ Some of the major jobs obtained are ‘Detailed Exploration and Preparation of Geological Report for Amelia Coal Block, Singrauli Coalfields of THDC India Ltd.’, ‘Integrated scheme with cost estimate for handling/conveying, storage and mechanized loading wagon and truck loading system for Manganese Ore (3 types of product) at Balaghat Mine of MOIL’ ‘Slope Stability Study for Redmud Pond Facility at Muri of Hindalco Industries Ltd.’, ‘Vetting of Draft Geological report on Pachwara South Coal Block, Pachwara / Rajmahal Coalfield of NUPPL (A JV company of M/s NLC India Ltd & M/s Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd)’.
- A technical committee was constituted under the Chairmanship of CMD, CMPDI vide OM No. CCNT-43016/1/2018-CCSD dated 04.04.18 of Ministry of Coal for “Defining Throwaway Coal Washery Rejects in terms of its Calorific Value, framing Standard Operating Procedure for disposal of throwaway rejects in environmentally sustainable manner in the mine voids and/or other low lying areas and for devising a monitoring mechanism for disposal of throwaway rejects”. After detailed deliberations and series of meetings, the report was submitted to MoC in June, 2019. The recommendations of this committee report will facilitate in adoption of a uniform policy for utilization/disposal of rejects generated from washeries in an environmentally friendly manner.
- Rooftop solar power plants in the CMPDI office buildings at Nagpur, Bilaspur and Dhanbad were installed.
- Tender document for turnkey construction of workshop complex for Gevra OCP (70 MTY), SECL was submitted.

- An MOU was signed between CMPDI and SCCL on 6th Dec. '19 for engaging CMPDI as consultancy agency for technical services to be provided for four CHPs and two integrated CHPs with washery. This MOU will be for a period of 3 years can be extended upon written consent of both the parties.
- An MoU was signed between CMPDI and SBI Capital Markets Limited on 9th Jan. '2020 at Ranchi for enhancing co-operation in potential areas of business interests. This MOU will be for a period of 3 years and can be mutually extended further upon consent of both the parties.
- An MOU was signed between CMPDI and IIT-KGP on February 07, 2020 at Ranchi for carrying out analysis of 6000 metre coal cores in two years which is in addition to the existing MoU with CSIR Labs.
- An International Workshop on Optimum Utilization of CBM/CMM in India was successfully organized on 24th – 25th April, 2019 at Ranchi, jointly by CIL-CMPDI, GMI-US EPA, under aegis of GoI-MoC.
- A Workshop on “Prospects of Underground Coal Gasification (UCG) in India” was organised by CMPDI at SCOPE Convention Centre, New Delhi on 13th Nov., 2019 under the aegis of Ministry of Coal in which International Experts from Canada and Russia also participated.
- A Workshop on “Modern Technologies for Coal/Lignite Sector to expedite current pace of Exploration” was organised by CMPDI on 23rd Dec., 2019 at SCOPE Convention Center, New Delhi under the aegis of Ministry of Coal.
- A Workshop on "Coal Beneficiation: Optimization of Clean Coal Yield at Lower Ash%" was organised by CMPDI on 22nd Feb. '2020 at CMPDI, Ranchi.
- A Special Vendor Development Meet for Schedule Caste (SC) and Schedule Tribe (ST) entrepreneurs associating the National SC-ST Hub, Ranchi (NSSHO) was organised by CMPDI, Ranchi on 29th Jan'2020.
- Out of total Supply Orders of Rs. 64.82 crore placed during 2019-20, Supply Orders of Rs. 29.77 crore (45.92% of total) were placed on MSEs. The total value of supply order placed on **Women Entrepreneurs** is about **12.50%** of the orders on MSE for the year 2019-20 which is well above the required government mandate of **3%**.
- Mr. Andrew Ford, Consul General, Australian Trade and Investment Commission, visited CMPDI and had a meeting regarding mutual cooperation in the field of mining and coal based non-conventional energy resources specially in field of coal bed methane, methane gas drainage, underground coal gasification, etc.
- Ms. Patricia Hoffman, US Consul General visited CMPDI and India CMM/CBM Clearinghouse functional here in association with USEPA since 2008. A brief presentation on CMPDI, accomplishment of India CMM/CBM Clearinghouse, proposed plan to achieve 1 BT (Billion Tonne) coal production by 2023-24 and future plan for development of coal industry in India were deliberated and technical details were explained to the visiting team.
- For greater accountability & transparency in processing, passing and payment of contractors/ suppliers bill, Standard Operating Procedure (SOP) has been formulated for compliance.

- The Online Materials Management System (OMMS) incorporating the entire processes of Stores and raising of invoices has been implemented, based on eleven digit code, in Stores at CMPDI HQ, Ranchi.
- Two books viz. 'Ready Reckoner of Managing Environment of CIL Mines' and 'Compendium of CVC/CIL/MOC/DoPT/CMPDI Circulars & Guidelines' were published within short time.
- **CSR (Corporate Social Responsibility):** Target of statutory provision of 2% of the average net profits of the preceding three years has been met for the total approved budget of Rs.300.01 lakh.
- **Skill Development under Skill India Mission:** A total 226 unskilled & semiskilled employees of CMPDI was trained during the year 2019-20.
- **In-House Training:** A total of 920 employees have been trained in-house against the target of 1000 employees on different technical & non-technical subjects.
- **Apprenticeship Training:** During the year 2019-20, CMPDI has engaged 132 apprentices at its HQ and Regional Institutes in different disciplines of Drilling, Mechanical, Civil, Computer Science, Mining, etc.
- **Under HRM parameter of MoU,** 15 initiatives/programs for women employees for work life balance as well as leadership development were successfully conducted.

Sports:

- ✓ 'Coal India Inter Company Volleyball Tournament' was organized successfully from 29th Feb.'2020 to 2nd March'2020 at CMPDI HQ, Ranchi.
- ✓ Inter-Regional Institute Tournaments on Table Tennis, Volleyball, Football, Athletics, Chess, Carrom and Bridge were organized successfully by CMPDI.
