



# Beyond Coal



**Central Coalfields Limited**  
(A Subsidiary of Coal India Limited)

*Then*



*Now*



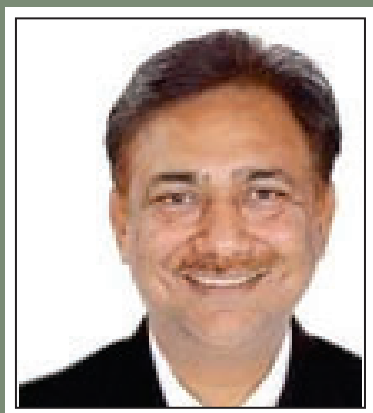
# Inspiration



**Shri Pralhad Joshi**  
Minister of Coal, Mines  
& Parliamentary Affairs



**Shri Raosaheb Patil Danve**  
Hon'ble MoS for Rail,  
Coal & Mines



**Dr. Anil Kumar Jain**  
Secretary (Coal)  
Ministry of Coal, Govt. of India



**Shri Pramod Agrawal**  
Chairman  
Coal India Limited



## From the Chairman's Desk...

*It's a matter of immense pleasure that CCL has come up with e-Coffee Table Book on sustainable development. The objective of sustainable development is to find a correct balance between economic growth and environmental conservation.*

*We at Central Coalfields Limited are committed to fulfill the energy needs of the nation through sustainable mining. We are cognizant of the fact that coal mining has adverse impact on the environment but we strive to minimize them through the use of modern mining technology. Our objective is to become a 'Net Zero Carbon Company'.*

*The inclusive development of our stakeholders is our utmost priority and we have undertaken a number of initiatives in this regard.*

*During the past couple of years the entire world has been rattled by the devastating impact of COVID-19. I am proud of the fact that even during these challenging times the coal warriors of the company left no stone unturned to ensure that there was continuous supply of coal to power sector and other industrial units. The doctors, paramedical staff and all the other personnel of the company contributed in every possible way to mitigate the disastrous impact of this pandemic.*

*Under the guidance of Ministry of Coal, Govt. of India and with the support of Govt. of Jharkhand we are committed to fulfill the vision of "Atmanirbhar Bharat" of our Hon'ble Prime Minister. I would also like to express my gratitude to the Trade Union representatives, District Administrations, elected representatives for their unrelenting support.*

*I am sure that this e-Coffee Table Book will increase the awareness amongst the stakeholders about the various endeavors of the Company.*

**P. M. Prasad**  
CMD, CCL

# Message



*India is one of the 12 mega diversity Nations in the world and its two forest areas have been identified as mega diversity hot spot areas, which are Western Ghats and Eastern Himalayan forest but India as a whole mega diversity nation is remarkable in both species' richness and endemism.*

*Contrary to the popular perception that coal mining is detrimental to the environment, CCL is concentrating on several mining initiatives to preserve the environment and ensure inclusive development of project affected areas in command areas of the company. Mining activities are carried out in Ranchi, Latehar, Palamu, Chatra, Hazaribagh, Ramgarh, Bokaro and Giridih districts in Jharkhand to meet energy requirements of the Nation.*

*Every year CCL undertakes large scale plantation in its command areas to improve the green cover. The afforestation in mines include reclamation of mined-out area, external OB dump, avenue plantation and block plantation. As on date more than 87 lakhs saplings have been planted in command areas of CCL covering an area of approximately 3000 hectares which includes external overburden dumps and backfilled areas in the mines of CCL and 45 Kms of avenue plantation/road plantation. Jharkhand is forest and mineral rich state in Eastern India.*

*Our social initiatives are focused on environmental sustainability and activities designed to improve community health, women empowerment, drinking water facilities, sustainable livelihood, education, sanitation, skill development as well as promotion of sports and games.*

*Setting up Sports Academy at Mega Sports Complex, Khelgaon, Ranchi, – An initiative of CCL and Jharkhand Govt. strives to achieve the coveted dream of winning Olympic Medals by training budding sports cadets of Jharkhand. Another flagship programme is CCL ke Lal and Ladli where students (boys and girls) belonging to deprived sections from command areas are selected on merit/entrance test and provided free residential classroom coaching and free higher secondary education in reputed School for competitive examination.*

*CCL is energizing the Nation and promoting an inclusive green economy by carrying out sustainable mining for our health, environment and future.*

**PVKR Mallikarjuna Rao**  
Director (Personnel)

# Message



*It is a matter of great pleasure that CCL is coming up with e-coffee table book exclusively covering sustainable mining and sustainability agenda.*

*In the backdrop of India's energy dependency on fossil fuel, CCL's main focus is to operate by laying emphasis on environment, economy and socio-cultural sustainability.*

*The company also focuses on the areas that represent key challenges and opportunities, i.e. Community Development, Employee Welfare, Mine Water Utilization, Biodiversity Conservation, Energy Efficiency and Land Reclamation.*

*CCL always strives to conserve the natural resources for future generations by restoring the mined-out areas through effective water and overburden management, eco parks, eco-restoration, afforestation and eco-friendly mine closure. We believe in 'Mining with a humane face'.*

*I admire the efforts of our energy warriors and stakeholders for their consistent support towards achieving holistic and sustainable development that we envision for our Jharkhand's 1<sup>st</sup> Miniratna company.*

*I am of a firm belief that this e-coffee table book will add a feather on the cap of CCL. I also hope that the book shall come up with a fruitful outcome in relevant field of the research.*

*With best wishes,*

**Kadattur Ranganathan Vasudevan**  
Director (Finance)

# Message



*Mining coal from the bowels of the earth is a challenge. Central Coalfields Limited is concentrating on several initiatives to preserve the environment and ensure inclusive development of project affected areas. The sustainable initiatives of the company encompass the fields of environment protection, Land Reclamation, CSR, Welfare, and sustainable mining. Our utmost priority is to ensure inclusive growth, environment conservation and self-empowerment of the stakeholders.*

*We are committed to fulfill the energy demands of the nation through sustainable mining. Our thrust is to increase the productivity without adversely impacting the environment.*

*As a responsible corporate citizen, CCL has taken all measures to align Corporate Social Responsibility (CSR) with our approach towards sustainable development. Our social initiatives are focused on activities designed to improve community health, women empowerment, drinking water facilities, sustainable livelihood, education, sanitation, skill development as well as promotion of sports and games.*

*I am happy with the publication of this coffee table book. This will allow our stakeholders an opportunity to know about the different sustainable development initiatives of the company.*

**Satendra Kumar Gomasta**  
Director Technical (Project & Planning)



# Message



*In Atharvaveda, Earth is to be honoured as well as protected like our mother “ Bhoomi mata, putroham prithivyah,” and as far back as 321-27 BCE, Kautilya's Arthshastra mandated Abhayaranya or Abhayavana- the forest and animal sanctuaries, where trees and animals would both reside free from the fear of slaughter.*

*Mother Earth has enough to satisfy the need but not the greed of its children,” said Mahatma Gandhi, sustainable mining is the future of mining industry. Two forest areas in the country have been identified as mega diversity hot spot areas, which are Western*

*Ghat forest and eastern Himalayan forests but India as a whole mega diversity nation is remarkable in both species' richness and endemism.*

*Coal is a natural resource which belongs to the people of the country. As a coal mining company, we are in the privileged position of being the guardians of this wealth. We are committed to the welfare of our stakeholders through sustainable mining. Central Coalfields Limited is taking all the necessary measures for environmental upgradation and mitigating the adverse effects of coal mining.*

*Our company operates in an ecosystem which includes various stakeholders like the project-affected people, villagers and everybody else directly or indirectly related with us. The company has been implementing many schemes for the welfare of the masses, and we will continue to endeavor with the same commitment for the upliftment of the people of Jharkhand.*

*I am sure this book will help increase the awareness amongst the stakeholders about the various sustainable initiatives of the company.*

**S K Sinha**  
CVO, CCL



### **Coal Minister Shri Pralhad Joshi**

For the next 25 years coal is the most important source for energy generation. Govt. wants to strengthen Coal India Limited.

### **Hon'ble MoS for Rail, Coal & Mines Shri Raosaheb Patil Danve**

In order to realize the vision of "Atmanirbhar Bharat" Coal Ministry has implemented major reforms to reduce dependence on coal imports.



### **Secretary (Coal), GoI Dr. Anil Kumar Jain**

Coal India and its subsidiaries have a very good connect with local community. In the future Coal India Limited alongwith its subsidiaries will emerge as great promoter of environment, forestry and air quality of the region where they are operational.

### **Coal India Chairman Shri Pramod Agarwal**

Coal India is committed to reduce carbon foot print through mechanisation, automation and digitisation. Our objective is to be a net zero carbon company in next three years.



# Preface

Headquartered at Ranchi, Jharkhand, Central Coalfields Limited is a subsidiary of Coal India Limited. We are committed to work on the vision of Atmanirbhar Bharat. CCL is meeting energy requirements of the nation since it's inception.

This book illustrates the various sustainable mining initiatives of the Company. It further highlights the different sustainable development initiatives undertaken by the company for environment preservation and conservation. Being a responsible corporate citizen, we are aware of our responsibilities towards the stakeholders. The book likewise sheds light on the varied pioneering CSR initiatives of the company.

The aim of this Coffee-Table Book is to enlighten the viewers about the various challenges, accomplishments and endeavors of the company. Constricting the entire gamut of the activities in this book was a challenging task which hopefully has been conquered.



# Contents

From the Chairman's Desk	01
Director Message	02-05
Preface	07
Mining History of Coal	10-13
Over view of CCL	14-17
CMD Interview	18-19
First Mile Connectivity	20
Shattering the Glass ceiling	21
Sustainability and way forward	22-29
Forestation	30-31
Eco Park/ Seed Ball Technology	32-33
CCL CSR Initiatives	34-35
Wildlife Conservation	36
Combatting the Pandemic	37
Sports Academy	38-43
CCL ke Lal & Laadli	44-47
Awards	48

# History Coal Mining in India

The history of mining in India is as old as its civilization. The Indus Valley Civilization explored and used flint. Harrapan quarries excavated by archaeologists also show evidence of prehistoric mining activities. We find the earliest and most authentic record of information relating to minerals in ancient India in 'Arthashastra', a treatise composed by Kautilya famously known as Chanakya, between 321 and 296 BC. The records available in Kautilya's Arthashastra also purport stipulations in regulating Mining industry. The exposition also throws light on mining labourers and instruments, besides suggesting legalities & awarding of stringent punishment to violators of law laid down for mining operations, especially to those who conducted mining without license or who committed theft of mineral products.

The first recorded history of mining in India dates back to 1774, when Mr John Summer and Mr S.G. Heatly were granted permission by Sir Warren Hastings, the then Governor General of Bengal, for mining coal in Pachete and Birbhum. However, Grant and Summer's efforts failed because of high cost of litigations and the English miners who came from England fell sick and died (Indian mines are prone to monsoon flooding, and the stagnant water breeds diseases). Above all, the Damodar turned out to be only deep enough to ship coal for a few months every year. Thus, transportation proved to be a bottleneck and so the coal mined had to be stacked for a long time. That degraded its quality.

For next 40 years, nothing further happened. But by 1814, demand in Calcutta had increased to where the economics of mining Indian coal made sense again. The East India Company sponsored William Jones to try mining in Burdwan, for which he took a lease of 99 bighas of land from the Rani of Burdwan. The place was called Raniganj after her, and Jones ran it, but at a consistent loss, till 1821 when the Calcutta firm of Alexander & Co, which had secured his loans, took possession and started running the mines themselves. They performed better, raised production and even earned profits for some time, but the company failed in 1832. Carr, Tagore & Company subsequently took it over.



Prince Dwarkanath Thakur (Tagore) - the grandfather of Rabindranath Tagore realized the potential of coal mining. The huge steamships transporting opium to China and South east Asia needed coal in abundance, but most did not carry enough coal from England to go beyond Calcutta. Dwarkanath's company - Carr, Tagore and Co. - quickly dominated the business, at one point controlling over 70 percent of the supplies.

In his biography, Partner in Empire Dwarakanath Tagore and the Age of Enterprise in Eastern India, Blair B. King says, "The purchase of Raniganj was the most important single transaction of Dwarakanath's business transactions." King opines the firm had managerial and technical expertise, plenty of capital and vital ability to handle both the Calcutta officials and the local powers. In C D Taylor, they had a very effective mine manager at the site.

Two rivals were to prove troublesome. Jeremiah Homfray, who started with backing from George Jessop of the well-known Calcutta firm, ran a mine at Naraincoory, close to Raniganj, but with inferior coal. The Erskine brothers ran a mine at Munglepore, but were also powerful local indigo planters, well able to influence local authorities.

Tagore fought with them on multiple fronts, starting many lawsuits, and finally taking over Homfray's firm in 1843 to form the Bengal Coal Company whose first action was to close Homfray's mine. To fight the Erskines, the company got into indigo, trying to lure away the farmers with higher contract prices.

"The company tried to destroy every risk to become the sole supplier of coal in eastern India," writes King. The benefits were obvious Bengal's industrial development was taking off, and Tagore's coal powered it. After the formation of Bengal Coal Company, the coal industry started getting regularized, but Dwarakanath Tagore, the prime mover, started losing interest in it.

The introduction of steam locomotives in 1853 and development of railway lines boosted demand and prompted many companies to take up mining leases. The erstwhile Zamindars and Rulers granted large numbers of mining leases. India produced 6.12 million metric tons of coal per year by 1900 and 18 million metric tons per year by 1920. Coal production rose steadily over the next few decades, and was boosted by demand caused by World War-I. However, by the end of the World War-I, the proliferation of small owners became a problem and the coalmines of Raniganj & Jharia came to gain all the characteristics, which created chronic problems in future years.

## Milestones in the history of coal mining

DEVELOPMENT	YEAR	PLACE
Bronze Age	2000-1000 BC	First metal tools made
Aztecs		Used ornaments of lignite
Greeks	371-287 BC	Coal used in metal working
Chinese	475-221 BC	Used coal for heating and smelting
Romans	2nd Century AD	Used bituminous coal for smelting iron ore and for public baths
British	1215 AD	Sea coal use for metal working and smelting
	1306	Royal proclamation issued against use of sea coal in furnaces due to pollution
	14th Century	Coal used for domestic heating
Scotland	1575	Coal extracted from under the sea
Europe	17th Century	Advances in mining technique such as test boring and chain pumps
America	18th Century	Coal deposit discovered in North Ameirca
Industrial Revolution	18th Century	Invention of coal-fed steam engines and team ships





From as early as the 1920s, the various consultants, commissions and committees sat over to decide on the question of conservation and scientific exploitation of coal, working conditions in the mines and safety of the work persons, and regulate and control the coal industry in India. All of them emphasized the necessity to have state ownership of the coalmines. An entire herd of prestigious committees, including the Indian Coal Mining Committee (1937), has studied the overall problem of coking coal in India in depth, the Indian Coalfields Committee (1946), the Committee on Metallurgical coal conservation (1950). The Estimates Committee of the Lok Sabha (1954-55) took notice of the evidence submitted by different agencies.

The architect of coal nationalization, the late S. Mohan Kumaramangalam, the then Minister of Steel and Mines, had given a vivid description of the mines of Jharia coalfield in his book "Coal Industry in India".

"Slaughter mining, lack of conservation and unscientific methods remained characteristic of large areas of the industry, lack of safety & welfare measures, robbing of pillar of coal, selective, seasonal and shallow depth mining haphazardly, etc. seemed to be the guiding principles of numerous private collieries."

Thus, Independent India inherited a fractured and highly contested coal mining infrastructures. There were two major categories of owners of the roughly 500 mines and over 200 coal companies in the late 1940s. Large mine owners such as Bird & Co, TISCO, Gillanders-Arbutnot, etc. had large-scale mines and typically mines for their own downstream concerns. Small mine owners sold their coal products to their intermediate merchants rather than using for their own consumptions.

On 30 April 1956, Industrial Policy Resolution already in force, and which had articulated the government's policy of placing 17 industries including coal in Schedule A — a grouping that only the state could run, not private entrepreneurs — nationalization was only a matter of time. Setting up of the National Coal Development Corporation (NCDC), a Government of India Undertaking in 1956 with the collieries owned by the railways as its



nucleus was the first major step towards planned development of Indian Coal Industry. Production from this colliery constituted less than 15% of overall coal production in India. Along with it, Singareni Collieries Company Ltd. (SCCL) which was already in operation since 1945, also came under the control of Government of Andhra Pradesh in 1956. Thus, India had two government coal companies in the fifties.

On account of inadequate private investment, prevalence of unscientific mining practices and the poor working conditions of labor, particularly safety conditions, turned an economic activity into a political argument that led to nationalization. The process of nationalization was implemented in two phases through four acts of Parliament, the first with the coking coal mines in 1971-72 and then with the non-coking coal mines in 1973. First, the Coking Coal Mines (Emergency Provisions) Act of 1971 took over the management of coking coal mines and coke oven plants pending nationalization. The Coking Coal Mines (Nationalization) Act of 1972 followed, and on 1 May 1972, the government nationalized coking coal mines and coke oven plants (excluding Tata Iron & Steel Company Ltd. and Indian Iron & Steel Company Ltd.) and brought them under a new PSU, Bharat Coking Coal Ltd.) The next year saw the enactment of Coal Mines (Taking over of Management) Act of 1973, under which the government took over the management of coking and non-coking coal mines in seven states. Finally, all these mines were nationalized, following the enactment of Coal Mines (Nationalization) Act on 1st May 1973, under Coal Mines Authority Ltd. (CMAL). Later on, the CMAL and the BCCL were merged and the holding company Coal India Limited (CIL) was formed on the 1st November 1975. In this bout of takeover, the government merged 937 mines: 226 coking coal mines and 711 non-coking coal mines with NDCDC into what formally became CIL, in 1975. With the Nationalization of the coal industry and the establishment of CIL, the Central Government had committed to major expenditure on public services in which were mainly hinterland areas. CIL's capital budget came almost entirely from the central government and various subsidiaries were formed including CCL.

Since 1975, CIL and its subsidiaries, including CCL, has made significant contribution to energize entire India and in carrying out Inclusive green economy across the country. Headquartered in Kolkata, West Bengal, CIL has significant footprints all over India, CIL is producing about 83% of the entire coal output of the country and caters to bulk of the coal requirement of the Power, Cement and Steel sectors of the country and also fertilizer, brick kilns and other similar industries.



# CENTRAL COALFIELDS LIMITED *An Overview*

Central Coalfields Limited (CCL) is one of its seven coal producing subsidiaries of Coal India Limited (CIL) headquartered in Ranchi, Jharkhand. CIL is the premier coal mining company in India. A Maharatna public sector company, Coal India is contributing eighty-three percent of the total coal production in India. It is in fact the largest coal producing company in the world.

CCL has been on the coal map on the country as a public sector since October, 1956. Beginning as National Coal Development Corporation Limited (NCDC), then as Central Division of Coal Mines Authority Ltd. (CMAL) and finally under its present nomenclature as a subsidiary of CIL (November 1975).





CCL has contributed significantly to the growth of national coal production and development of new coal resources. The company is committed to fulfill the country's coal demand and ensure that the wheels of development of Jharkhand and Nation keep rolling.

CCL presently has forty-two operational mines spread over eight districts in Jharkhand. Some of majors mines are Amrapali, Ashok, Magadh, Karo and North Urimari.

Contrary to the popular perception that coal mining is detrimental to the environment, CCL is concentrating on several initiatives to preserve the environment and ensure inclusive development of project affected areas.

CCL is committed to reduce its carbon footprint through automation, mechanization and digitization. As on date over 87



lakhs saplings have been planted covering an area of approximately 3000 Ha and 49 KM of avenue plantation/ roadside plantation has been carried out.

CCL contributes to the national goal for renewable energy by installing rooftop solar power plants at its various project sites. CCL has distributed solar kits among the indigenous and vulnerable Birhor community.

Land reclamation activities are integrated at the inception level itself. The mines are planned in such a way that back filling operation start from 5<sup>th</sup> year onwards and approximately 75 % to 100 % of OB is backfilled in mined out voids. The external & internal dumps are also technically reclaimed through activities like leveling and overlaying of top soil for its biological reclamation.

In biological reclamation, mined out area & dumps are covered with plants. For this purpose, the services of State Forest Department of Jharkhand is taken. The satellite surveillance of reclamation of mines of CCL is monitored regularly through Remote Sensing





**Our  
Objective is  
to become  
a net Zero  
Carbon  
Company**

Introduction of Surface Miners for coal mining instead of shovel dumper system has minimized the need of drilling, blasting and crushing of coal.

The company has undertaken four first mile connectivity projects (FMC) to replace the existing road transport between pitheads and despatch points and switch over to a seamless mechanised coal transport through conveyor belts which is a covered system for movement of coal reducing the dust pollution. Advantages include easing the load on road networks, saving on diesel costs, cleaner environment and stoppage of possible pilferage. Another advantage is quicker computer aided loading of wagons. A blast optimization model has been developed by the company to reduce the effect on environmental hazards. Central Coalfields Ltd. is also using electronic detonator to optimize the blasting with due regards to safety.

CCL is Jharkhand's first Miniratna Company. Mining Coal from the bowels of the earth is a challenge, which is always against the nature. While mining, one has to consider safety of man, machine and material with due care of environment. CCL is completely committed towards it.

# An Interview with CMD, CCL

## **How do you address the concerns about global warming and climate change linked with Coal mining?**

It's no more a hidden fact that Mining activities including Coal Mining by its very nature damages the ecosystem. However, at the same time, we at CCL, are sensitive to the need of environment conservation and restoration. All our mining activities are attuned to ensure minimum environmental degradation. We are simultaneously working on multiple 'First Mile Connectivity (FMC)' projects across our command area to check pollution and enhance productivity as well. Ecological parks have become the integral feature of the Company, which are being developed in the Company on Over Burden (OB) dumps. Our goal is to ensure that we don't compromise the rights of future generation in the quest to fulfill our needs. Last but not the least, CCL is exploring ways to trap coal bed methane and possibilities of coal gasification in our mines.

## **What are the steps taken by CCL to promote sustainable mining?**

Sustainable mining is not something we preach but practice. We are committed to fulfill the energy needs of the nation through sustainable mining. The first step towards it, is to use

state-of-the-art technology, which is being deployed throughout the company to ensure sustainable mining. 'Surface Miner' is one of such example, which can be seen across mines in CCL. Similarly, FMC project which are being developed, connects the mines directly to dispatch points, eases coal transportation, checks pollution and will boost efficiency. Likewise, there are a number of eco-friendly initiatives that the company has undertaken to mitigate the adverse environmental impact of mining activities. Large scale afforestation, use of seed ball technology, biological reclamation of mined out areas and dumps, our objective is to become a net zero carbon company. More importantly, for CCL, sustainable mining is not constrained to mining activities itself but encompasses an inclusive society where the fruits of development reaches to each and every stakeholder.

## **Can you please elaborate on the inclusive society that CCL is vying for?**

In CCL we believe that no organization is an island but is very much a part of the society in which we exist. We have a responsibility in hand and being a public sector, this responsibility grows manifold. Our CSR activities are completely dedicated to the holistic development of our stakeholders. A plethora of CSR activities in various sectors are being implemented to ensure this. Since FY 2014-15 the Company has incurred an overall expenditure of almost Rs. 500 Cr on various CSR projects. Our major thrust areas are skill development, drinking water, education, sports promotion among others.

## **Can you brief about the major CSR initiatives of the Company?**

Recently we did an MoU of Rs. 22 crores with Akshaya Patra Foundation and Ramgarh district administration for establishment of a centralized kitchen in Ramgarh. The

kitchen will supply 50000 mid-day meals per day to 586 government schools of Jharkhand. CCL is jointly operating the sports academy at Hotwar with Jharkhand state government. The cadets of the academy have won medals at International and national levels and brought laurels to the state. Few of other CSR initiatives are upgradation of Aanganwadi's to Model Aanganwadi in five districts of Jharkhand, providing job linked training in plastic engineering to 320 project affected persons through Central Institute of Petrochemical Engineering and Technology. CCL ke Lal and Laadli is another one of our most successful flagship schemes. It provides coaching for engineering entrance exams to under privileged students. There are various other schemes being implemented by us in sectors of health, education, drinking water, sanitation, skill development, etc.

### **What were the major steps taken by the Company to combat Covid-19 pandemic?**

The last couple of years were tough for entire humanity. Under the leadership of Honorable Coal Minister Shri Pralhad Joshi and with the support of the state government, the coal warriors of the company worked round the clock to ensure that there was no dearth of coal in the powerplants linked with the company. We contributed Rs 20 crores to the state disaster mitigation fund to help the state in fight against the pandemic. Over 1700 covid patients were successfully treated in the hospitals of the company. Around 15000 food packets were distributed among the migrants who were returning to hometowns along with their families in special trains. We ran community kitchens and distributed dry rations as well among the people in our command areas. We contributed Rs 1.25 crores each to eight district administrations of state to augment the health infrastructure in these districts. We have vaccinated more than 2 lakh people including our employees, their family members and common men and women. We have our own dedicated

oxygen plants now and have funded 5 PSA oxygen plants in Ranchi, Bokaro, Chatra and Lohardaga.

## Highlights

1. Multiple First Mile Connectivity (FMC) projects.
2. Eco-friendly initiatives to mitigate adverse environmental impact of coal mining.
3. Large scale afforestation, use of seed ball technology.
4. Almost an expenditure of Rs. 500 Cr spent on various CSR projects.
5. An MoU of Rs. 22 Cr for establishment of centralized kitchen in Ramgarh.
6. Upgradation of Aanganwadi in 5 districts .
7. One of the most successful flagship schemes of CCL is the CCL ke Lal and Laadli .
8. Contribution of Rs. 20 Cr to the state disaster mitigation fund .
9. Successful treatment of 1700 covid patients.
10. Distribution of 15000 food packets among the migrants.
11. Distribution of dry ration in the command areas.
12. Over 2 lakh people vaccinated including employees.
13. Funding of 5 PSA Oxygen plants.
14. Contribution of Rs. 1.25 Cr to 8 districts each for health infrastructure.



## First Mile Connectivity

In the pursuit to bolster sustainable mining, Central Coalfields Limited is implementing five first mile connectivity projects. The cumulative capacity of the project is 62.5MT, and the company will undertake an estimated expenditure of Rs 1200 crore for executing these projects.

The First Mile Connectivity projects will replace the existing road transport between pitheads and dispatch points with seamless mechanized coal transport through conveyor belts. The multiple advantages include easing the load on road networks, saving on diesel costs, a cleaner environment and reduction in wagon cycle time. The overall productivity and efficiency of the company will improve because of the execution of these projects.



# Shattering the Glass ceiling

## AKANKSHA KUMARI

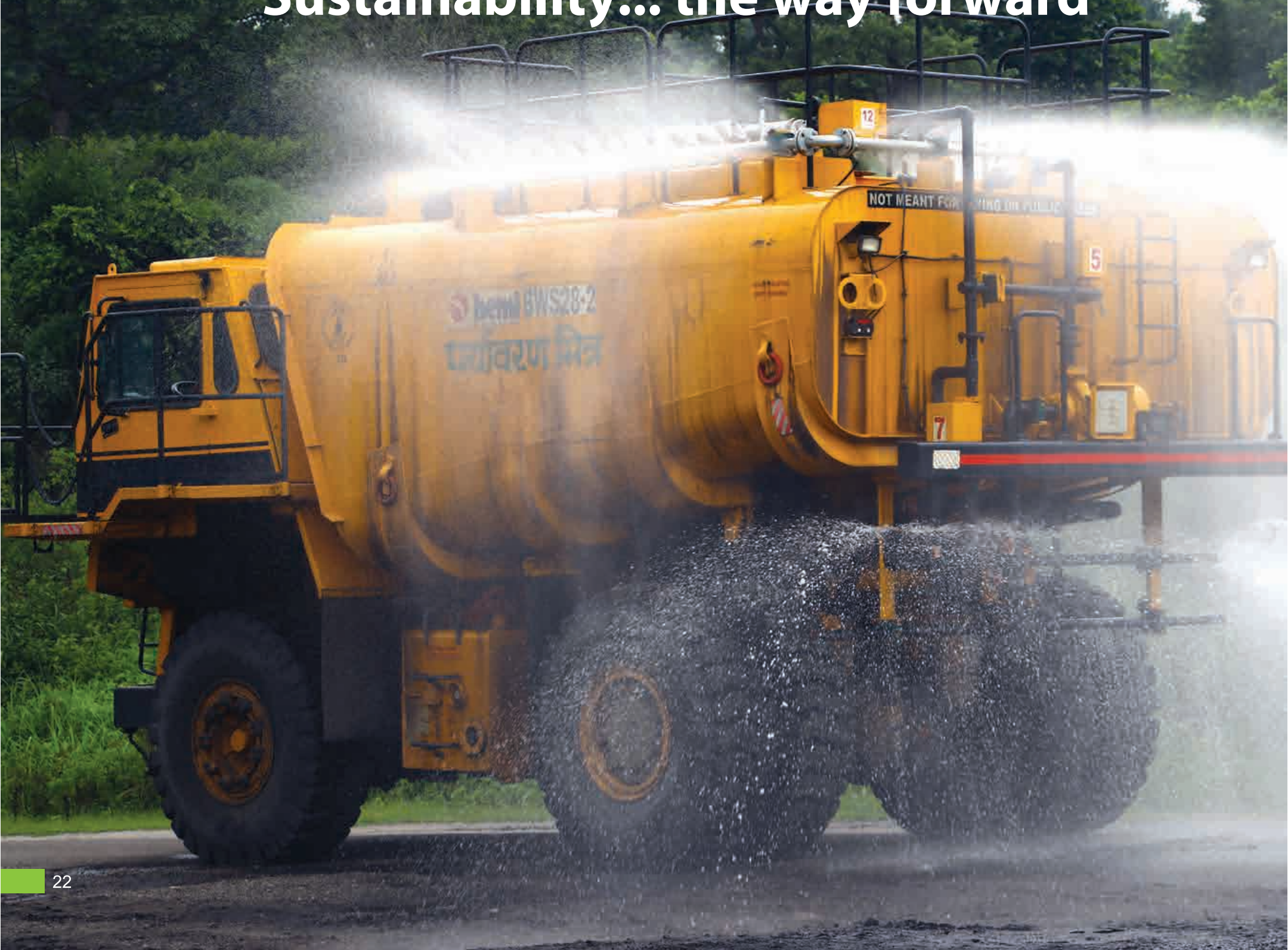
An Alumni of BIT Sindri, Akanksha Kumari is the first female mining engineer of India working in the underground Coal mines. She is posted in the Churi underground mines of North Karnpura area of the company. Her courage and determination will motivate more female professionals to follow her lead.



## SHIVANI MEENA

An alumni of IIT Jodhpur, Shivani Meena is the first woman engineer in the Excavation cadre to work in an open cast mine. She is responsible for maintenance and repair of heavy earthmoving machinery (HEMM). Her joining will act as a catalyst for a new generation of female professionals to join the mining sector.

# Sustainability... the way forward





## Pollution Control Measures in CCL

CCL has accorded highest priority to ecology development and pollution control. The Company has made major breakthrough by planned afforestation programmes and reclamation of degraded land to improve the environment. Continuous monitoring in respect of ambient air quality, water and noise is carried out at units and clean water/treated effluents are discharged which not only meet the statutory requirements but are in continuous improvement trend.

CCL is well aware of the effects of open cast mining on the environment. We therefore give a lot of importance to pollution control methods, reclaiming land and maintaining ecological balance. The pollution level of air, water and noise is being routinely monitored through several monitoring stations by CMPDIL, Ranchi.

# Air Quality Management

## i. Monitoring of Environmental Parameters:

All mines / washeries of CCL are being monitored on regular basis by CMPDI. During FY 2020-21, about 6100 numbers of  $PM_{10}$  (RPM) samples, 6100 numbers of  $PM_{2.5}$  samples, Heavy Metals analysis in air at 500 stations, 1800 effluent monitoring samples, 500 surface water quality samples, 200 drinking water quality samples, 6100 noise monitoring samples and 24 samples of DETP were monitored.

Modern technologies like Surface Miners are minimizing air borne pollution as compared to conventional methods. Surface miners have eliminated the need of drilling, blasting and crushing of coal. Surface miners are in use in the new opencast mines of CCL

## ii. $PM_{10}$ Analysers Installation in CCL

For effective monitoring of real time position of quality of air, CCL has installed 25 number of  $PM_{10}$  Analyzer.





# Water Quality Management

## **Provision of closed water recirculation arrangement in all washeries**

The closed water recirculation system has stopped the effluent discharge from the washeries. Besides this, arrangements of water sprinkling at coal transfer points, good housekeeping and plantation etc is being done in the washeries for overall improvement.





- **Pollution control through effluent treatment plants / domestic treatment plants / oil grease traps etc.**

Mines and Workshops have ETPs (Oil & Grease Traps) for control of Oil & Grease during maintenance of HEMMs and vehicles

- Development of water bodies / lagoons in mining areas for sedimentation of fines as well for improvement of aquatic life.

### **Mine Water Utilization :**

One of the important initiatives in this regard is utilization of surplus mine water by local community for domestic and irrigation purposes and also for ground water recharge. An MOU was signed on 30.10.2017 between CIL and state Govt. of Jharkhand for utilization of 25250 million gallon of water of CCL. Total 120 villages are utilizing mine water from CCL.

In F.Y 2020-21, CCL granted three number of NOC to Drinking Water and Sanitation Department in Ramgarh, Hazaribag and Palamu for utilization of mine water which will benefit 40 villages with a population of about 90728.





Large scale tree plantation in and around the mining areas along with avenue & multi species plantation in and around industrial infrastructure, roads , colony and reclaimed area is carried.





# Land Resource Management

The success in land reclamation of mine spoils and afforestation have been very significant and overwhelming in places like Ashoka, Piparwar, Amrapali, Rajrappa and Topa etc. The mined out areas or the de-coaled area is refilled with overburden at places where no mining is required in future. The OB fills and dumps are not very conducive to growth of plants, since these sites do not contain adequate plant nutrients. The dumped soil is improved in stages through modern techniques to bring back its fertility and the horticultural operations are carried out by adding nutrients, like organic, inorganic and biofertilizers.

Since 1992 CCL has done plantation of more than 87 lakhs saplings, covering over 3000 Ha area. During last 10 years the plantation done is more than 37 lakhs which in itself is a positive indication of improvement in bio-diversity and environment. It has also helped in Restoration of carbon in terrestrial eco system.

## **Land Reclamation/ Restoration Monitoring of opencast mines :**

Reclamation status of mines is being monitored by CMPDI by remote sensing on a regular basis. The projects with composite excavation capacity of more than 5 Million Cubic Meter are monitored every year and projects less than 5 Million Cubic Metre are monitored once every three years.

## Vriksharopan Abhiyan

*CCL is committed to reduce the carbon footprint and enhance the green cover around the mining areas. Over 87 Lakhs sapling encompassing an area of 3000 Hectare has been planted by the company. Additionally, 49 km of avenue plantation has been carried out by the company in the operational areas. Over 1 Lakhs saplings of fruit-bearing and medicinal plants have been distributed by the company during the Van Mahotsav and Vrikhsaropan Abhiyan.*



## ECO PARK : Kayakalp Vatika

Mining areas, after exhaustion of coal reserves, have great potential for promoting tourism promotion. Development of eco-parks / tourism sites to promote mine tourism is another thrust area of the company.

Kayakalp Vatika was set up on the reclaimed area of Piparwar Area is another father in the cap for CCL. Activities like Nursery, Vermi composting, rain water harvesting, drip irrigation, plantation of fruit bearing and medicinal plants are carried out.





## Carbon Footprint Reduction

Following initiatives have been taken by company to minimise carbon footprint from mining operations

### 1. Enhancing Green Cover :

OB dumps and other disturbed areas are biologically reclaimed during and after mining operations. Till date about 87 Lakh saplings over an area of about 3000 Ha. have been planted in command area of CCL.

### 2. Promoting renewable Energy:

Installation of Solar Power Plants of about 480MWp capacity in the next five years & replacement of conventional electrical appliances with LED lamps, superfans, energy efficient motors, solar pumps, auto timers in street lights, energy efficient ACs and electric vehicles.

### 3. First Mile Connectivity (Sustainable and Environment friendly new technology)

Four projects in First Mile Connectivity in first phase at Magadh, Amrarapli, Konar and North Urimari will reduce transportation of coal by road resulting in reduction in carbon footprint..

## Forestation through Innovation "Seed Ball"

An ancient technique 'Seed Ball' is sustainable and easy way to propagate vegetation on tough terrains such as OB dumps. 'Seed ball' is a seed that is wrapped in a mixture of clay and compost, and then dried.

Plantation on an area of 34.16 Ha was carried out through this innovative technique.





## CCL CSR Initiatives

*"CSR isn't a particular programme, it's what we do every day, maximising positive impact and minimising negative impact."*

Driven by the motto to ensure the fruits of development encompasses the last person of the society, CCL has been successfully running plethora of schemes in skill development, education, sports, health and drinking water for the people of Jharkhand. The objective of the schemes is to ensure inclusive growth and the welfare of the community. As a responsible corporate entity, the company has spent an amount of **Rs 481 crores** in the last decade on the numerous CSR projects. The CSR spending of CCL is one of the largest amongst the corporate houses of Jharkhand. Some of the recent initiatives that has been

**1) Establishment of 'Centralized Kitchen' in Ramgarh District** with a capacity of **50,000 meals per day**.

An MoU of **Rs 22 crore** was inked with Ramgarh District Administration and Akshaya Patra Foundation for establishment of centralized kitchen in Ramgarh district. The kitchen will supply **50,000 mid-day meals per day** to **586 government schools** in Ramgarh District. This will augment the educational infrastructure of Ramgarh district and will further reduce hunger and poverty.

**2) Up-gradation of existing Aanganwadi centers in Jharkhand**

Aanganwadi centers play a vital role in providing childcare, nutrition, education, immunization, and other facilities to the children from rural and interior parts of the state. Central Coalfields Limited has executed an MoU with five different district administrations to upgrade **728 Aanganwadis into 'Model Aanganwadis'**. These aanganwadis are in Ranchi, Chatra, Bokaro, Hazaribag, Ramgarh and Latehar districts. The company has contributed **Rs 10.92 Cr.** to District Administrations for this initiative.

**3) Construction of prefabricated toilets near 200 railway stations of Jharkhand**

In its unceasing quest to fulfill the dream of "Swachch Bharat" of Mahatma Gandhi, CCL is funding the construction of **200 prefabricated** toilets near the railway stations of Jharkhand. Each toilet block comprises three male toilets along with three female and one for differentially abled persons.

**4) Training and placement of 320 project affected persons at Central Institute of Petrochemical Engineering and Technology (CIPET)**

CCL in an MoU with CIPET is providing six (06) months free residential training to 10<sup>th</sup> pass **320 project affected persons (PAPs)** in 04 different trades. The training has been conceptualized as per the plastic industry. The institute has a track record of 100 percent placement at decent package. Currently, 160 PAPs are undergoing training at the institute.

## Major CSR Initiatives of CCL

- ▶ Operation of Sports Academy at Mega Sports Complex, Khelgaon, Ranchi.
- ▶ CCL ke Lal and Laadli for engineering aspirants
- ▶ Up-gradation of existing Aanganwadi centres in Jharkhand.
- ▶ Job linked Training in Plastic Engineering to 320 Project Affected Persons through Central Institute of Petrochemical Engineering and Technology (CIPET).
- ▶ Solar powered deep bore wells for safe drinking water in remote villages.
- ▶ Installation of Household Solar Light System in Villages.
- ▶ Distribution of Wheels Chair, Hearing Aid etc. to differently abled persons through ALIMCO.
- ▶ Training in motorcycle maintenance and repair technology to 25 members of Tana Bhagat community.
- ▶ Adoption of a Lion and a Tiger at Bhagwan Birsa Biological Park, Ranchi.
- ▶ Establishment of Centralized Kitchen at Ramgarh.
- ▶ Establishment of Skill Development Centre with residential facility at Jonha, Jharkhand



## Wildlife Conservation

As part of the planet's ecosystems, wildlife provides balance and stability to nature's processes. The goal of wildlife conservation is to ensure the survival of these species, and to educate people on living sustainably with other species. Supporting this cause, CCL adopted a pair of lions and tigers at Bhagwan Birsa Biological Park, Ranchi. The company will undertake the full expenses related to the upkeep of the animals for three (03) years. The overall cost of the project is **Rs 36 Lakhs**.







## Combating the Pandemic:

The ravaging outbreak of Covid-19 disrupted lives, livelihood, and communities across the planet. Central Coalfields Limited left no stone unturned in its attempt to fight against this pandemic. The company multiplied its CSR activities manifold to feed thousands of poor, migrant workers in the state or on their way back to home, sanitizing localities in around its command areas, distributing masks and sanitizers, or running community kitchen. It ensured that no one go hungry during the tough times. CCL worked in close coordination with the state administration to mitigate the disastrous impact of the pandemic. Below mentioned are a few of the key initiatives of the company.

- 1) Contributed **Rs 20 crore** to the Jharkhand State Disaster Mitigation fund.
- 2) Successful treatment of over **1700 patients** in the hospitals of the company.
- 3) Establishment of PSA oxygen plants in **five (05)** districts of Jharkhand.
- 4) Contribution of **Rs 1.25 crores** each to eight district administrations to strengthen the health infrastructure in the district.
- 5) Distribution of **45 quintals** of dry ration, along with masks and sanitizers to over **35000** beneficiaries.
- 6) Distributed around **15,000 food packets** among the migrants travelling through 'Shramik Special Trains'



**NOURISHING THE  
FUTURE MEDALISTS**



# SPORTS ACADEMY

(A CCL-State Govt of Jharkhand joint initiative)

MEGA SPORTS COMPLEX,  
KHELGAON, RANCHI, JHARKHAND

Situated in the Eastern part of the country, Jharkhand is rich with mountains, forests, waterfalls. Besides the natural Flora and fauna, the state is home to immense sports talent too. However, the dearth of infrastructure and coaching has always proved to be an impediment for these innate talents to realize their potentials. To overcome these lacunae and promote sports in the state, 'Sports Academy' at Khelgaon, Hotwar, Ranchi was established in 2015. The project is a unique CSR initiative of Central Coalfields Ltd. The academy is jointly funded project of Central Coalfields Limited (CCL) and State Govt of Jharkhand. Besides funding, Central Coalfields Limited handles the operation and maintenance of the academy.

Starting off with 78 children aged between 8 to 10 in 2016, currently there are 437 sports cadets in the academy. Almost 96% of the Sports Cadets belong to SC/ST and other backward communities.

The children are selected for the academy through a transparent selection process. The selection trial for the academy is one of the largest talent hunt programs organized anywhere in the country. A team of professional selects children based on simple Motor Ability Tests carried across the 24 districts of Jharkhand.



We can assess the popularity of the academy by the fact that in the year 2016-17 when the trials started, 4200 were applications received, while in year 2019-20, this figure surged to 3.24 lakhs.

Coaches of national and international repute give the selected cadets training in ten (10) distinct sports disciplines. They train the cadets in Athletics, Archery, Football, Taekwondo, Weightlifting, Cycling, Swimming, Shooting, Wrestling and Boxing. Training in five new disciplines will begin soon.

The cadets are likewise provided with all the amenities, from boarding and lodging to medical and accidental insurance. The campus has a separate hostel for boys and girls and is Wi-Fi enabled. Cadets were provided a tablet to facilitate online training and e-learning during the lockdown. The selected cadets are given education through open schooling. Each selected cadet is given an assistance of Rs. 500 per month. During the Covid Pandemic, an additional amount of Rs 3000 was transferred to the bank account of the cadets for their expenses.

In a brief span of five years, the cadets have brought many laurels to the state and the country. **Ms. Florence Barla**, who was a cadet of the Sports Academy, won gold medal in 400 meters and 4X 400 meter (Relay) in Eurasian Athletic meet held at Kazakhstan. **Deepak Toppo**, another athlete from JSSPS, holds the national record in 60mtr run in Under 14 categories. He attained this feat in the 36<sup>th</sup> National Junior Athletics Championships held at Guwahati, Assam. **Chanchala Kumari**, a tribal girl from the outskirts of Ranchi







who was selected and groomed at the academy, represented the country in Sub-Junior World Wrestling Championship in Hungary. The cadets of the academy have won **845 medals** in various International, National, State and district competitions.

This unique initiative of Central Coalfields Limited has been recognized at different national forums. The company was awarded **National CSR Award for contribution to national priority areas-2019, National Commission for Scheduled Tribes Leadership Award-2019 and Scope Corporate Communications Excellence Award-2019** along with a plethora of other awards. Also, 'Jharkhand State Sports Promotion Society' (JSSPS) is accredited for 4 years under 'Khelo India Development Program'.





*“Educating Life ! Empowering Hope!”*





## CCL KE LAL & CCL KI LAADLI

# GIVING WINGS TO DREAM

Every engineering aspirant dreams of getting an admission in the premier institutes of the country like IIT, NIT etc. Proper coaching and guidance are an integral ingredient in the preparation for these exams. Many committed and brilliant students from impoverished background don't have these resources because of poverty. CCL ke Lal and Laadli scheme, a pioneering CSR initiative of Central Coalfields Limited, aims to provide wings to the dreams of such meritorious students. Established in 2012 is a pioneering CSR initiative of Central Coalfields Limited in education sector. Under this scheme, the meritorious students belonging to the distressed section of society selected through a state wide test get free coaching for IIT, lodging, schooling, medical and boarding facilities. IIT alumni who are employed in CCL provide coaching to the students. CCL leaves no stone unturned to ensure that they provide the students with the finest infrastructure and facilities.

Since its establishment, the scheme has achieved stupendous success and over 50 students of the previous batches are studying in the premier engineering colleges of the country, including IITs, NITs. Some students, after finishing their engineering, are working with the leading corporate firms of the country. These students belonging principally to weaker sections of the society show that with determination, commitment and correct guidance there is no mountain too high to climb.



## Year wise batch strength of CCL Ke Lal & Laadli

Students passed out from classroom coaching since inception

BATCH	CCL KE LAL (BOYS)	CCL KI LAADLI (GIRLS)	TOTAL
2012-14	11	0	11
2013-15	11	0	11
2014-16	18	0	18
2015-17	12	0	12
2016-18	14	11	25
2017-19	14	15	29
2018-20	16	12	28
2019-21	15	14	29
<b>TOTAL</b>	<b>111</b>	<b>52</b>	<b>163</b>



## YEAR-WISE PERFORMANCE OF CCL KE LAL AND CCL KI LAADLI (2014-2020)

Year	Performance
2016	<ul style="list-style-type: none"> <li>- 17 students scored more than 90% in 12th Board</li> <li>- 1 students Joined IIT</li> <li>- 5 students Joined NITs</li> <li>- Other students Joined reputed engineering colleges like BIT Sindri, BIT Mesra etc.</li> <li>- Student from CCL ke Lal was the School Topper</li> </ul>
2017	<ul style="list-style-type: none"> <li>- 5 students cleared JEE Advanced with flying colors.</li> <li>- 4 students scored more than 90% in 12th Boards</li> <li>- Student from CCL ke Lal was the School Topper</li> </ul>
2018	<ul style="list-style-type: none"> <li>- 5 students qualified in JEE Advanced.</li> <li>- Most of them secured more than 80% in 12th Board.</li> </ul>
2019	<ul style="list-style-type: none"> <li>- Most of the students scored more than 90% in 12th Boards and Joined reputed engineering colleges like BIT Sindri, BIT Mesra etc.</li> </ul>
2020	<ul style="list-style-type: none"> <li>- 6 students qualified in JEE Advanced.</li> <li>- Student from CCL ke Lal was the School Topper</li> </ul>
2021	<ul style="list-style-type: none"> <li>- 10 students qualified in IJEE Advanced.</li> </ul>



**MATUL BAGHEL**

Life took a full circle for Matul Baghel from being a student of the company's CSR initiative CCL Ke Lal to becoming an engineer in CCL. He was selected for CCL Ke Lal scheme and received his coaching there. He qualified for NIT Raipur and, after completing his engineering, joined Coal India Limited in mining discipline. He is currently serving in the North Karnpura region of CCL.

**TEJASWI KUMARI**

Living in a remote village of Jharkhand, with no facilities for class 11<sup>th</sup> beyond, Tejaswi Kumari's dreams would have been crushed had she not been to CCL ki Laadli. Her father is a Para Teacher. A student of the fourth batch of CCL ki Laadli, Tejaswi defeated all the odds and got selected for prestigious IIT Dhanbad. She credits this scheme for providing her an opportunity to persue her dreams.



**Siddhant Prasad**

Studying in IIT Delhi, Siddhant Prasad not only brought laurels to his family but also to the entire state when he qualified for the leading engineering college of the country. Being a son of a tailor and with his father's limited income, this could have been a bridge too far for Siddhant, but CCL ke Lal provided him with the platform and correct guidance to scale new frontiers.

# AWARDS

## and recognitions



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